

OPERATIONAL EXCELLENCE

ความเป็นเลิศด้านปฏิบัติงาน

THAI OIL PUBLIC COMPANY LIMITED
ANNUAL REPORT 2017

VISION

A leading fully integrated refining
and petrochemical company in Asia Pacific.

MISSION

To be in top quartile on performance
and return on investment

To create a high-performance organization
that promotes teamwork, innovation,
and trust for sustainability

To emphasize good Corporate Governance (CG)
and commit to Corporate Social Responsibility (CSR)

Investors can acquire the Company's information
from the Disclosure Report concerning additional information (Form 56 – 1)
as shown in www.sec.or.th or the Company's website at www.thaioilgroup.com

CONTENT

004	Financial Highlights	088	Organizational Structure
006	Message from the Board of Directors	090	Executives
010	Audit Committee Report	094	Assets and Shareholders Information and Management Structure
013	Corporate Governance Committee Report	114	Risk Factors and Corporate Risk Management
016	Nomination and Remuneration Committee Report	119	Internal Controls
018	Risk Management Committee Report	123	Corporate Governance Report
020	Thaioil and Subsidiaries' Vision, Mission, and Operating Strategies	154	Thaioil and Subsidiaries' Social Responsibility
022	Summary of Business Achievements in 2017	156	Corporate Information
028	Milestones of 2017	164	Thaioil and Subsidiaries' Business Structure
036	Market Review 2017 and Market Outlook	166	Revenue Structure
050	Production Process, Process Development, Quality, Security, Safety & Occupational Health and Environment Management	168	Management's Discussion and Analysis of Financial Position and Operating Results
066	Future Projects	174	Connected Transactions
070	Human Resources and Organization Development	180	Board of Directors' Responsibility for Financial Reporting
074	Board of Directors	181	Financial Statements



Operational Excellence

The year 2017 marks the highest profit
Thaioil has ever achieved in the Company's history.

Apart from economic and industry conditions, one of the significant factors contributing to the outstanding performance is **teamwork and hard work of Thaioil and Subsidiaries' staff**, aiming at the same goal of **"Operational Excellence"**, resulting in Thaioil fully benefitting from the industry condition.



FINANCIAL HIGHLIGHTS

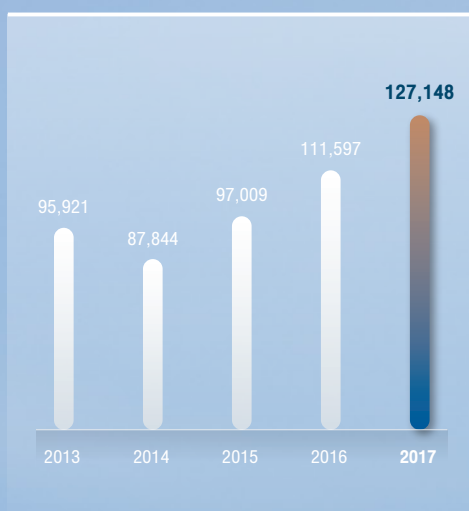
TOTAL ASSETS

228,108 Million Baht



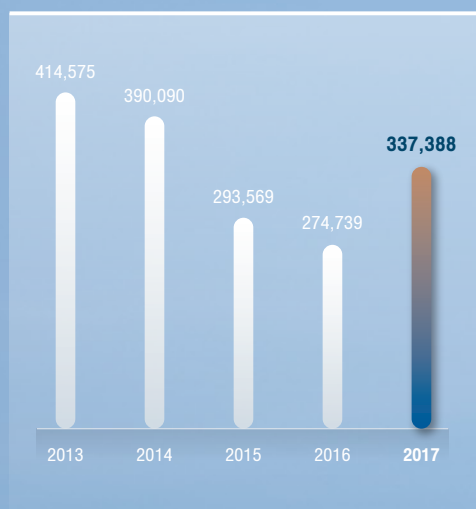
TOTAL EQUITY

127,148 Million Baht



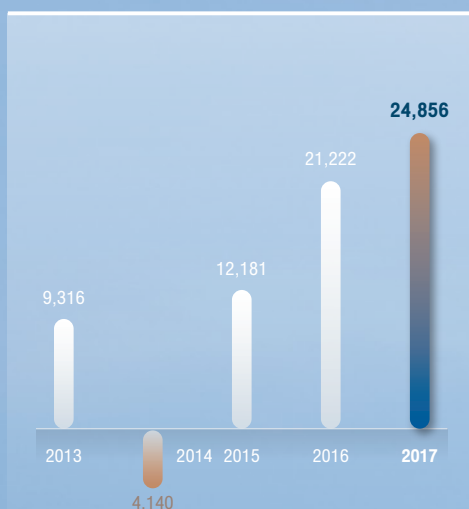
SALES REVENUE

337,388 Million Baht



NET PROFIT

24,856 Million Baht



2017 2016 2015 2014 ⁽¹⁾ 2013 ⁽¹⁾

Operating Results

Sales Revenue	Million Baht	337,388	274,739	293,569	390,090	414,575
EBITDA	"	36,925	32,675	25,492	2,651	22,337
Net Profit/(Loss)	"	24,856	21,222	12,181	(4,140)	9,316
Basic Earnings/(Loss) per Share	Baht	12.18	10.40	5.97	(2.03)	4.57

Financial Position

Total Assets	Million Baht	228,108	217,731	192,166	193,607	209,602
Total Liabilities	"	100,960	106,134	95,157	105,763	113,681
Total Equity	"	127,148	111,597	97,009	87,844	95,921

Financial Ratios

Interest Coverage Ratio	Times	11.2	9.4	7.4	0.7	5.9
Current Ratio	"	3.8	3.4	5.0	2.7	2.6
Net Debt to Equity Ratio	"	0.0	0.1	0.2	0.4	0.3
Return on Equity	Percent	21.7	21.3	13.9	(4.7)	10.2
Return on Assets	"	11.4	10.5	6.5	(1.9)	5.0

Stock Data

Annual Average						
Daily Closing Stock Price	Baht/Share	84.23	66.70	53.50	50.40	64.60
Market Capitalization	Million Baht	171,832	136,070	109,141	102,817	131,786
Dividend Payment	Baht/Share	5.25 ⁽²⁾	4.50	2.70	1.16	2.30
Dividend Yield ⁽³⁾	Percent	6.2	6.7	5.0	2.3	3.6
Book Value	Baht/Share	59.91	52.38	45.28	40.88	44.97

Note:

⁽¹⁾ Thaioil and Subsidiaries have adopted new and revised Thai Financial Reporting Standards 10 (TFRS 10) on Consolidated Financial Statements, which is effective for Annual Accounting periods beginning on or after January 1, 2015, resulting in a restatement on Statements of Financial Position as of December 31, 2013 and 2014, as well as the Statement of Income and the Statement of Cash Flows as of December 31, 2014.

⁽²⁾ Including the interim dividend for 2017 half-year results at the rate of 1.50 Baht per share paid on September 22, 2017, and the remaining dividend of 3.75 Baht per share is to be proposed to the 2018 Annual General Meeting of Shareholders for approval.

⁽³⁾ Calculated from the annual average of the daily closing stock price.

MESSAGE FROM THE BOARD OF DIRECTORS

Thosaporn Sirisumphand

Professor Dr. Thosaporn Sirisumphand
Chairman of the Board

Atikom Terbsiri

Mr. Atikom Terbsiri
Chief Executive Officer and President



The year 2017 marks Thailoil and Subsidiaries' success embracing outstanding outcomes, the progress on investment projects to lay a foundation for growth, enhancement of competitiveness, and execution concerning society, environment, innovation, and corporate governance. Thailoil has garnered extensive recognition by reputable entities and institutions at national and international levels.

Dear Shareholders

It is the Board of Directors' fervent wish to drive Thailoil and Subsidiaries toward business success in parallel with attending the society and environment, while enhancing energy security and joining forces in driving the national economy under vigorous corporate governance principles. The goal is to become a leading fully integrated refinery and petrochemical company in Asia Pacific as stated in the Company's Vision.

The year 2017 marks Thailoil and Subsidiaries' successful performance fully in accordance with the aforementioned objective, embracing outstanding outcomes, the progress on investment projects to lay a foundation for growth, enhancement of competitiveness, and execution concerning society, environment, innovation, and corporate governance. Thailoil has garnered extensive recognition by reputable entities and institutions at national and international levels.

Outstanding Performance from Operational Excellence

This year Thail and Subsidiaries' net profit amounted to THB 24.856 billion, the highest in the Company's history. This success partly stemmed from external factors favoring business, such as the economic recovery and continuingly low petroleum product prices, resulting in the higher fuel demand than the increase in refining capacity. Apart from the external incidents, one of the factors contributing to the Company's outstanding performance is teamwork and hard work of the Board of Directors (the Board), the executives, and all staff carrying out the same goal to drive Thail toward Operational Excellence, embracing policy and strategy design, management, and operation. As a result, Thail fully reaped market benefits while focusing on process efficiency and process preparedness management, catapulting the 2017 average refinery capacity utilization to an all-time high. In addition, Thail initiated projects and measures to generate income and cut expenses, which contributed to a total rise of more than THB 5 billion in net profit. The related measures, for example, include new low-price crude oil sourcing for the refinery; improvement of the computer simulation program for refining planning; catalyst replacement for greater refining process efficiency; energy-saving; proactive domestic marketing together with market expansion to Indochina; and management efforts to curb expenses in general.

One of the factors contributing to the Company's outstanding performance is teamwork and hard work of the Board of Directors, the executives, and all staff carrying out the same goal to drive Thail toward Operational Excellence.

Laying a Foundation for Strength and Preparedness for Business Opportunities

Besides the Company's annual goals, the Board defined a key policy to lay a foundation for Thail and Subsidiaries to enhance competitiveness and prepare for future business opportunities. The year 2017 is truly the year for Thail's investment projects of several major public utility systems, both completed and ongoing projects. The completed and in operation projects are; for example, Paraxylene Distribution System Efficiency Improvement Project enabling the distribution onto larger tankers at PTT Plc's terminal and the Lorry Loading Expansion Project increasing the loading rate from 10 million to 15 million liters per day. The ongoing projects include Jetty Expansion Project reducing the congestion and accommodating larger tankers for greater safety and cutting transportation cost; TOP Crude Oil Tank Project enabling Thail to abide by legal requirements on oil reserves and increase

flexibility to crude imports; and Thailoil Sriracha Buildings Project to boost operation safety and fully utilizing the refinery area to enhance future production efficiency.

Apart from the public utility projects mentioned above, other projects concerning other business expansion have posted good progress. For example, Clean Fuel Project, with completed Front-End Engineering Design, is under the Engineering Procurement and Construction bidding stage. Another project is the North Vietnam Distribution Project which is now in progress. As for innovation, this year Thailoil began to focus more on utilizing innovations for commercialization purpose; the innovations include the K-1 Valve and In-Pipe Inspection Robot. In addition, a project has been initiated to apply digitization in support of efficiency improvement of internal processes for the entire supply chain, from suppliers to customers.

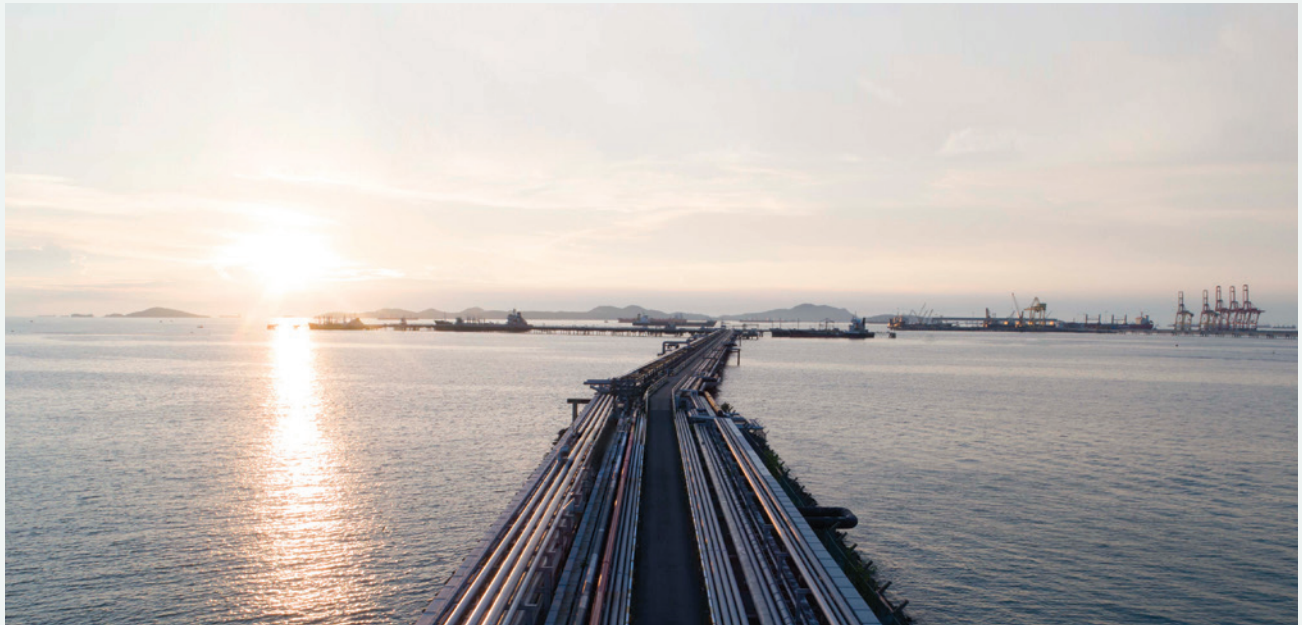
Commitment to Good Governance and Repay Society

Recognizing the value of business success in parallel with organization management under good governance and code of conduct, the Board deems it significant to define key policy on good governance for all to strictly follow so as to implant a corporate culture, with regular review and assessment of process adequacy. This year the latest version of the Office of the Securities and Exchange Commission's (SEC) Corporate Governance Code (CG Code) has been applied to set the assessment scope for Thailoil. Though the Company's conformance has been found adequate and suitable, strategies have been defined aiming for better performance. Moreover,

the procurement business process management has been reviewed and improved to be more impervious, efficient, and advocating free competition and transparency.

For the development of community, society and environment, the active operation yields several tangible outcomes; for instance, Thailoil maintaining its world-class safety records; the establishment of Sam Palung Social Enterprise Co., Ltd.; the participation in the Pracharath Project to support youth education; and the proactive management of community engagement around the refinery leveraging efficient public relations processes, in parallel with the implementation of various projects and activities to develop the surroundings, quality of life, and fostering relations. As a result, Thailoil has continued to achieve remarkably high and continual satisfaction indices of surrounding communities toward Thailoil and Subsidiaries' operations.

It is with great pleasure and pride to report that this year Thailoil not only achieved business successes, but also garnered acclaim from renowned entities and institutions both national and international levels. More than 20 accolades in different categories were presented to Thailoil; for instance, Honorable Mention as one of transparent organizations presented by the Office of the National Anti-Corruption Commission; Honor Award in recognition of sustainability and investor relations, by the Stock Exchange of Thailand (SET) and, above all, membership of Dow Jones Sustainability Indices (DJSI) for the fifth consecutive year, with the top score in the Energy Industry Group for the fourth year running.



The Board of Directors, the executives, and all staff do appreciate and are grateful for shareholders' continued support on the Company's operation. We pledge to do our best to lay a strong foundation to secure Thail and Subsidiaries' sustainable growth with good governance, and to create energy and value for Thai society, balancing economic, social, and environmental aspects in parallel with generating highest benefit for the shareholders and stakeholders.

THAI OIL: REFINING VALUES

AUDIT COMMITTEE REPORT



Ms. Chularat Suteethorn
Chairman of the Audit Committee

Dear Shareholders

Appointed by the Board of Directors (the Board), the Audit Committee consists of three independent directors, chaired by Ms. Chularat Suteethorn, with two members; namely, Ms. Suvimol Chrityakierne, and General Thanakarn Kerdnaimongkol. All members command pertinent expertise and experience in economics, finance and accounting, political science, social science, and security. During 2017, the committee's composition has changed with the resignation of Mr. Siri Jirapongphan, effective from November 17, 2017 onward. The committee's composition and qualifications are suitable for reviewing financial statements' credibility against the requirements of the Office of the Securities and Exchange Commission (SEC) and the Stock Exchange of Thailand (SET).

The Audit Committee operates independently as assigned by the Board and indicated in its charter while conforming to the requirements and Best Practice Guidelines for

Audit Committee by SEC and SET. This year it held nine meetings, as well as consulted with the executives, the internal auditor, and the external auditor. This year highlights of performance are as follows:

1. Financial Statements:

The committee reviewed material data of financial statements for Thailoil and Subsidiaries, both quarterly and annually, as well as the disclosure of the notes to the financial statements, so as to be in line with Thai Financial Reporting Standards (TFRS) and International Financial Reporting Standards (IFRS). The external auditor reported the unqualified opinion and that no material observation found. The control system was assessed and found suitable without data concealment, and able to work independently, at the same time, examine the standard of financial reports to be enforced in the future, together with provisions of the law potentially affecting financial reports, to develop their knowledge and skills in perusing the accuracy and credibility of the reports. In addition, the committee had meetings with the external auditor in the absence of the executives to freely discuss matters related to the operation of the external auditor, the internal control system related to the audit of financial statements, obstacles during the audit, and the cooperation with Corporate Internal Systems Audit Department.

2. Connected Transactions:

In reviewing related transactions or those posing potential conflicts of interest with Thailoil and Subsidiaries under SET's and SEC's announcements, the committee concluded that Thailoil had observed regular business practices,

exercised fairness and sensibility, and produced no siphoning of benefits, all in the best interests of the Company and its shareholders. The committee had also reviewed such information disclosure to ensure its accuracy and completeness.

3. Risk Management and Internal Control:

The committee reviewed the efficiency and effectiveness of risk management and internal control processes through an audit protocol approved under the annual internal audit plan, reports filed by relevant units, the external auditor, and various consultants, as well as the application for a continuous monitoring system using SAP GRC, which functions like SMS in giving alerts for correction before irregularities actually happen. The committee focuses on the preventive control rather than corrective control. Also, this year the committee stressed the importance of the Three Lines of Defense; namely, Control Self-Assessment, risk tolerance control, and continuous monitoring applying SAP GRC with procurement process (Procure to Pay). The committee, moreover, encouraged the utilization of the continuous monitoring system for the Order to Cash and the Payroll processes. It also commented on the outcomes of the internal control system assessment under the framework of the Committee of Sponsoring Organizations of the Treadway Commission (COSO), specified by SEC. Finally, the committee recognized the importance of cyber threat risks by requiring the report of relevant audit outcomes to the Risk Management Committee to enhance the efficient collaboration.

4. Internal Systems Audit Supervision:

The Audit Committee supervised internal audit practices by reviewing and approving the annual audit plan

focused on a risk-based approach; assessing the annual performance of the Vice President - Corporate Internal Systems Audit; monitoring the adequacy of manpower and competency of internal auditors; improving audit performance by introducing the Audit Management System and Analytics Tool, designed to analyze numerous data and compile databases into the system instead of paper use; encouraging internal auditors to take qualifying examinations and keep pace with changes of the international standards on the audit profession and on IT audit; and finally, advocating the Company to undertake the quality assurance review of internal audit conducted by a third-party assessor.

5. Compliance with the Law:

The committee supervised Thailoil and Subsidiaries to operate strictly complying with legislations related to securities and exchange, SEC and SET regulations, and other laws related to Thailoil's businesses. This year the committee reviewed the processes for corporate governance, changes on key legislative, and compliance with the protocols by the Compliance Unit, which represents the 2nd Line of Defense, so as to strengthen Thailoil's operation.

6. Appointment of the External Auditor for 2018:

In selecting the external auditor, the Audit Committee scrutinized their performance outcomes, ability, independence, audit fees, and that the selection process must comply with the SEC's announcement. In conclusion, the committee nominated auditors from KPMG Phoomchai Audit Ltd. as Thailoil and Subsidiaries' external auditor for 2018, and is to advise the Board to seek approval of the auditor appointment and audit fee from the 2018 Annual General Meeting of Shareholders.

In summary, this year the Audit Committee undertook its duties and responsibilities with diverse expertise to cope with Thairoil's businesses with prudence and independence, in line with the requirements of the committee's charter. The committee found that, this year, Thairoil and Subsidiaries valued efficient and effective business conduct, and prepared material and credible financial statements aligning with financial reporting standards with adequate disclosure of connected transactions with potential conflicts of interest; that it commanded a sound corporate governance process, an adequate and suitable risk management and internal control systems; and that it fully complied with all relevant laws and regulations governing its businesses.

During the 2017 operation, the Audit Committee received excellent cooperation from the Board of Directors, the executives, the external auditor, and all relevant units.

February 12, 2018

On behalf of the Audit Committee



(Ms. Chularat Suteethorn)

Chairman of the Audit Committee

Thai Oil Public Company Limited

CORPORATE GOVERNANCE COMMITTEE REPORT



Police General Aek Angsanant
Chairman of the Corporate Governance Committee

Dear Shareholders

Thai Oil Public Company Limited's policy is to conduct business conforming to its good corporate governance principles and the code of conduct, to which the Board of Directors (the Board), the executives, and all staff are aware of the importance and strictly commit. To ensure relentless compliance and continuous improvement, the Board established the Corporate Governance Committee, consisting of three directors, chaired by Police General Aek Angsanant, with General Thanakarn Kerdnaimongkol and Mr. Yongyut Jantararotai as members. The committee is charged with supervising, monitoring, and promoting company business to ensure the compliance with corporate governance and the code of conduct policies and guidelines.

This year the committee held three meetings as planned under the approved supervision plan, with full attendance of directors serving as members in a given period, and carried out all duties indicated in its charter completely complying with the duties and responsibilities of directors under all four aspects of the Stock Exchange of Thailand (SET) guidelines. The outcomes of recommendations and advice on key corporate governance activities and operations are regularly reported to the Board. The highlights are as follows:

1. Defining, Developing, and Improving Corporate Governance Policies and Guidelines in accordance with Laws, Regulations, and Best Practices

- >> Endorsing and providing recommendations on the plan of 2017 Annual General Meeting of Shareholders (AGM), which was successfully held under the good Corporate Governance principles, and complied to SET's AGM checklists with Thailoil receiving a full score. The Committee also acknowledged the report on 2017 AGM survey, and provided additional advices to the executives for future improvement
- >> Acknowledging the Office of the Securities and Exchange Commission's (SEC) Corporate Governance Code for Listed Companies 2017 (CG Code 2017), and its assessment against Thailoil's existing practices

- >> Endorsing the results of 2017 Board performance assessment as well as the assessment form for 2018 Board performance

2. Supervising, Promoting, and Monitoring to Ensure Compliance with Corporate Governance Policy, Anti-Corruption Policy, and Code of Conduct

- >> Endorsing and providing recommendations on Thailoil's 2018 development plan of Corporate Governance, Code of Conduct, anti-corruption, and fair treatment of stakeholders with the focus on relentlessly improving methods to implant corporate governance and the code of conduct as corporate culture for Thailoil and Subsidiaries' staff. The committee also constantly encourages the monitoring of legislation and corporate governance measures both national and international levels for Thailoil's adaptation, while promoting fair and equitable treatment for stakeholders and providing key recommendations for efficiently developing good corporate governance principles and code of conduct guidelines

3. Supporting and Advising Thailoil to Undertake Corporate Governance Assessment

- >> Reviewing the assessment results of the Corporate Governance Report of Thai Listed Companies Project (CGR) as well as advising on amendment and development of guidelines in line with the criteria and recommendations from such assessment

4. Supervising and monitoring of Sustainable Development (SD) and Corporate Social Responsibility (CSR)

- >> Endorsing the 2018 CSR development plan and providing recommendations on the development

of CSR operations embracing the administration of communities surrounding the refinery, national social development programs, and joint projects with PTT Group including the establishment of Sarn Palung Social Enterprise and activities to aid natural disaster victims

- >> Endorsing the 2018 SD plan and providing recommendations on sustainability operations and management of future challenges

With the firm intention to conform to corporate governance, CSR, and sustainability management, Thailoil's performance was widely recognized both nationally and internationally. This is evidenced with the fifth consecutive year of Dow Jones Sustainability Indices (DJSI) membership, and the fourth consecutive year of Energy Industry Group Leader. Moreover, Thailoil was acclaimed the Honorable Mention as a transparent organization at the 7th NACC Integrity Awards event, hosted by the Office of the National Anti-Corruption Commission. The Company also earned an "Excellent" score (90-100 marks) from the Corporate Governance Reports of Thai Listed Companies (CGR) assessment for 2017 conducted by Thai Institute of Directors Association (IOD) for the ninth consecutive year and a "SET Sustainability Awards of Honor", the most prestigious award presented to those companies that achieve such distinction for third consecutive years.

These accolades announce Thailoil's business standards under corporate governance in parallel with social responsibility and sustainable management arising from the cooperation among the Board of Directors, the executives, and all staff. The Corporate Governance

Committee is, therefore, highly convinced that Thairoil will not only achieve its business goals, but also win stakeholders' confidence and generate high benefits for them, leading to the international recognition and to becoming a sustainable organization.

January 12, 2018

On behalf of the Corporate Governance Committee



(Police General Aek Angsanant)

Chairman of the Corporate Governance Committee

Thai Oil Public Company Limited

NOMINATION AND REMUNERATION COMMITTEE REPORT



ACM Suttipong Inseeyong
Chairman of the Nomination
and Remuneration Committee

Dear Shareholders

As stated in its charter, the Nomination and Remuneration Committee (NRC) consists of at least three directors, most of whom must be independent and none of whom is Chairman of the Board of Directors (the Board) or executive directors. The committee consists of three directors, chaired by Air Chief Marshal Suttipong Inseeyong (an Independent Director), with Ms. Chularat Suteethorn (an Independent Director) and Mr. Sarun Rungkasiri (a Director) as members, and Assistant Executive Vice President – Corporate Governance serving as NRC secretary. In accordance with the stated process, the committee nominates individuals whose qualifications meet the indicated criteria to be appointed as directors, Chief Executive Officer (CEO), and Board-Committee members. It also reviews the forms and criteria for directors' remuneration before tabling to the Board for endorsement and to shareholders for approval respectively.

This year, the NRC completely fulfilled its tasks as indicated in its charter, holding six meetings with full attendance of directors who served as members at different time. (The meeting attendance details appear on page 104.)

This year highlights of performance are as follows:

1. Assessed the CEO's performance before tabling to the Board for the consideration of salary adjustment;
2. Revised the criteria and added the process of CEO's performance assessment with a focus on assessment against his key performance indices (KPIs) and leadership, about which the Board is to notify CEO by the end of the first quarter each year;
3. Nominated and selected experts for directors' appointment in line with the stated processes and criteria before tabling to the Board or shareholders for approval as required by law. To this end, the Directors' Pool of the State Enterprise Policy Office and the list of Thai Institute of Directors Association's Chartered Directors (IOD Chartered Directors) were consulted in conjunction with both overall and individual qualifications of the Board to match the Company's size, nature, and business diversity. The committee scrutinized qualifications including education, knowledge, expertise, skills, experience, specialized competencies related to Thail's businesses, and independence as defined by corporate criteria;
4. Nominated and selected qualified candidate(s) in replacement of directors who resigned before term

completion, as well as members of Board-Committee, namely the Nomination and Remuneration Committee, the Audit Committee, the Corporate Governance Committee, and the Risk Management Committee, before tabling to the Board for the consideration and approval of the appointment to fill the vacancies upon directors' resignation or term completion;

5. Reviewed the Board's 2017 remuneration by benchmarking with peer companies of the same industry to ensure its suitability with Directors' responsibilities and in accordance with the Company's overall performance. The proposal of which was endorsed by the Board and later approved by the shareholders in the Annual General Meeting of Shareholders (AGM);
6. Ensured orientation arrangement and helpful documents distribution for new directors;
7. Encouraged minor shareholders to propose agenda items and nominate directors for election by announcing to shareholders at least three months before the 2018 AGM, from September 29 to December 31, 2017;
8. Assessed its own performance and reported the findings to the Board.

January 24, 2018

On behalf of the Nomination and Remuneration Committee



(ACM Suttipong Inseeyong)

Chairman of the Nomination and Remuneration Committee
Thai Oil Public Company Limited

RISK MANAGEMENT COMMITTEE REPORT



Mr. Sarun Rungkasiri

Chairman of the Risk Management Committee

Dear Shareholders

To achieve business goals while promoting confidence and credibility among investors and stakeholders, this year the Risk Management Committee operated with its best efforts to support the Board of Directors (the Board) on the corporate risk management. The committee consists of the following four knowledgeable, competent, experienced members with mastery of the Company's business:

- | | |
|-----------------------------|----------|
| 1. Mr. Sarun Rungkasiri | Chairman |
| 2. Mr. Noppadol Pinsupa | Member |
| 3. Ms. Nitima Thepvanangkul | Member |
| 4. Mr. Atikom Terbsiri | Member |


Performance Outcomes of 2017

The committee defined and reviewed the corporate risk management scope, policy, and processes as prescribed in the Risk Management Committee Charter, providing recommendations on suitable approaches for efficient business conduct in line with strategic directions and business plans. It also constantly supported and improved risk management practices throughout the corporation under international standards to implant a corporate culture. This year the committee held nine meetings with highlights as follows:

1. Endorsed key projects for the Board's consideration, namely:
 - 1.1 Investment in the CIMB-PRINCIPAL Energy and Petrochemical Index Fund
 - 1.2 The 2017 Oil Price Hedging Framework
 - 1.3 Adjustment of target price and Oil Price Hedging Framework for 2018
 - 1.4 Risk management plans concerning the approach of ethanol business restructure, phase 2
 - 1.5 The risk management direction of Engineering Procurement & Construction (EPC) bidding for the Clean Fuel Project (CFP)
 - 1.6 The risk management plan for the Early Work Project (Plot X)

- 1.7 The risk management direction of the company establishment to engage in International Head Quarter (IHQ) business
- 1.8 Thailoil Sriracha Building Project to accommodate future projects
- 1.9 The Fire Water System Improvement Project
2. Defined corporate risks and revised the corporate risk management policy together with plans and risk appetites
3. Acknowledged the committee's 2017 performance outcomes and the quarterly corporate risk management outcomes from Q1/2017 - Q4/2017
4. Acknowledged the quarterly reports on Oil Price Hedging results Q1/2017 - Q4/2017
5. Acknowledged and provided recommendations on
- 5.1 Progress of CFP, TOP Crude Oil Tank Project, Jetty Expansion Project, and Thailoil Sriracha Building Project
- 5.2 Corporate Internal Systems Audit's cyber security inspection outcomes
- 5.3 Preliminary business restructuring guidelines for TOP Maritime Service Co., Ltd.
- 5.4 The 2017 Internal Control outcomes.
- promptly review key and urgent risks, rendering Thailoil and Subsidiaries' risk management effective. In conclusion, Thailoil commanded key corporate risk management practices that has been proved efficient, suitable, and manageable within the indicated risk tolerance.
- December 12, 2017
- On behalf of the Risk Management Committee
- 
- (Mr. Sarun Rungkasiri)
- Chairman of the Risk Management Committee
- Thai Oil Public Company Limited

This year, the Risk Management Committee found that Thailoil has developed its corporate risk management system to embrace all aspects of risks, and commanded continual risk management practices in line with prevailing circumstances. The committee regularly held meetings to



THAIOIL AND SUBSIDIARIES'S VISION, MISSION, AND OPERATING STRATEGIES

For over 56 years of excellence in the energy business, Thaioil and Subsidiaries have refined knowledge and long-accrued experience so as to remain an organization filled with potential for production, marketing, and management in the energy industry, as well as in pursuit of proudly becoming a centenary organization.

This year, Thaioil and Subsidiaries remain committed to its Vision to become a leading fully integrated refining and petrochemical company in Asia Pacific. The goal is to enhance the operating efficiency, return on investment, and sustainable growth with balance among economic, social, and environmental aspects,

carrying out Missions as follows:

1. To be in top quartile on performance and return on investment
2. To create a high-performance organization that promotes teamwork, innovation, and trust for sustainability
3. To emphasize good Corporate Governance (CG) and commit to Corporate Social Responsibility (CSR)

As a strategy-focused organization, Thaioil and Subsidiaries constantly review the vision and business directions, with the determination to develop its caliber and enhance its competitiveness in parallel with fostering business growth, in order to be prepared for emerging challenges and increasingly intense competitions. This year, Thaioil and Subsidiaries have added strategies aimed for becoming a high-performance organization (HPO) with a focus on personnel development and efficiency improvement by leveraging the four key strategies for sustainable growth as follows:

1. TOP: Thaioil Profit Improvement

This strategy focuses on production reliability, and production and energy consumption efficiency. It also emphasizes flexibility of process, and sale of quality products that serve customers' demand while maintaining costs competitiveness. Moreover, the strategy includes corporate risk management covering the scope of investment, operation, and business continuity management, which contribute to becoming "The Most Reliable Company".

2. GET: Growth Execution

This strategy focuses on fostering competencies and long-term competitiveness along with growth of Thaioil and Subsidiaries' core and diversified businesses. This is to increase product values, lower earnings volatility, and diversify investment risks, as well as expand business growth in ASEAN member countries.

3. BEST: Business Excellence and Sustainability

This strategy focuses on enhancing preparedness to achieve its strategic goals through its investment portfolio

management project in order to increase its proportion of new businesses in line with industrial and future energy consumption trends, as well as to diversify risks. Thaioil and Subsidiaries also study, research and develop any possibilities to support the business growth both domestically and internationally, as well as growth in emerging businesses; while maintaining balance among economic, social, and environmental aspects under sustainability management framework.

4. PLUS: Professional Ultimate Enterprise

This strategy focuses on getting prepared to become a high-performance organization (HPO) to accommodate both current businesses on the verge of change and future projects through the People 4.0 Project and the Digitization Project. The People 4.0 Project focuses on grooming and enhancing personnel's skills and competencies to drive the organization toward success, and on recruiting human resources to address business needs. For the Digitization Project, it helps support Thaioil and Subsidiaries' leadership in applying digital technologies to boost its business and operation efficiency.

SUMMARY OF BUSINESS ACHIEVEMENTS IN 2017



1. Strong Business Performance from Operational Excellence and Global Economic Recovery

This marked another year of pride, in which Thailoil and Subsidiaries conducted proactive businesses amid a recovering global economy: Europe's, US's, and China's economy are recovering; Japan's expanding; as well as Thailand's and ASEAN's stabilizing growth. As a result, crude oil demand climbed while supply began to tighten because the Organization of Petroleum Exporting Countries (OPEC) and non-OPEC after reaching the consent to extend the output control period to the end of 2018, had agreed to limit their outputs in late 2016 to encourage the oil price in the latter half of the year 2017 to pick up from the same period of previous year, particularly in Q4. In addition, the refining industry was on a rising trend with a hike in demand for petroleum products while new capacities were slowly added to the market with the increasing spread. Thailoil and Subsidiaries successfully managed to profit from its accounting gross refining margin (Accounting GRM) including stock gain/(loss), which rose to 7.6 USD



Net Profit rose to
record-high

24,856

Million Baht



per barrel. As for aromatics, though new capacities entered the market, they were offset by rising demand, stabilizing the aromatics market. Meanwhile, the lube base oil business picked up, as regional competitors were facing problems in mid-year, resulting in the increase of accounting gross integrated margin (Accounting GIM) including stock gain/(loss) of 9.9 USD per barrel.

With a commitment to operational excellence, supported by the first full operating year of TOP SPP Co., Ltd., Thailoil and Subsidiaries' net profit rose to an all-time record high of THB 24.856 billion this year. This is also contributed by another record-high of the production efficiency and reliability with the refinery utilization of up to 112%, superior to all other refineries in Thailand and in the region. Moreover, the achievement results from the customer-focused strategy and proactive risk management, leading to Thailoil and Subsidiaries'

successfully maintaining the position of domestic leading refinery with a market share of 30% of the overall domestic demand for petroleum products.

Thailoil and Subsidiaries successfully managed and maintained their overall operating cash cost at 1.6 USD per barrel, lower than other leading peers in the same industry.

2. International Leadership in Sustainable Energy Business Management

Maintaining Emerging-Markets DJSI Membership for five consecutive years and Energy Industry Group Leader with highest score for four consecutive years, assessed among 182 companies worldwide in the same industry.

Amid intense competition and world oil price volatility, Thailoil and Subsidiaries proved that it could maintain industrial leadership and the sustainability standard in economic, social, and environmental aspects. This year, the Company upgraded its governance practices through its supply chains, valued human resource development and labor stewardship, and satisfyingly enhanced its community engagement while growth projects were proceeding—which called for great care in assessing and coping with environmental impacts as well as defining preventive measures.

Thailoil and Subsidiaries' economic success results from the commitment to corporate governance in a fair, systematic, transparent, clear, and auditable manner. Since 2016, we have upgraded governance practices through all our and business partners' supply chains by constantly delivering an anti-corruption policy, measures, and guidelines through communicating and creating understanding of the Corporate Governance and Code of Conduct Manual. In addition, we have promoted compliance with the procurement policy and strict compliance with Thailoil and Subsidiaries' regulations and requirements so as to support free competition and emphasize on more transparency.

As far as the environment and safety are concerned, Thailoil has developed and operated its business imperviously under its Environment Master Plan and Safety Management to accommodate new projects on production area, while addressing the prevailing business environment. This year, Thailoil and Subsidiaries launched 15 projects to increase energy efficiency in processes, successfully reducing 21,487 tons of carbon dioxide equivalent per year. Recognizing our duty as part of the efforts to enhance National Energy Security, Thailoil and Subsidiaries have also planned to improve process efficiency by focusing the investment on cleaner processes and products, leading to the initiation of Clean Fuel Project.

As for social aspect, Thailoil and Subsidiaries value the management of communities surrounding the refinery by way of an efficient complaint-handling process, which resulted in a high index of satisfaction among such communities. Finally, all our personnel are developed

and nurtured, since they are vital to long-term corporate success (more details in the 2017 Sustainability Report).

3. Production Excellence and Integrated Management

The group integration management is adopted by Thailoil and Subsidiaries, linking the operation units of refinery, aromatics, lube base oil, and Linear Alkyl Benzene (LAB) businesses (an intermediate of cleaning agent production) with the joint production and distribution planning system. This management provides maximum operating efficiency with capability of producing higher value and quality products than other standard refineries in response to market needs. These are also connected with the power, the marine transportation of petroleum and petrochemical products, and the solvent businesses to strengthen the entire supply chains of Thailoil and Subsidiaries.

Thailoil and Subsidiaries' major business strategy in 2017 is to increase margin improvement achieved through important projects, such as Transcendence Project and Hydrocarbon Management Review Project. The benefits of which arise mainly from refining unconventional crude from new supply sources; improving process to increase proportions of high-value products; enhancing energy efficiency of production units; and increasing the proportion of product sales in Thailand and ASEAN. Furthermore, the Orchestra project is launched to reduce costs through all supply chain, leveraging the proactive procurement strategy, extending and reducing the use of chemical catalysts, administrating surplus materials from projects, and reducing other operating costs.

All activities and projects are planned and executed by Thailoil and Subsidiaries in pursuit of Operational Excellence, a key corporate culture. This is reflected

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in the achievement of process efficiency, operation and supply chain management in all business units, and inventory management. The ultimate outcome catapulted Thailoil and Subsidiaries up the list of world's leading refineries, particularly for remarkable operational availability, constantly declining energy intensity indices, and maintaining cost competitiveness.

All staff and operators are nurtured to embrace safety as core value. Thailoil and Subsidiaries' safety statistics on the total record case frequency (TRCF) in 2017 was ranked in the top 10% of outstanding companies in the Oil and Gas Sector published by Oil and Gas UK Benchmarking for the 11th consecutive year.

4. Active Market Strategy and Risk Management

Thailoil and Subsidiaries prioritize marketing strategy management; the key to success is professional relationships with domestic and international customers. This can be accomplished with standard of products, on-time delivery, variety of products, quick and precise services and solutions, and integrated safety standards throughout the chains to delivery products to customers. These result in domestic sales amount to 86% of production capacity and an increase of sales volume from expanding market to ASEAN member countries.

Moreover, Thailoil and Subsidiaries value any development to address customers' needs. In 2017, digitization was instituted to improve customer service efficiency. This includes the Terminal Automation System which improves the speed and efficiency of the lorry loading; the Customer Registration System which improves the flexibility of transactions; and the Tracking System application which keeps customers aware of the product delivery status and positions. In addition, the Company regularly and

promptly publicized knowledge and analysis of oil industry intelligence for customers via meetings, seminars, and the TOP Energy application, leading to 96% score of customer engagement.

Furthermore, Thailoil and Subsidiaries have successfully expanded solvent market, both domestic and international, focusing on Myanmar and Northern Vietnam expansion as well as becoming a chemical distributor, achieved by establishing a distribution center of TOP Solvent (Vietnam) LLC. (TSV) and increasing sales volume of other high-value products to satisfy market needs. This year, TSV managed to increase sales volume in the Northern Vietnam by 30%; meanwhile, TOP Solvent Co., Ltd., now featured eight more new products.

Recognizing possible risks accompanying the business, Thailoil and Subsidiaries adopted proactive approach in its risk management monitoring all internal and external uncertainties that could affect businesses and investments both short term and long term. Oil price hedging and foreign currency risk management are also executed to ease impacts on high volatility of oil prices and foreign currencies.

5. Successes of Projects and Constant Operation under Strategic Plan

Thailoil and Subsidiaries represent a Strategy-Focused Organization that constantly review business strategies. Due to 2017 high market volatility, competition, and prevailing business surroundings, the direction of strategy review must be clear in order to become a regional refining and petrochemical leader. This includes business performance, business growth, and long-term sustainability.

In 2017, Thailoil and Subsidiaries successfully completed two key projects as planned. The first project is Paraxylene



Distribution System Efficiency Improvement Project, which commenced the commercial operation in December 2017. This enhances the distribution capability of products from Thai Paraxylene Co., Ltd. to PTT Plc's sea berth amounted to 25,000 tons per month. Another project is Lorry Loading Expansion Project, which commenced the commercial operation in March 2017, enhancing Thailoil's lorry loading capability from 10 to 15 million liters per day, or by 50%.

Apart from completed projects, there are still ongoing projects of Thailoil and Subsidiaries. This includes the Clean Fuel Project, which has undergone preliminary Front-End Engineering Design and is under Engineering Procurement and Construction bidding. This project will turn Thailoil and Subsidiaries into a true leader of the refining industry in Asia Pacific.

Investment projects on logistics and infrastructure include TOP Crude Oil Tanks Project to accommodate the legal reserves required by regulations and provide flexibility for refinery management. Another project is Jet Fuel Distribution System Efficiency Improvement Project, which is currently under construction. Moreover, the Jetty Expansion Project is aimed to increase the operation safety, reduce the current marine traffic congestion, and ensure its capacity to receive larger vessels for product transportation and new product sales in the future. Finally, the Thailoil Sriracha Building Project, designed to improve safety for staff and accommodate future expansion. Both projects have already been approved by the Board of Directors and are underway.

For international market expansion, TSV's distribution center project in the Northern Vietnam are under

construction. This project aims to expand the market and enhance competitiveness, as well as increase the distribution channels for the products of Sak Chaisidhi Co., Ltd., and those of Thailoil and Subsidiaries and PTT Group. The distribution center is expected to commence the commercial operation in Q4/2018. In addition, investment project studies are being carried out for business allies in ASEAN, selected for their high demand for petroleum and petrochemical products.

Thailoil and Subsidiaries prioritize its long-term sustainability strategy, leveraging the investment portfolios management project to increase its proportion of new business, in line with the dynamic industry and consumption pattern in the future. The strategy enhances programs related to support functions, which include human resource development, finance, treasury, socio-environmental responsibilities, and research and innovation. This year, Thailoil and Subsidiaries began commercializing six innovative products: K-1 Valves, In-Pipe Inspection Robot, Terminal Automation Management (TAM), Terminal Automation System (TAS), Motor Operating Valve Protection (MOV), and Crude Corrosion Assessment Software (C-CAS) for unconventional crude.

6. Excellence in Corporate Governance, CSR, and Stakeholder Stewardship

In addition to the achievement of high-performance organization, top executives of Thailoil and Subsidiaries are fully committed to good governance, social responsibility, environmental preservation, and sustainable development through business processes and various activities. These earn the Company widespread acceptance from all business and industry groups.

Moreover, Thailoil and Subsidiaries highly value the safety of staff, operators, and surrounding communities, resulting in Thailoil and Subsidiaries' global leading position of safety statistics. The Company is fully confident that sustainable growth can be achieved only in parallel with the development of community, society, and environment through target-oriented management under good corporate governance and business ethics.

This year's key sustainability projects include the establishment of Sarn Palung Social Enterprise Co., Ltd., to develop social enterprises; the "Bandith Rak Thin" (graduates love hometown) scholarship project; the Trauma and Emergency Building of Laem Chabang Hospital; the Mae Jo Hydropower Plant for Community Project; the Community Healthcare Project at Koh Mak Noi; Nurturing and Rehabilitation of Coral Reef, Koh Si Chang; and the Pracharath Project with PTT Group.

Thailoil and Subsidiaries are determined to apply their expertise and skills in energy leadership accrued over half a century, coupled with operational excellence and good corporate governance as well as responsibility to society, the environment, and communities to maximize stakeholders' satisfaction. That way, we can sustainably strengthen Thailoil and Subsidiaries' businesses and become a centennial company accompanying the Thai community and public.

From the aforementioned full commitment and achievements, Thailoil and Subsidiaries garnered numerous awards presented by many leading organizations as shown in Milestones of 2017.

MILESTONES OF 2017

01 JANUARY

RobecoSAM Sustainability Award 2017

Thaioil proudly maintained its Gold-Class status for four consecutive years in the Oil & Gas Refining and Marketing Industry in the 2017 RobecoSAM Sustainability Award, with the highest score among worldwide corporations in the same industry participating in the assessment.



02 FEBRUARY

Merit-Making Ceremony in Dedication to His Majesty the Late King Bhumibol Adulyadej

Thaioil and Subsidiaries, led by Chief Executive Officer (CEO) and President, along with the executives, staff, and representatives of the ten neighboring communities participated in the merit-making ceremony in dedication to His Majesty the late King Bhumibol Adulyadej at the Dusit Maha Prasat Throne Hall, Grand Palace on February 7.



Outstanding Investor Relations Awards from SET Awards 2016

Thaioil won an Outstanding Investor Relations Award at SET Awards 2016, hosted by the Stock Exchange of Thailand (SET) and Money & Banking Magazine. Each award is given to a listed company to honor and recognize its outstanding performance and its emphasis on the participation in investor relations activities throughout the organization. The assessment is made of factual responses to questionnaires and satisfaction surveys by stock analysts and institutional investors.





Outstanding SET Sustainability Award 2016 and Thailand Sustainability Investment (THSI) Award

Thaioil received two sustainability awards at the SET Sustainability Awards 2016:

- >> Outstanding SET Sustainability Award 2016, presented to a listed company with outstanding business performance and a role model for sustainability
- >> Thailand Sustainability Investment (THSI) Award 2016, presented to listed company with assessment score above the standard determined by SET and subsequently listed among the “Sustainable Stocks”. The information of which tells the investors that the shares of these companies are high quality with long-term high returns.



Outstanding Award on Sustainable Development Excellence/ Social Responsibility

Thaioil garnered an Outstanding Award on Sustainable Development Excellence and Social Responsibility at the Thailand Corporate Excellence Awards 2016, jointly hosted by the Thailand Management Association (TMA) and Sasin School of Management. This award is presented in recognition of outstanding business management under good corporate governance, and sustainable value creation for society.

03 MARCH

MOU Signing on KEEEN Product Expansion

CEO and President, presided over a Memorandum of Understanding (MOU) signing ceremony between TOP Solvent Co., Ltd. (TS) and Keen Co., Ltd., to appoint TS as the distributor and service provider of KEEEN products for one-step treatment and removal of oil slicks and chemical vapors.



04 APRIL

The 2017 Annual General Meeting of Shareholders (AGM)

Thaioil held its 2017 AGM on April 7, which was very well attended by shareholders. Operating results were fully reported, and direct questions were well responded and handled, reflecting operating transparency and bolstering shareholders' confidence.



06 JUNE

Asia's Best CEO Award and Investor Relations Excellence Awards 2017

Corporate Governance Asia, a leading publication of Asia and Hong Kong, honored Thaioil as Asia's Leader with the Asian Excellence Awards 2017 in two distinctive categories:

- >> Asia's Best CEO – Investor Relations Award, determined from selected CEOs who can efficiently manage business operations toward sustainable growth, in parallel with the execution of fair treatment of all stakeholders; thus leading to becoming the reliable organization accepted both nationally and internationally
- >> Best Investor Relations by Company Award, selected on outstanding performance on investor relations, including transparent information disclosure and fair treatment of all stakeholders. Thaioil has received this award for four consecutive years.



Collective Action Coalition against Corruption: CAC

Thaioil has re-certified for the Collective Action Coalition against Corruption (CAC) membership, of which Thaioil earned the CAC first certification on April 4, 2014. The certification is valid for three years.



Shareholders' Site Visit Program 2017

Thaioil held its Shareholders' site visit twice this year, each with 100 participants, during June 29-30. The site visit is an annual program aimed to promote in-depth understanding of Thaioil and Subsidiaries' businesses and forge confidence in the investment, echoing operating transparency and executives' vision for operating toward sustainable growth.





Drive Award 2017

Thaioil earned recognition in the Drive Award Human Resource at the Drive Awards 2017, hosted by MBA alumni of the faculty of Commerce and Accounting, Chulalongkorn University. The award is presented to personnels and organizations with outstanding performances on human resource management and good governance.

07 JULY



TOP-PPC MOU Signing

Thaioil and the Petroleum and Petrochemical College (PPC) of Chulalongkorn University signed a Memorandum of Understanding on research and development project, phase 4, spanning 2017 - 2020. The original cooperation between the two parties dates back to 2008. The cooperative research performance and knowledge have proven practical at Thaioil Refinery; for example, a project to test the efficiency of desulphurised catalysts and another is to improve heat exchange in the atmospheric Crude Distillation Units (CDUs).

08 AUGUST



Presentation of Sandalwood Flowers for the Royal Cremation Ceremony of His Majesty the late King Bhumibol Adulyadej

PTT Group executives, including Thaioil's CEO and President, delivered 120,009 sandalwood flowers and other PTT Group products to the Bureau of the Royal Household to be used at the Royal Cremation Ceremony of His Majesty the late King Bhumibol Adulyadej between October 25-29, at the Royal Crematorium, Sanam Luang Ceremonial Ground.

Thailand Energy Awards 2017

Thaioil garnered the Outstanding Energy Personnel on Teamwork in Facility Energy Management at Thailand Energy Awards 2017. This award reflects high efficiency of the integrated management of Thaioil and Subsidiaries, including overall energy management and minimum fuel losses.



CSR-DIW Continuous Award 2017

For 10 consecutive years, Thaioil received the "CSR-DIW Continuous Award" from the Department of Industrial Works for the promotion of CSR and sustainable businesses with local communities. The award went to Thaioil for its consistent and continuous demonstration of high performance in CSR in accordance with Department of Industrial Work's criteria.

Sarn Palung Social Enterprise Co., Ltd.

In conjunction with other companies of PTT Group, Thaioil established Sarn Palung Social Enterprise Co., Ltd., to promote social enterprise businesses to help mitigate problems in the society, the communities, and the environment by means of sustainable growth, through increasing local employment and efficient management. The project was initiated by PTT Group, in response to the government policy, to foster sustainable growth in society by means of social enterprises, a jointly-developed business model between the private sector, state-owned enterprises, and communities. Thaioil holds 15% shares in this company.



Lorry Loading Terminal Expansion at Sriracha

Thaioil inaugurated lorry loading terminal expansion at Sriracha in response to growing customer demand. The expansion enhanced loading operation efficiency with a total loading capacity increased from 10 to 15 million liters per day due to an increase in gantries from 10 to 15. Additionally, an automation management system known as Terminal Automation Management (TAM) was introduced and installed, which greatly enhances traffic control and optimizes delivery precision with accuracy, speed, and safety.



09 SEPTEMBER

Recognition Plaque for Commitment to Implementing Sufficiency Economy Philosophy with Business for Sustainable Growth

Thaioil earned a recognition plaque for its commitment to implementing Sufficiency Economy Philosophy with business for sustainable growth during the workshop on network cooperation initiation for Sufficiency Economy Philosophy implementation in the private sector, initiated by the Office of the National Economic and Social Development Board (NESDB) and the Research and Development Institute of Sufficiency Economy Philosophy Foundation (RSEPF).



Alpha Southeast Asia's 11th Annual Best FI Awards and 7th Annual Corporate-II Awards 2017

For the sixth consecutive year, Thaioil was honored with a "Strongest Commitment to Sustainable Energy in Southeast Asia Award" by Alpha Southeast Asia Magazine during its 11th Annual Best FI Awards and 7th Annual Corporate-II Awards 2017. Moreover, three national level awards were also granted, including:





- >> The Most Consistent Dividend Policy Award (three consecutive years)
- >> Most Organized Investor Relations Award
- >> Best Strategic Corporate Social Responsibilities Award

CG Identity toward Sustainable Culture at the 9th PTT Group CG Day

Thaioil, synergizing with PTT Group, organized the 9th PTT Group CG Day 2017 under the theme, “CG in DNA: Together We Can.” This event is designed to nurture corporate governance (CG), deep-rooted in the DNAs of all PTT Group’s executives and staff, enabling the entire workforce to work with integrity, transparency, and auditability. PTT Group believed that adherence to CG is critical to business success and sustainable growth.



Honorary Certificate for Greenhouse Gas Emission Reduction under TGO’s 2017 “Roi Duangjai Ruam Jai Lod Lok Ron” Campaign

Thaioil garnered an honorary certificate for Low Emission Support Scheme (LESS) at the 2017 “Roi Duangjai Ruam Jai Lod Lok Ron” Campaign, organized by Thailand Greenhouse Gas Management Organization (Public Organization) (TGO). The certificate is presented to exemplary business entities.

Interim Dividends

Thaioil paid the 2017 interim dividend of 1.50 Baht per share for 2,040,027,873 shares, totaling to THB 3.06 billion.

Establishment of Thaioil Treasury Center Co., Ltd.

Thaioil established Thaioil Treasury Center Co., Ltd., wholly owned by Thaioil, to conduct the business of International Head Quarters (IHQ) and Treasury Center (TC) for Thaioil and Subsidiaries’ higher efficiency of financial management. The establishment supported the government policy to promote Thailand as a regional hub for commerce and investment.

Consecutive Certified DJSI Membership

Thaioil successfully maintained its membership certification of Dow Jones Sustainability Indices (DJSI) by RobecoSAM, an official assessor of DJSI. The 2017 certification honors Thaioil with the highest global sustainability indices as Energy Industry Group Leader and Oil & Gas Refining & Marketing Leader for four consecutive years. Furthermore, Thaioil has been recognized as DJSI Member for five consecutive years. Thaioil is the first and only Thai listed company honored with the highest score in this category.



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10 OCTOBER

Support of Drinking Water to Bangkok Metropolitan Administration

PTT Group presented 2.2 million bottles of drinking water to Bangkok Metropolitan Administration for distribution at the Royal Cremation Ceremony of His Majesty the late King Bhumibol Adulyadej. Thailoil took part in this by supporting 500,000 bottles.



11 NOVEMBER

Board's Visit and Monitoring of Key Projects

The Board of Directors (the Board) visit Thailoil and Subsidiaries to see the progress of key investment projects approved by the Board, including the Jet Fuel Distribution System Efficiency Improvement Project, TOP Crude Oil Tank Project, Jetty Expansion Project, and the Thailoil Sriracha Building Project. The Board was welcomed by Thailoil's executives team.



SET Sustainability Award 2017 and Thailand Sustainability Investment (THSI) Award

Thailoil was honored with two sustainability awards at the SET Sustainability Awards 2017, hosted by SET as follows:

- >> Sustainability Awards of Honor, the most outstanding award presented only to a company winning the sustainability awards for three consecutive years and selected only from a group of outstanding listed companies with leading sustainable business conduct
- >> Thailand Sustainability Investment (THSI) Awards 2017, granted only to listed companies chosen for THSI 2017, known as "Sustainable Stocks". The chosen listed companies must qualify and pass sustainable criteria defined by SET under international standards. Listed as sustainable stocks tells the investors that the shares of these companies as high quality with long-term high returns.



NACC Integrity Awards 2017

Thailoil garnered an honorable recognition for transparent practice within organizations, from the 7th NACC Integrity Awards presentation ceremony, hosted by the Office of the National Anti-Corruption Commission (NACC). The event was initiated to elevate national transparency, provide morale and spirit, as well as recognition to agencies, organizations or institutions of





government, state-owned enterprises, the private sector, and all other legal entities striving to generate transparency in society through their efforts and activities. The evaluation is conducted by special experts and the NACC, with empirical evidence and records of proven practices in each category defined by the NACC.

Outstanding Investor Relations at SET Awards 2017

The Best Investor Relations Award was granted to Thailoil at the SET Awards 2017, in recognition for listed company with more than THB 100 billion in market capitalization. The event was organized by SET and Money & Banking Magazine. The award is determined by stock analysts and financial data users through questionnaires. The listed companies must qualify for outstanding investor relations, quality data disclosure, qualification and engagement of executives and staff to Investor Relations activities, and communication efficiency and various channels, leading to the best interests of all stakeholders.



12 DECEMBER

IR Magazine Awards & Conference – South East Asia 2017

Thailoil won two awards of excellence, namely, Best Corporate Governance and Best IR in Energy Sector in South East Asia at the IR Magazine Awards & Conference - South East Asia 2017, hosted by IR Magazine, an international media house providing information and knowledge, as well as research on investor relations.



Outstanding 2017 Sustainability Report Award

Thailoil obtained the 2017 Outstanding Sustainability Report Award at Sustainability Report Award 2017, an annual event organized by the CSR Club of Thai Listed Companies Association (TLCA) and co-sponsored by the Securities and Exchange Commission of Thailand (SEC), SET, and Thaipat Institute. The award reflects excellent practices of transparent disclosure of information and sustainable business conduct in economic, social, and environmental aspects leading to benefit for investors and all stakeholders, and ultimately to sustainable growth.



Motor Operating Valve Protection License Signing

Thailoil signed an “Motor Operating Valve Protection (MOV)” license agreement with Supakorn Fiber Co., Ltd., granting a five-year exclusive license for the manufacturing and sale of MOV.

MARKET REVIEW 2017 AND MARKET OUTLOOK



Market Review 2017

Global Market and Economy

In 2017, the International Monetary Fund (IMF) estimated the global economic growth at 3.7% (from January 2018 report), an increase from 3.2% in 2016. The growth is driven by the healthy global economic recovery resulting from the expansion in manufacture, investment, and international trade, as well as the rising confidence of consumer and business sector. In general, the economic condition of developed countries such as the EU members, US, and Japan have grown well at 2.3%, an increase from 1.7% in 2016, resulting from the continuous recovery of the labor market and domestic consumption following the economic growth despite slightly higher inflation. On the other hand, the developing countries' economy

recorded a rise in growth from 4.4% in 2016 to 4.7% in 2017, led by China's gradual economic expansion. China's growth was driven by state investments and exports rising in line with the global economic recovery. Monetary policies, however, have been tighter reflected from the US Fed's decision to increase the interest rate and cut in the balance of payment, as well as the Quantitative Easing (QE) Tapering launched by the Bank of Japan (BOJ) and the European Central Bank (ECB).

Despite the more positive overall global economy, the recovery is still at risk on rising long-term loan rates, following the US Fed's stringent monetary policy. In addition, international political risks remain grim concerns, due to US President Donald Trump's direction on international trade policy and international relations with other superpowers,



EU political uncertainties, and the geopolitical tensions in the Korean Peninsula.

Crude Oil Market and Petroleum Refinery Industry

The 2017 crude oil price averaged 53.1 USD per barrel, arise from 41.4 USD per barrel in 2016 following an undersupply in 2017 after the supply curb agreement among OPEC and non-OPEC producers, set to end in March 2018. The output from OPEC producers joining the agreement reduced by 1.4 million barrels per day to 29.6 million barrels per day. The non-OPEC total cut in 2017 was down by 0.4 million barrels per day to 18.4 million barrels a day. The crude price also benefited from the higher demand in 2017 at 97.8 million barrels per day, a steady rise by 1.5 million barrels per day from the previous year, resulting from the global economic recovery and relatively low prices of refined petroleum products.

The crude oil price increase was, however, capped by the US crude production expansion, especially from shale oil, which rose from 2016 by 0.5 million barrels per day to 9.3 million barrels per day. Supply from certain countries exempted from the supply curb agreement, particularly Libya and Nigeria, increased by 0.4 and 0.1 million barrels per day, respectively after their domestic unrest subsided.

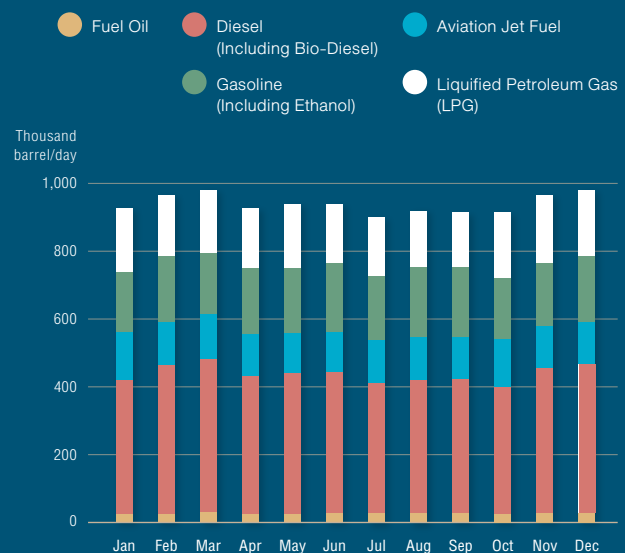
The 2017 refinery industry expanded from the previous year, as demand for refined petroleum products continued to outgrow the increasing total refining capacity. The demand rose by 1.4 million barrels per day, whereas the global refining capacity remained almost constant. This was due to the closures of certain refineries in the EU, Middle East, and Japan totaling capacity of 493,000 barrels per day, the delayed commissioning of additional capacities from new refineries in China (460,000 barrels per day in total) and Vietnam (200,000 barrels per day in total) resulting in very few new refineries in 2017. The undersupply situation was exacerbated by refineries with 12% of the US total refining capacity undergoing emergency maintenance shutdowns in Q3/2017 after the Harvey hurricane disaster, and a capacity of 400,000 barrels per day from the EU refineries becoming unavailable following a fire accident.

Petroleum Products in Domestic Market

Estimated by Bank of Thailand, Thailand's 2017 economic growth is at 3.9%, a rise from 2016 at 3.3%; drivers were the growth of export in almost all sectors in line with continuously increasing demands from overseas. The growth of Thai economy was also due to the global economic recovery especially the larger revenue from the rising number of tourists, a rise to 36.4 million tourists

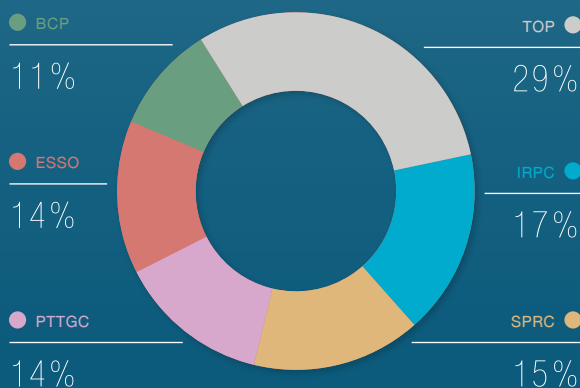
by 12% from 32.5 million in 2016, particularly from China, ASEAN countries, and the EU members. Economic growth also stemmed from the growing exports of automobile parts and equipment, petroleum products, and agricultural product. The private consumption also contributed to Thailand's economic growth. This was led mainly by the vehicle year-on-year sales growth at 13.4%, amount to 871,650 units in 2017, as the tax benefit of the First-car Scheme came to an end, encouraging people to sell their old vehicles for new ones.

Domestic Demand for Refined Products in 2017 (January–December 2017)



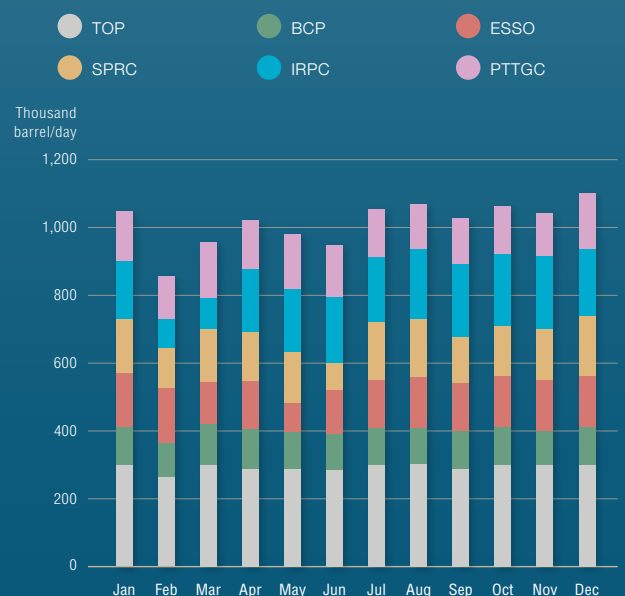
Source: Department of Energy Business (DOEB), Ministry of Energy

Percentage of 2017 Total Refining Capacity in Thailand (January–December 2017)



Source: Department of Energy Business (DOEB), Ministry of Energy

Domestic Refining Capacity in 2017 (January–December 2017)



Source: Department of Energy Business (DOEB), Ministry of Energy

The 2017 domestic demand for petroleum products increased by 2.8% as retailed prices remained low. Gasoline consumption grew by 3.7%, mainly driven by gasohol 95 as the price gap between gasohol 95 and gasohol 91 narrowed. The growth was also due in part to the gasohol E85 demand rise as the price gap with gasohol E20 widened. Diesel consumption rose 3.0% with the growing economy, and aviation jet fuel consumption also rose 4.4% with the higher number of flights accommodating the higher number of tourist arrivals, especially from China and the EU countries. Meanwhile, fuel oil consumption dropped to 6.5%, as the industry sector reduced the amount used opted for alternative fuels with lower prices.

The average domestic output of petroleum products from January to December 2017 was 1,012,480 barrels per day, an increase from 996,902 barrels per day in 2016 due to decreasing annual shutdowns. However, Thail's share remained the biggest, taking up 29% of Thailand's total refining output.

Aromatics Market

The paraxylene market weakened in 2017 as supply in Asia Pacific and the Middle East increased by 1.8 million tons in 2017, compared to the increase of 0.6 million tons in 2016. One of the supply sources was Reliance Industries in India with a total production capacity of 1.45 million tons per year. The total demand, however, was estimated to grow by 1.7 million tons. The Q1 market recovered in accordance with increasing crude oil price and purchasing power before Chinese New Year, with Chinese polyester demand rising from 79.8% in Q4/2016 to 83.9% in Q1/2017. The Q2/2017 market, however, became weakened in response to the pressure from the commercial operation of a new

plant in India and lower demand from China due to the remaining high inventory of polyester. Nevertheless, the market slowdown in this period was not dramatic since some supply was lost during the shutdown season in the region. The paraxylene price continued to weaken in Q3/2017 after the summer season demand decreased and most plants resumed their operation after the shutdowns. The Q4 price did not pick up from Q3 despite the winter demand and crude oil price recovery, due to concerns over additional capacity scheduled to be onstream in Q4/2017 and Q1/2018.

The benzene market, on the other hand, posted strong recovery from 2016 because of a continued sudden shutdown of a major plant in the US due to technical problems since late 2016. The shortage of benzene forced many US plants of styrene monomer, one of benzene's downstream products, to halt production and reduce export to China. China subsequently sought other sources of benzene to produce styrene monomer to meet its domestic demand shooting up the regional benzene price. However, the overall Asia Pacific and Middle East supply in 2017 rose 1.3 million tons, while demand rose only by 1.2 million tons. The demand was, still, higher than the average growth of 0.9 million tons per year for the last five years. In Q1/2017, the market was affected by the shutdown of a major plant in the US before it became weakened in Q2 with the plant's resumption, and the commercial operation commencement of the new Reliance Industries plant in India with a paraxylene capacity of 0.4 million tons per year. The market continued to slide in Q3 with most plants resuming their operation after shutdowns. The benzene market rebounded in Q4 as demand for styrene monomer, which was used for production of gifts for the festive season, recovered, while some benzene

plants in the US were shut down for maintenance. This benzene market recovery was, however, limited by the remaining high inventory in Eastern China.

Lube Base Oil and Bitumen Market

The 2017 lube base oil market recovered due to lower supply following the planned shutdown of refineries in Thailand (Group 1 lube base oil capacity of 360,000 tons per year) and in Singapore (Group 2 lube base oil capacity of 1,875,000 tons per year). The market was further affected by unplanned shutdown in Japan (Group 1 lube base oil capacity of 360,000 tons per year) and in Taiwan (Group 2 lube base oil capacity of 600,000 tons per year). This results in the total 2017 regional supply loss of 1,923,000 tons, higher than that of 984,000 tons in 2016. In 2017, only Korea's S-Oil refinery increased its capacity of Group 2 lube base oil capacity to 190,000 tons per year, relieving the high oversupply tension in the market. However, the 2017 global demand grew only 0.5% compared to 2.3% in 2016 due to higher vehicle lube oil consumption, reflecting a sharp drop of crude oil price.

The 2017 bitumen market rose from the higher crude oil price and a drop of regional supply from plants in Singapore, South Korea, and Thailand, as they switched their production from bitumen to fuel oil to gain higher margins following the rise in fuel oil prices, especially in Q3/2017. Moreover, the regional supply was under pressure, especially in the first half of the year, due to several planned shutdown in Thailand from February to March and the fire accident at one of the refineries in Singapore in June, reducing notable market supply of bitumen. Regional demand, on the other hand, did not grow much because of the uncertainty of state budget disbursement in Vietnam and Indonesia, leaving a high level of bitumen inventory in both countries. Moreover,

road construction and maintenance projects in Indonesia were trimmed, as the government switched its focus to the construction of dams and airports.

Linear Alkyl Benzene (LAB) Market

The 2017 spread between the LAB price and its remained low compared to 2016 despite both prices' increase following the rise of the crude oil price, especially early in the year 2017. This was due to the shutdown of n-Paraffin plant in Qatar in early February 2017, resulting in a drop of n-Paraffin (LAB precursor); and a demand rise in India after an abrupt pause caused by Indian government's termination of 500-rupee and 1,000-rupee bills on November 8, 2016; as well as regional demand recovery after the Chinese New Year Festival. The demand from India in Q2 and Q3 of 2017, however, declined, following the Asian demand drop after entering the monsoon season and the Indian government announcement on changes in the Goods and Services Tax (GST) and their enactment on an anti-dumping policy to manage LAB imports from Iran, Qatar, and China, resulting in limited LAB imports only as necessary. The Q4 market was expected to stabilize at the same level as Q3, as demand recovered after the monsoon season ended and a certain supply lost due to plant shutdowns. The volume of LAB traded at the end of the year were low, however, due to the remaining high inventory.

Solvent Market

The global oil price in 2017 was very volatile: high in Q1, lower in Q2, and higher again in Q3. During the price rise in Q1, demand for consumer products in emerging markets went up. These emerging markets include main trade partners with oil and gas producing countries, such as African and Latin American countries, whose economy expands in line with their increasing purchasing power.



This can be reflected from Thailand's growing exports especially to the target countries. Moreover, higher prices of agricultural product increased the purchasing power in Thailand as well. The domestic solvent supply was down, following annual planned maintenance shutdowns by some toluene, xylene, and white spirits (TXW) producers during March-April, while the imports of some products were delayed. This led to domestic undersupply, driving domestic producers to gain more.

As the solvent price declined with the global crude price in Q2, its trade volume slowed down due to buyers expecting further lower prices, resulting in low domestic and international demand. The domestic automobile production declined 5% in the first half of the year compared to 2016, with export falling 13%, despite domestic automobile market growth of 11%. The production of construction materials such as paint, glue, printing materials, textiles, plastics, fertilizers, pesticides,

vegetable oils, machines, and electronics declined slightly, while production of furniture plunged 16% in line with the fall in domestic demand.

The prices of feedstocks rose in Q3 and Q4 along with the higher crude oil price, leading to higher solvent prices, resulting in higher solvent outputs in response to global and domestic demand recovery. This is in part due to consumers' higher income following the higher prices of agricultural product and the government's economic policy stimulating domestic consumption, such as the State Welfare Program 2017 for the low-income and the year-end stimulus tax-break for holiday shopping measure (Shop Chuay Chart project). Industries benefiting from higher domestic consumption included automobiles, tires, automotive parts, printing material, chemicals, foods, and beverages. However, the rise in solvent supply led to a glut, triggering market price competition from the beginning of Q3 to Q4.

Petroleum Transportation Industry

Transportation of crude oil, and petroleum and petrochemical products market recovered in 2017 due to economic recovery, lower crude oil prices, and higher imports by neighboring countries, leading to higher demand for small vessels for petroleum and petrochemical products in the first half of the year. However, due to the large vessel supply since the previous year, medium range (MR) vessel freights remained low. As for some old Very Large Crude Carriers (VLCC) previously planned to decommission, the postponement of Ballast Water Management System extended their active services in the market for a longer while. This, including new vessels to the market, led to more VLCC in the market. The low VLCC freight rates were exacerbated with the reduction of oil production by OPEC member. Demand for offshore supporting vessels, including crew boats, was depressed by the suspension of the 21st Petroleum Concession Round Announcement. The demand for crew boat for exploration and drilling operations was therefore very low, causing the market to become nearly stagnant.

Ethanol Market

The domestic ethanol demand for gasohol production continued to soar with the ethanol consumption of 3.9 million liters per day, an increase of 7.7% from 2016. The continual increase of ethanol consumption was partially driven by the government's economic stimulating measures, including wide price gap among various grades of gasohol. Moreover, the gasoline consumption continuously increased due to the relatively low retail prices of gasoline in line with lower global crude oil prices resulting in lowering petroleum product price. These led to a significant surge of gasohol consumption. Moreover, newer vehicles designed for E20 and E85 gasohol were injected to the

market in line with more retail stations serving E20 and E85 gasohol to consumers. These helped increase the consumption of ethanol.

There were 24 ethanol plants in Thailand in 2017 with a total capacity of 5.59 million liters per day. Two more plants are scheduled to come onstream in 2018, one molasses-based with a capacity of 0.10 million liters per day and another cassava-based with a capacity of 0.34 million liters per day.

The 2017 ethanol price has increased due to a drop of molasses supply resulting from drought in the previous year, and higher demand for ethanol following the gasoline demand increase.

Power Industry

The 4.3% GDP growth in Q3/2017 drove not only national economic expansion, but also the generation and distribution of power, up by 4.4% (by National Economic and Social Development Board). The rise in power demand was recorded by all sectors, including the household and enterprise of small, medium and large scale.

The total domestic power installed capacity in 2017 went up to 42,433.25 megawatts (MW); 37.87% of this was from Electricity Generating Authority of Thailand (EGAT), while the remaining 62.13% was from other producers, 17.76% of the total capacity was contributed by small power plants. However, the actual total generating capacity from EGAT accounted to 28.34%, while the remaining 71.66% was from independent power producers. The domestic peak power consumption in 2017 was recorded in May at 28,578.40 MW.

Market Outlook 2018

Global Market and Economy

The 2018 global economy is expected by the IMF to grow 3.9% from the previous year (January 2018 report), reflecting an economic recovery in many regions both major and emerging market groups. The economic growth of developing and emerging countries, considered a main drive of global economy, is estimated at 4.9%, led by China and India. The Chinese economic growth tends to expand 6.5%, contributed by basic economic factors covering domestic consumption, industrial sector, exports and public investments. The economic growth of India is estimated at 7.4%, led by export recovery following global trade expansion. The economic expansion of developed countries is expected at 2.3% contributed by the US and EU economic recovery at 2.7% and 2.2% respectively. The recovery of which is derived from strong support of labor market expansion, which leads to higher domestic consumption and private investments.

However, the global economic short-term expansion is still facing possible expansion-delay risks posed by the US political uncertainty and economic policy; as well as the uncertainty of the EU politics and unity, particularly the withdrawal of England from the EU (Brexit).

For the medium-term, major risks to global economic growth include (1) money market volatility and rise of capital cost stemming from higher long-term interest rate by market mechanisms, (2) low inflation rates in the advanced economies, (3) debt levels and debt payment of the emerging countries, especially those relying solely on loans, and China's debt issues posing risks to Chinese economic growth, (4) risks generated by trade barrier, and (5) geopolitical risks and political uncertainty, including

the political tension on the Korean Peninsula which could escalate to war.

Crude Oil Market and Petroleum Refinery Industry

Crude Oil Market

The Dubai crude price is expected to remain high and adjusting within the range of 55-60 USD per barrel in 2018, supported by global demand growth of 1.3 million barrels a day (reported by the US Energy Information Administration (EIA) in January 2017) and driven by economic recovery in many regions of the world. The cooperation between oil producers in the OPEC and non-OPEC to cut production by 1.8 million barrels a day and extend the reduction period from March 2018 to December 2018 was another significant factor contributing to the high crude oil price. The cooperation agreement and its extension are targeted to lower the OECD stocks to the five-year average level. Nigeria and Libya, earlier exempted from the original agreement due to their internal political unrest, decided to join the accord for the extended period. Moreover, geopolitical uncertainty in the Middle East and Latin America including Iraq, Venezuela, Libya and Nigeria, and the political tension between Saudi Arabia and Iran, can cause tighter crude supply making these situations the uncertainties to be closely monitored in 2018.

On the other hand, the risk of global oversupply of crude oil remains valid due to continued rise of non-OPEC producers at around 1.7 million barrels a day (reported by EIA in January 2018), resulting in even more oversupply in the market causing the attempt of oil producers to balance the crude oil market even more difficult. The increase of output from Non-OPEC is mainly contributed by the US amount to 1.0 million barrels per day (Reported



by EIA in January 2018), especially a significant rise of shale oil, following the global crude oil price increase above the shale oil production cost or the break-even. This has prompted and attracted shale oil producers to resume drilling and producing. In addition, Brazil's and Canada's production of crude oil has increased by 0.4 million barrels a day, another significant factor driving the global supply outside the OPEC.

Refining Market

The 2018 refinery industry is estimated to steadily rise following EIA's report of higher petroleum demand of 1.3 million barrels a day in their January 2018 report. This is obviously higher than the newly estimated net refining capacity of 1.0 million barrels a day, led by new refineries in China and Vietnam, commissioned in Q4 and August 2018 respectively. The gasoline market is expected to continue rising in line with the higher demand, since retail prices remain low while total vehicle sales increase, particularly in China and India. The diesel market is also expected to recover, following the global economic recovery and higher demand for heating during December 2017 to February 2018, an abnormal freezing winter. Because of an increasing number of tourism flights, the jet fuel market is also estimated to expand. The fuel oil market, however, is believed to slow down and substituted by renewables and natural gas in the growing power industry. The fuel oil demand in Japan is expected to decrease after the commissioning of a new nuclear power plant in March 2018.

Petroleum Products in Domestic Market

Bank of Thailand has estimated Thailand's 2018 economic growth at 3.9% reported in Estimation of Economy and Inflation, December 2017 issue. The growth is supported

by higher export following the global economic growth at 3.9%. Thailand's economy is also accelerated by and accelerated investments by both the government and the private sector after a capital budget adjustment, and the government's mid-year budget spending. The public consumption is expected to expand at 3.2% while the public investment at 9%. However, it is expected that the private investment remains steady despite high household debts.

The 2018 domestic petroleum product consumption is estimated to expand 1.5%, a decrease from 2.8% in 2017. This is considered a relapse to a normal level of growth after the unusual growth in the last three years. Considering the consumption by each product group, it is found that growth of gasoline, diesel, jet fuel, and fuel oil is at 3.1%, 1.9%, 2.5%, and 1.1% respectively; while the LPG consumption, on the other hand, is expected to drop by 1.7%. However, the Company is to monitor the domestic petroleum product consumption estimated by Ministry of Energy in its Thailand's Integrated Energy Blueprint (2015-2036) which is expected to be adjusted around mid-2018.

Aromatics Market

The 2018 aromatics market is expected to be slightly weakened due to more supply from a new plant in Saudi Arabia, with paraxylene production capacity of 1.3 million tons a year and benzene production capacity of 424,000 tons per year; and another plant in Vietnam, with paraxylene production capacity of 800,000 tons per year and benzene production capacity of 246,000 tons a year. Moreover, an aromatics plant in Indonesia is likely to resume production, though without clear plan has after it shut down due to financial problems in 2015.

Despite considerable supply in the market, the demand for paraxylene and benzene is expected to continuously expand. This is because China's import of paraxylene and benzene continues to grow. Moreover, the demand from downstream product plants can help maintain the growth of paraxylene and benzene consumption. The downstream plants include China's and India's PTA plants with capacity of 2.5 million and 1.2 million tons a year respectively, and China's new styrene monomer plant with capacity of 260,000 tons a year. The global demand for polyester for textile fiber and plastic bottles (PET) production is expected to rising in line with the global demand for polystyrene.

Lube Base Oil and Bitumen Market

The 2018 lube base oil market is likely to slow down due to additional supply from new Group 2 and Group 3 lube base oil refineries with capacity of 2.5 million tons a year. This leads to intense price competition in Group 2 market, inevitably affecting the Group 1 market. The demand for lube base is estimated to grow in parallel with the global economic recovery. The Group 1 demand is estimated to grow at 43% of the total demand, particularly lube oil production for heavy machinery and marine transportation. The demand from automobile industry is to push the consumption of following the enforcement of environmental laws to reduce the emission of pollutants.

The bitumen market is forecasted to be under pressure from fewer planned shutdowns compared to the previous year. The plants with unplanned shutdowns in 2017 are also to resume production in 2018. However, it is estimated that the demand within the region is to pick up in line with each country's national economic development plan, which focus on the continuous improvement of infrastructure, especially China and India, the major bitumen import

countries which emphasize road construction to stimulate investment and improve logistic networks.

Linear Alkyl Benzene (LAB) Market

The LAB market is tends improve in 2018 following an overall economic recovery, and partially from higher demand for detergent products because of a higher population. LAB growth is expected at 2.6%, mainly in the Middle East and Asia, particularly Southeast Asia; while the only additional supply comes from Iran's LAB plant with capacity of 34,000 tons per year.

Solvent Market

The 2018 domestic solvent market is likely to move in line with the domestic economy, driven mainly by the higher export and service sectors following the growth of Thailand's trade partners, as well as continuously increasing number of tourist arrivals. The announcement of Thailand's general election has clarified political doubts and generated higher confidence in the business sector, paving the way for more domestic investments. Market conditions of solvents can be described as follows:



>> The hydrocarbon group is likely to be under pressure from an oversupply from East Asian countries including China, Korea and Japan, as in the previous year. The oversupply in ASEAN countries was caused by slowly growing slower growth market of the main producers such as China and Japan. At the same time, the market competition in South Asia continues relying price gap between Europe and East Asia raw materials. This is evidence during 2017, European products were barely distributed, the South Asian market was solely dominated by products from East Asia, thus diminishing the price competition among South Asian countries. This price competition is to continue playing a significant variable in 2018.

The domestic market is likely to be more volatile due to more specialty products imported from China and Korea, though not in significant volumes. In 2017, Sea Oil Co., Ltd., commenced its own fuel production and began to distribute their by-product which is hydrocarbon solvents. This has generated impacts on the hydrocarbon solvent market share, leading to higher domestic market competition in 2018.

>> The toluene-xylene-white spirit (TXW) group is likely to be affected by the global paraxylene oversupply. This is likely to cause the domestic producers of TXW to cut down their outputs in certain periods of 2018 as they did in 2017 to prevent the oversupply which leads to the price competition and the balance between demand and supply in the domestic market.

>> The chemical solvent (ChemSol) group is likely to be affected by the oversupply especially from Chinese products exported to ASEAN countries. This leads to intense price competition in 2018. In addition, Chinese Government is to launch the anti-dumping duty for

some particular products in 2018, leading to more expected to be exported to ASEAN countries include Isopropyl Alcohol (IPA), produced from acetone and propylene. If the IPA price is more competitive for ChemSol production than for other products, a glut of ChemSol products will become inevitable. The market condition is therefore depended upon the availability of the raw materials. Moreover, Dow Chemical the producer from Middle-East has started producing and distribution Glycol Ether (BGE) into ASEAN country market since 2017. The ASEAN producers, therefore, need to secure the market share. This leads to more intense competition pressuring the unit selling margin.

Petroleum Transportation Industry

It is expected that the 2018 transportation of crude oil and petroleum and petrochemical product market is to grow, resulting in continuous demand for small vessels used to transport petroleum and petrochemical products, with and exception of medium range (MR) vessels still in oversupply. The demand for VLCCs for crude oil transport is expected to grow. However, the oversupply in the market continues to pressure the freight rates. Freight rates are expected to increase when the vessels in the market decrease while the US export of crude oil rises following the increase of crude oil price. For the demand for offshore vessels in 2018, it is expected to increase due to the need to decommission the existing drilling rigs derived from the announcement of the 21st Petroleum Concession. Moreover, exploration and production are expected to become more active in the region, driving an offshore vessel demand to grow in 2018.

Ethanol Market

The 2018 ethanol demand is expected to rise to 4.1 million liters per day, following higher demand for

E10, E20 and E85 gasohol with the supportive policy from the government to promote the use of gasohol by means of wider spreads among the retail prices of various gasoline products. Moreover, the increasing number of vehicles compatible with E20 and E85 gasohol and gas station with E20 and E85 are also factors driving more consumption of ethanol in the same direction since 2017.

It is expected that two new ethanol plants are to commence in 2018, with a total capacity of 0.44 million liters per day: one molasses-based with a capacity of 0.10 million liters per day and another cassava-base with capacity of 0.34 million liters per day. This amount to total domestic capacity of 6.03 million liters per day, an increase from in 2017. On the other hand, the 2018 ethanol price tends to slightly decrease compared to that of 2017, due to molasses inventory relapsing to balanced amount and ethanol production capacity increased from new ethanol plants.

Power Market

Power demand is forecasted to continuously grow in 2018. The Power Development Plan continues to support for the private sector's to investment, especially on the renewable

power plants. The SPP's new investment is to substitute the power plant whose agreement due to expire during 2017-2025. Meanwhile, the government is to extend the agreement on production of electricity and steam to industrial estates and industrial parks.

According to the 2015 Power Development Plan (PDP) covering the year 2015-2036, the actual total demand for power is found to be lower than that originally predicted, and the power reserve capacity increases higher than the standard set at 15%. This is due to the lower-than-expected economic growth, and the merge of Energy Efficiency Development Plan (EEDP) and the Alternative Energy Development Plan (AEDP) into the outlining of the 2015 PDP. In the first phase, the reserve capacity is expected at 25% of the total power installed capacity. This will gradually increase in later stages to reach the peak at 38%-40% in 2023-2024 before gradually decreasing to 30% and 20% levels in 2026 and 2029 respectively. The new PDP is to on diversifying the fuels used to generate power, aimed at reducing the dependency on natural gas and increasing supply shares from renewables and imports of hydropower.



PRODUCTION PROCESS, PROCESS DEVELOPMENT, QUALITY, SECURITY, SAFETY & OCCUPATIONAL HEALTH AND ENVIRONMENT MANAGEMENT



Production Process and Process Development

In 2017, Thailoil generated total refining capacity of crude oil and other feedstock of 309,020 barrels per day, representing 112% of the nameplate capacity. While Thai Lube Base Plc (TLB) and Thai Paraxylene Co., Ltd. (TPX) processed their production capacities at 236,120 tons per year (or 88% of the nameplate capacity) and 694,490 tons per year (or 83% of the nameplate capacity). Producing precursors of cleaning agents, Labix Co., Ltd. (LABIX) produced 120,240 tons per year of LAB substances (or 100% of its nameplate capacity).

For overall optimization, Thailoil and Subsidiaries operated under a joint-production plan, with all activities during the year summarized as follows:

Thailoil

- >> Won Thailand Energy Award 2017 for Outstanding Energy Management Team from the Ministry of Energy. Thailoil also participated in the Low Emission Support Scheme (LESS) Project with the Thailand Greenhouse Gas Management Organization (Public Organization)
- >> Achieved 100.9% in operational availability, which exceeded the 2017 goal
- >> Continued with more than 45 projects under the Profitability Improvement Project, resulting in a benefit of 0.96 USD per barrel equivalent to THB 3.718 billion in total revenue, substantially beyond the goal. Notable achievements included the identification and allocation of new crudes at suitable prices and qualities, process



planning program improvement, process improvement, energy conservation, and oil loss improvement etc.

>> Pursued 15 efficiency improvement projects for energy conservation and oil loss improvement, while successfully surpassing the Solomon's Energy Intensity Index. These projects save energy of 27.3 MW, equivalent to energy cost-saving of 103 million Baht per year. These outstanding projects include:

- Installation of high-efficiency sheet-type heat exchangers for heating crude oil at Crude Distillation Unit-1 (CDU-1)
- Efficiency improvement of furnaces in various production units
- Adjustment of cleaning frequency of heat exchangers at CDU-1/2, reducing fuel demand in the furnaces

- Cleaning of heat exchangers at the High Vacuum Unit-2/3 (HVV-2/3), which separates waxy from long residue, thus improving the energy efficiency of refining units
 - Adjustment of the process in the Sulphur Recovery unit so as to save energy
 - Reduction of heat loss in crude oil transfer
- >> Operated with efficiency, resulting in the successful postponement of the CDU-1 maintenance shutdown
- >> Conducted a major planned turnaround and replaced catalysts at the Gasoil Hydrodesulphurization Unit-2 within a shorter timeframe
- >> Reviewed and adjusted the types of fuels to match changes in crude prices and pricing structures to always maintain lowest energy expenses
- >> Installed the Liquid Chloride Guard at the Continuous Catalyst Regeneration Platformer Unit-1 in October, leading to corrosion reduction in the ED Sulfolane Unit and production continuity
- >> Improved the cleaning procedure for high-efficiency, sheet-type heat exchangers at CDU-3 for maximum cleaning efficiency, and prevention of damage during the cleaning from acid corrosion. As a result, heat exchange efficiency rises and the heat exchanger remains intact, generating THB 120 million in total benefits because Thaioil can now raise the refining proportion of new-grade low-cost crude oil and lessen fuel combustion of the furnaces
- >> Improved the crude oil assessment standard to widen the opportunities and proportions for refining new types of crude oil. This included the systematic improvement

of the procedures and the Closed-Loop Work Process management, consisting of risk assessment, production planning and coordination, and problems and key issues compilation and record after production processes to ensure that a given new crude does not affect the refinery. This way, Thailoil can maintain plant reliability at a high level. This year, Thailoil benefited a total of 30 million Baht per year from the greater proportion of new crude refining

- >> Imported the long residue fed into HVU-2/3 all year long to increase the volume of precursors to the Hydrocracking Unit-1/2 (HCU-1/2)
- >> Shutdown the Hydrocracking Unit-2 (HCU-2) to replace expired catalysts in the first portion, thus raising the process efficiency
- >> Improved the blending process for diesel and fuel oil, thus cutting the production cost
- >> Altered the sales method of volumetric measurement of C10+ from a comparison between the meter and the tank to that between the meter and the gauge (scale), which enabled more exploitation of the tank while yielding more gasoline
- >> Proceeded with a TOP Crude Oil Tanks project to construct five crude tanks with a total capacity of 250 million liters for refining security and accommodation of rising domestic product sales. The construction is due for completion and operation by 2019
- >> Proceeded with Jetty Expansion Project to ease the congestion at the current terminal, while expanding the marine product distribution capability for bigger vessels. The project is due for completion and commercialization by 2019
- >> Proceeded with the Lorry Loading Expansion Project aimed to expand the lorry loading capacity from 10 to 15 million liters per day, with 15 gantries instead of 10, thus shortening the loading time.

Thai Lube Base Plc (TLB)

- >> Smoothly commissioned and achieved 100% operational availability
- >> Achieved several market and product development milestones for new grades of lube base oil, extracts, and asphalt, leading to more competitive advantages. New products like asphalt grades 40/50 and 60/70, meeting new requirements of the Department of Highways (DH – A 401/2016) about dynamic sheer torque, were successfully produced and ready for customers. TLB also successfully raised the output of TDAE
- >> Significantly increased the energy consumption efficiency index above the target due to efficient energy management.

Thai Paraxylene Co., Ltd. (TPX)

- >> Successfully commissioned as planned and maintained operational availability at 99.9%, exceeding the goal
- >> Raised the energy efficiency of the ED Sulfolane Unit by reducing the ratio of solvents to long residue, thus cutting the distillation column's energy consumption
- >> Began marine paraxylene distribution through sea birth-5 of PTT's terminal in January, under a project to improve the distribution efficiency for aviation fuels and paraxylene. As a result, TPX successfully hiked the volumes distributed per trip while accommodating customers' bigger tankers.

Labix Co., Ltd. (LABIX)

- >> Successfully commissioned as planned and maintained 100% operational availability
- >> Successfully controlled and improved production processes to extend the service of catalysts, and increased their efficiency for longer service. As a result, the LAB yield increased
- >> Lowered the system pressure at the Kerosene Pre-fractionation Unit to increase energy efficiency
- >> Improved the Molex production unit and the lorry loading station to produce and sell WS 3060 and Solvent 3040WC. The project is expected to complete and start commissioning by Q1/2018.

Thaioil Power Co., Ltd. (TP)

- >> Successfully achieved a higher utilization rate than planned
- >> Undertook maintenance of power plant machinery as planned, including combustion chamber inspection and hot-gas path inspection for plant reliability and optimal levels of machinery efficiency
- >> Undertook the measurement of heat rate of gas turbine and constant compressor cleaning to maintain the heat consumption rate per unit at the best level

TOP SPP Co., Ltd. (TOP SPP)

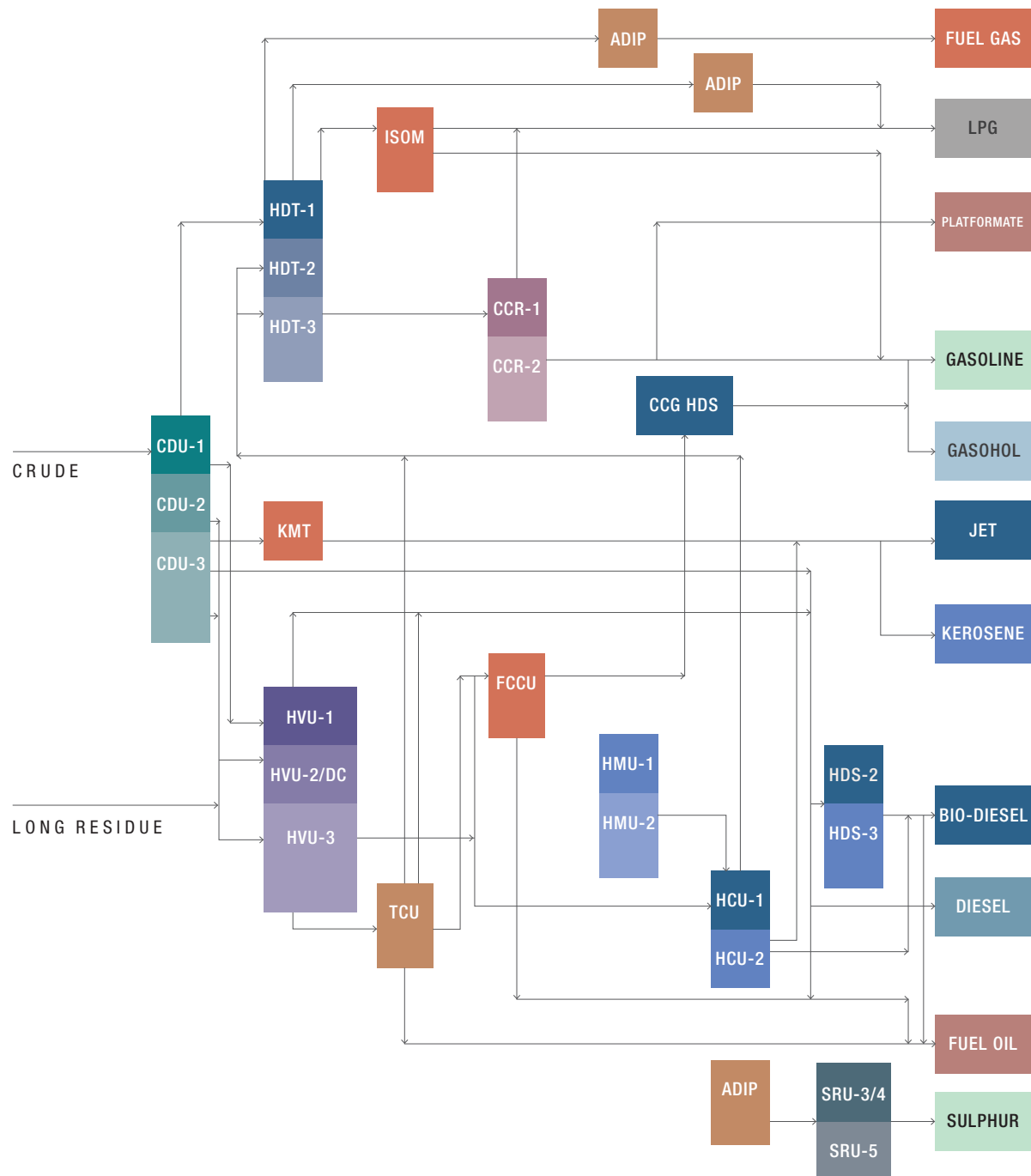
- >> Achieved a higher utilization rate than planned, and controlled the efficiency of gas turbines exceeding the target
- >> Shutdown the gas turbines as planned to conduct combustion chamber inspection, a measure designed to ensure the reliability of gas-turbine power generators

- >> Managed the power and steam units for optimal results, particularly during off-peak periods. To this end, steam turbines were put to greater utilization, resulting in more revenue from electricity sales
- >> Encouraged the inspection by the state agents on the Primary Energy Saving (PES) capacity of both power generating projects as required by the Power Purchase Agreement (PPA). It was found that the power generating units of both projects commanded higher PES indices than expected. As a result, TOP SPP benefited from having the highest fuel saving (FS).

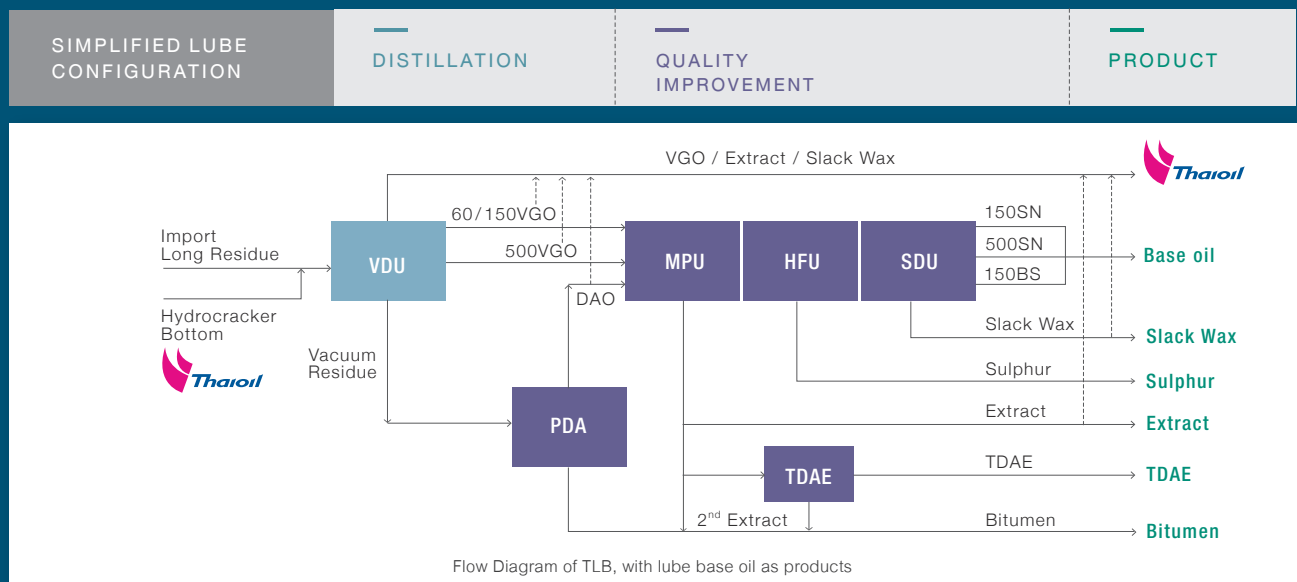
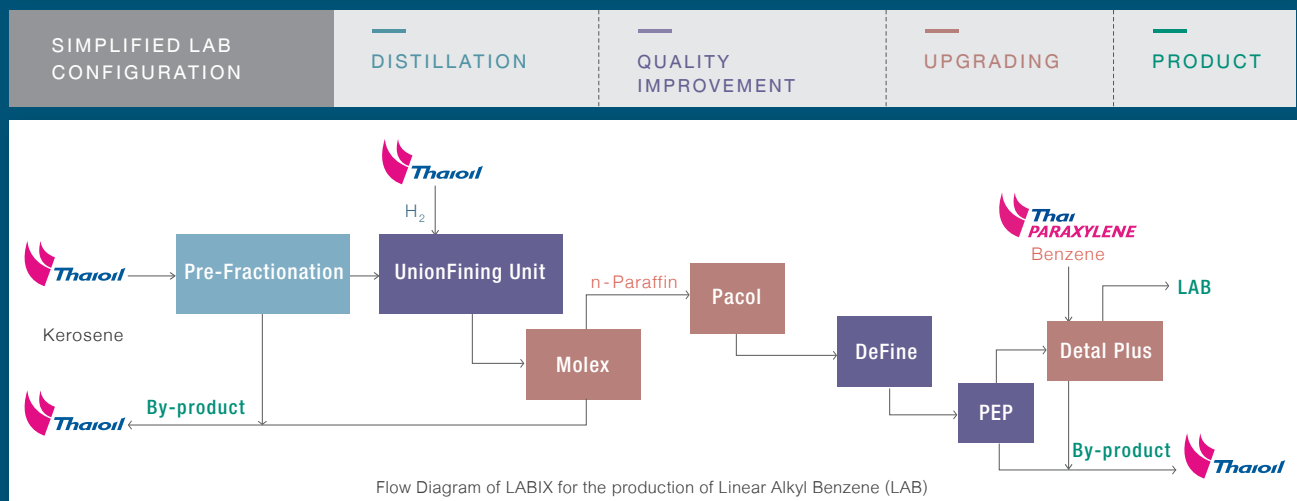
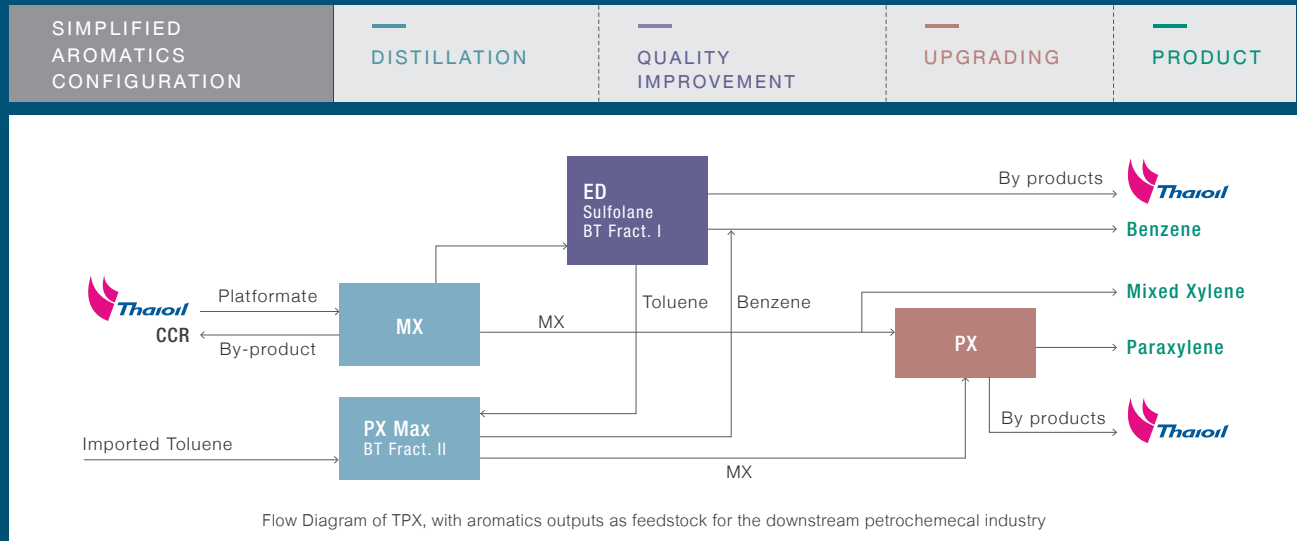
Refining Performance Assessment

Throughout 2017, Thaioil and Subsidiaries successfully maintained its oil refining capability at an excellent level, satisfactorily meeting plant utilization. Operational Availability was extremely high, and its Solomon's Energy Intensity Index or efficiency in energy consumption was superior to the goal. These performances confirmed Thaioil and Subsidiaries' commitment to continuously improving and developing its refining potential to maintain its leadership in the Asia Pacific.

CRUDE AND FEEDSTOCK REFINING PROCESSES
INCLUDING PETROCHEMICAL AND LUBRICATING OIL PROCESSING OF THAIOIL AND SUBSIDIARIES



Flow Diagram of Thailoil Refinery, a complex refinery in Thailand



Quality, Security, Safety, Occupational Health, and Environmental Management

Thaioil and Subsidiaries have adopted an integrated operation and management standard of quality, security, safety, occupational health, environment, energy and social responsibility. Serving as the operating scope is the QSHE Policy of Thaioil and Subsidiaries, under the TOP-GET-BEST-PLUS, a main strategy for driving management within Thaioil and Subsidiaries in pursuit of Operational Excellence. Below are the integrated management systems in place:

1. TIS 9001 Quality Management System
2. TIS 14001: 2015 Environmental Management System
3. TIS 18001 Safety and Occupational Health Management System
4. BS OHSAS 18001 Occupational Health and Safety Management System
5. Integrated Management Systems (IMS)

6. ISO/IEC 17025 Management System for Laboratory Assessment
7. ISO 26000 Corporate Social Responsibility (CSR) under the CSR-DIW Project
8. ISO/IEC 27001 Data Security Management System
9. ISO 50001 Energy Management System
10. Operational Excellence Management System (OEMS).

Since 1996, Thaioil and Subsidiaries have maintained and continuously improved all its management systems. These systems are managed under the corporate policies on quality, security, safety, occupational health, environment, energy management and social responsibility of Thaioil and Subsidiaries in all following aspects.

>> Production of quality goods and services in response to customers' needs and satisfaction, under standard management systems and in compliance with laws and regulations, as well as related standards and specifications



- >> Formulation of a systematic risk management plan to minimize operating risks, including physical, chemical, biological, and psychosocial risks to prevent incidents that may negatively impact businesses, cause injuries or illnesses to operators, communities, and other stakeholders. This also safeguards life, properties, and corporate information by providing security and risk awareness
- >> Defining business plans and goals and implementation process to control and reduce potential impacts of business processes under international practices, involving water, air, sound, heat, garbage, waste, greenhouse gas (GHG) emissions, energy management and conservation, and product life-cycle assessment under programs to review, monitor, and evaluate results for continuous improvement
- >> Allocation of adequate resources and IT support to comply with policies and operations through design, procurement, and services with due regard for efficiency and continuous improvement of quality, security, safety, occupational health, the environment, energy management and social responsibility, as well as the proper use of labor and workforce
- >> Promotion of continuous development, reviews, and updates of policies and operating procedures to keep up with changes in business laws, technological advancement, energy consumption and conservation, environmental, and prevailing social circumstances
- >> Promotion and nurturing of awareness among all stakeholders of the importance of maintaining and elevating level of quality, security, safety, occupational health, the environment, energy management, and social responsibility through communications with all employees as well as further extend to the public

Moreover, Thailoil and Subsidiaries initiated a Safe White Green Strategy to enhance and raise awareness and leadership on work safety, and extend the Safe White Green initiative to QSHE Roll Out activities with a more proactive approach. They also launched operating plans with an emphasis on accessibility and campaigns on raising awareness of safety, quality, environment, and security of operators or operating areas, together with enhancing their participation through activities and safe-workplace arrangements. Thailoil and Subsidiaries are fully committed to bringing in more management systems for sustainable development.

Security Management

Thailoil and Subsidiaries enforce strict security measures to safeguard Thailoil and Subsidiaries' personnel, properties, data, and reputation from security threats from internal and external factors categorized by risk level. All executives and employees are strictly committed to the corporate policies on quality, security, safety, occupational health, the environment, energy management, and social responsibility, strictly conforming to the Universal Declaration of Human Rights, including the following:

- >> Define and review operating plans on security measures for threats. Connect plans and join force with information network (both public and private sectors), as well as external support. Organize security drills for emergency responses teams to evaluate and improve plans for maximum effectiveness
- >> Supervise and promote best security and safety practices stated in the Security and Safety Handbook for Employees of Thailoil and Subsidiaries to ensure employees' safety both at work and at home

>> Manage security through the Safe White Green strategy for a (drug-free) workplace (White). All suppliers and contractors are invited to take part in policy formulation, planning security programs, promotion, and preventive activities of drugs and all other illegal substances, as well as security violation.

At Thailoil and Subsidiaries, the corporate security strategy is designed and managed under the Defense in Depth approach, dividing areas of responsibility into zones with specific sets of security measures, control systems, and operational management systems for internal zones or areas within facilities. For external zones or zones surrounded by adjacent communities and other business entities, a different set of security measures is applied, including coordination of security strategy and activities with public security agencies such as Chonburi's Disaster Prevention and Mitigation Unit, the Royal Thai Navy (First Naval Base, Sattahip), the Royal Thai Army (14th Military Circle, Chonburi), Laem Chabang Provincial Police Station, and the Air and Coastal Defense Command.

Occupational Health and Safety Management

At Thailoil and Subsidiaries, a business goal is to be an accident-free organization for contract employees and related stakeholders. To achieve this, the executives have expressed their determination and support through a five-year plan on occupational health, safety, and the management of emergencies and crises. A dedicated operating unit takes direct charge of controlling and driving all activities under the work plan. The executives and employees have been assigned to join a committee on occupational health, safety, and environment (SHE Committee) at least 50% of the committee members must represent operators (excluding the chairman). The committee meets at least once a month with a minimum

agenda on sharing and dissemination of SHE updates, monitoring of SHE progress, and preparation for future activities. In 2017, a revision was made to safety management systems, risk assessment for potentially severe incidents, work permits, and high-risk work processes that could cause severe accidents. Procedures, pre-work safety inspection forms, and risk assessment were developed. These were communicated to relevant parties, leading to efficient and effective execution. Also, the group conducted proactive inspection of compatibility and determination of proactive indicators to track and monitor alignment with the required procedures. Finally, high-level executives constantly reviewed safety outcomes.

Since the safety culture represents success in such goal achievement, Thailoil valued and launched a project to develop and constantly upgrade work safety awareness and maturity through the Safe White Green strategy, which was extended to QSHE Roll Out activities. These activities were rotated among sites and project areas under construction to campaign and raise operators' awareness, while encouraging their participation under day-to-day activities and site environment.

Below are the highlights of Thailoil and Subsidiaries' actions on safety and occupational health this year:

- >> Developed and updated the safety and occupational health management system with specific sets of risks at hand
- >> Organized management visits led by the CEO/President and top executives during regular work periods and the major turnaround to provide morale and support to all operators and demonstrate corporate commitment and support to work safety and good safety leadership practice



DEFENSE
IN DEPTH

- >> Revised the management and development of work plans to develop and upgrade process safety management for Thailoil and Subsidiaries on par with international standards with a focus on preventing severe incidents. As a result, Thailoil and Subsidiaries successfully conducted sustainable business and have become a safety organization throughout its chain of operations
- >> Identified and assessed risky areas with the potential loss of primary containment (LOPC) at each site. Defined controlling and preventive measures together with LOPC inventories for continual monitoring of these measures' effectiveness and prevention. Inspected process safety. Analyzed and proposed remedies and prevention of recurrence. Finally, process safety performances were monthly reviewed by the executives.
- >> Extended the scope of health risk assessment to all sites of LABIX and TOP SPP, including office buildings beyond the refining units
- >> Assessed health performance indicators under the criteria and guidelines of the International Association of Oil and Gas Producers (IOGP) and the American Petroleum Institute/International Petroleum Industry Environmental Conservation Association (API/IPIECA), regarded as international standards. The group scored 3.70 out of 4, an improvement of 0.2 from last year
- >> Developed 12 Life-Saving Rules and communicated them to employees and contractors for implementation
- >> Campaigned for operators to write potential incident reports (PIRs) with a focus on unsafe acts and conditions as preventive measures
- >> Assessed severe risks and reviewed safety control and preventive measures by defining plans and measures under the Defense in Depth approach, including severe risks, notably chemical leaks during marine transfers. To this end, emergency drills were staged for various

emergency levels and extended to crisis management in conjunction with external and local government agencies to prevent and mitigate business impacts and ensure that Thailoil and Subsidiaries continue their management and control of severe risks at manageable levels

- >> Campaigned for employees and contractors to learn from incidents as well as related best practices. Encouraged the review and improvement of process safety and emergency response management to prevent severe accidents, while developing emergency and crisis management practices in pursuit of international standards

Environmental Management

Thailoil and Subsidiaries successfully maintained their operational excellence and work performance in environmental management under the operating framework of the Environmental Master Plan, leading the corporation to retain its top ranking in DJSI. In 2017, a new five-year Environmental Master Plan (2017-2021) was introduced.

A Triple Bottom Line approach has been adopted by Thailoil and Subsidiaries to develop and balance its management policy on the society, the environment, and the economy. A five-year Environmental Master Plan for 2017-2021 was developed to respond to the needs and challenges demanded by key stakeholders, including higher expectations of communities and stakeholders, stringent actions of licensing authorities and law enforcers, and Thailoil and Subsidiaries' business directions and plans, as well as its desire to excel in environmental management. The Environmental Master Plan leverages more than 50 years of work experience and includes nine various development facets.

1. Governance Structure

Thailoil and Subsidiaries have adopted the principle and application of ISO 14001: 2015 to steer and develop environmental management. Incorporated with the Eco-Industry Environmental Framework, GRI, and DJSI, the integrated approach was further applied to include all stakeholders aspects through the ISO 26000 operation standard on CSR under the CSR-DIW initiative.

2. Technical Procedures

Thailoil and Subsidiaries developed and improved all elements of Environmental Standard Specifications for use as operating guides and concrete procedures perceived by various stakeholders, including laws, authorized state agencies, and international organizations. This operational excellence was used as an operating framework ranging from feasibility studies, project and project extension conceptual design, construction, to production commissioning, all under environmental management criteria. The outcomes reduced environmental impacts, minimized the use of resources, and efficiently responded to the needs and expectations of all stakeholders.

Thailoil has also defined principles for governance of quality, security, safety, occupational health, environment, energy management, and social responsibility of Thailoil and Subsidiaries to enable their environmental management to conform to the code of conduct on the treatment of communities, society, and the environment, which forbids actions harming natural resources and the environment, and to constantly cultivate awareness of socio-environmental responsibility among all employees. Communication through various channels is undertaken, such as QSHE Roll-Out, a program used for transferring knowledge into practice and experience sharing to ensure learning from actual incidents.

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Advocating compliance with and communication on ISO 14001:2005, Thaioil and Subsidiaries manage their environmental system for operational excellence and knowledge transfer under the Knowledge Management system (KM). The practices are under COSSAI, including capture, organize, store, share, apply, and innovate.

3. Climate Strategy

Natural resource conservation is of utmost important to Thaioil and Subsidiaries, particularly fuels and energy, which are considered upstream resources for the environment and the economy. An Energy and Loss Committee (E&L) was established and tasked with energy management planning, monitoring and evaluation, and continuous improvement. E&L Committee aims for Thaioil and Subsidiaries to become one of Asia Pacific's refineries in the first quartile on energy consumption efficiency and dramatically reduce GHG emissions – a positive impact on world's atmosphere.

After their successful participation as a pilot industry under the Carbon Footprint Project with the Federation of Thai Industries and the Thailand Greenhouse Gas Management Organization (Public Organization), Thaioil and Subsidiaries under its Environmental Master Plan (2017-2021) have joined hands with the Petroleum Institute of Thailand in conducting a project on Life Cycle Assessment (LCA), investigating carbon footprints which one of the factors is affecting the ongoing climate change. The findings will be applied to process improvement for better efficiency, and will accommodate the driving of GHG management in various forms by the public sector.

4. Water Resource Management

A systematic water resource management is vital to minimize the risk of water shortage in production processes and to avoid possible conflicts with local communities on water usage. This systematic management also provides auditable information on the quantity and conditions of water supply to the public. Under the development framework to sustainably increase the efficiency of water management, the principle of 3Rs (Reduce, Reuse and Recycle) has been adopted. A Water Resource Management Master Plan was initiated to guide resource allocation. Also established are projects to investigate ways to upgrade the ability and stability of water management, including the fabrication of new raw-water pipes and the construction of a reservoir equipped with a new water pumping system. Flood management for areas within the facilities and the vicinities was also incorporated. All studies covering both prevention and mitigation approaches have been implemented.

5. Eco-Efficiency Performance

In addition to full compliance with measures and conditions stated in the Environmental Impact Assessment (EIA) reports and environmental regulatory controls and legislation, Thaioil and Subsidiaries have taken additional steps in their production processes toward environmental quality:

>> **Air Pollution** – The management process covers the entire range of work and activities from the designing





stage to maintenance planning, control of sulphur contents in fuels right from the sources, selection of each fuel proportions, selection of tools and equipment and clean processes, selection of high-efficiency combustion technology with low nitrogen oxide emission, including Ultra-Low NO_x Burner and emission control of air, and detection of impurities.

>> **Water Pollution** – Under the highest efficient use of natural resource concept of 3Rs, the principle of wastewater treatment begins with the reduction of wastewater quantity and segregation of waste. The principle ensures optimal use of natural resources and efficient treatment of wastewater.

>> **Industrial Waste** – The current industrial waste management system begins with waste inventory, 3Rs of industrial waste, full control of waste storage, transport, and transfer for safe disposal. These processes are handled in line with technical principles and regulatory controls.

Moreover, Life Cycle Assessment (LCA) has been on study process to efficiently identify through all production process factors posing impacts on the environment, leading to the improvement project to constantly reduce environmental impacts.

6. Biodiversity

As a responsible corporate citizen for the habitat and natural resources surrounding the refinery, Thailo and Subsidiaries are fully committed to continuously developing monitoring and tracking mechanisms on environmental impacts, including studies on the baseline and sensitive areas of the marine ecological system. These studies have been fully integrated with existing assessments and tailor-made for specific uses on environmental and biodiversity prevention and mitigation.

7. Supplier and Contractor Program

Management of suppliers and contractors is crucial to the sustainable operation of Thailoil. Good practices also demonstrate full responsibility for the public and the environment, realizing that impacts could be caused by suppliers and contractors. Thailoil defines and develops management programs for suppliers and contractors in areas concerning the environment and society. All suppliers and contractors are encouraged to perform their duties in compliance with the requirements of Thailoil and Subsidiaries and to participate in the Safe White Green program together with the CSR-DIW initiative to demonstrate their responsibilities to society. An idea of integrated and joint procurement system was initiated to provide consistent procedures for all suppliers and contractors to follow. This not only demonstrates joint-responsibility to society but also better manages the entire supply chains. This integrated supply chain management project is being developed.

8. Environmental Audit

Through an effective implementation of ISO 14001: 2015 environmental management framework, no major corrective action (NC major = 0) is identified by the environmental audit, the Management System Certification Institute (Thailand). Thailoil and Subsidiaries is also pursuing its environmental management under the GRI guidelines, including audits, assurance, and reporting on both the environmental management system and environmental operating performance for sustainability assessment to cope with DJSI criteria. Thailoil and Subsidiaries have developed a system to continuously collect and verify all data, reduce errors in data transmission, and increase data transfer efficiency.

9. Management Information Solutions

To strive for sustainable operation management, Thailoil and Subsidiaries have been developing an IT architecture for an Environmental Database Center to manage all environmental data, including the environmental dashboard. The center consists of air quality measurement and monitoring, industrial waste management, incident management, and sustainability management. The central system is intended to enhance analytical work, project support, and fundamental communication with communities and the public, as well as state agencies in support of Thailoil's operations. Under the 2017-2021 Environmental Master Plan, an annual management review is mandatory as part of the critical process to support its vision and mission toward the commitment of social and environmental responsibility. The scope also fosters satisfaction and engagement among stakeholders, leading to sustainable growth of Thailoil and Subsidiaries.

Environmental Education and Training for Employees

Thailoil and Subsidiaries have defined its code of conduct on the community, the society, and the environment by refraining its staff in engaging in activities that are considered harmful to natural resources and the environment, and continuously nurturing their awareness on social and environmental responsibilities. Under this commitment, Thailoil and Subsidiaries has clearly defined operating practices on education and training to employees on environmental conservation, and assigned Quality Management Department to take charge of designing and developing the curricula focusing on communication and knowledge sharing of the corporate environmental policy with all employees since their very first day during employees' orientation, especially



to those in the operation, such as technicians, and engineers who are directly involved in environmental stewardship and conservation. These programs include STA1 – Safety, Security and Environment in Refinery; QSHE Week activities under the Safe White Green strategy; in-house and external environmental training courses for employees; specific environmental classes for managers, supervisors, and operators in charge of wastewater treatment, industrial waste, air pollution; and courses on energy and environmental conservation. Engineers directly responsible for each production unit are encouraged to attend more than 20 technical process training courses run by technology proprietors and vendors.

Meanwhile, Thailoil and Subsidiaries relentlessly advance their international operating systems on management and the environment, including ISO 14001 and ISO 26001 through CSR-DIW program. A series of campaigns continuously promote awareness of environmental

conservation among employees. Related activities in these campaigns include routine environmental inspection of production area, best exploitation of resources in offices, such as lights-off after the use of meeting rooms, suitable temperature control in offices, tapwater saving, and script-less electronic communication wherever possible. Other activities include joint research and studies with leading research institutes, such as PTT Research & Technology Institute, Mahidol University, and private entities with specific expertise. These studies and research continuously support analytical work and improve environmental-related processes.

The outcomes of these activities are routinely reported to the executives for the annual management review, leading to a cycle of continuous improvement of systems, redesigning of annual work plans, and communication with all employees for effective implementation.

FUTURE PROJECTS



Thaioil and Subsidiaries' strategic investment plan is designed to foster sustainable business growth to become a leading fully integrated refining and petrochemical company in Asia Pacific, an advantageous position to expand business and grow new ventures in high-growth economies such as ASEAN member countries.

Its investment plan focuses on increasing competitiveness of both core and diversified businesses by increasing value-added products and mitigating risks. This is done through capacity expansion, efficiency and competitiveness improvement, new product launches to meet market and consumers' demand, as well as logistics and utility system improvement. Thaioil also adjusts its business model and seeks new business opportunities to cope with the dynamic market environment and maximize profits to the Company and its stakeholders.



Ongoing Projects

Jet Fuel Distribution System Efficiency Improvement

Thaioil, synergizing with PTT Plc (PTT) has been developing a transportation and logistics improvement project in Sriracha. The project aims to improve the efficiency of jet fuel pipeline distribution network from Thaioil to the lorry loading at Chonburi Terminal Co., Ltd. instead of to the jetty. This adds flexibility to the distribution system and reducing PTT Group's overall transportation costs. This 60-million-baht project is currently in the construction phase and due for completion in Q2/2018.

TOP Crude Oil Tank

To increase its refining management flexibility and reliability and to comply with legal reserve regulations, Thaioil is

constructing five crude oil tanks near PTT's Khao Bo Ya LPG Terminal. This 2.424-billion-baht project is under construction and is expected to complete and ready to operate in 2019.

Jetty Expansion Project

Thaioil is expanding Jetty-7 and Jetty-8 to reduce the current marine traffic congestion and ensure marine distribution system capacity to receive large vessels of up to 50,000 deadweight tons (DWT), a jump from the current capacity of 5,300 DWT. This greater operating flexibility and efficiency will better serve and provide maximum benefit to customers, paving the way for higher distribution capacities for new products and future business growth. This 3.83-billion-baht project is currently under the engineering and construction design and is expected for commercial operation in 2019.

Thaioil Sriracha Building Project

Thaioil is in preparation to relocate its facilities including offices, product testing laboratories, and engineering and warehouse building from the production area in order to optimize the area, improve safety for staff, and accommodate future business expansion. The construction of new building includes a main gate, an office building, a product testing laboratory building, and an engineering and warehouse building valued of THB 2.74 billion. The project currently received EIA approval and now under construction, which is due for completion in 2019.

Solvent Distribution Center in Vietnam

TOP Solvent (Vietnam) LLC. (TSV) is expanding solvent and chemical storage capacity in Northern Vietnam in response to the spiraling demand following Vietnam's economic development policy. Upon completion, TSV will be the

TOP Crude Oil Tank
to increase its refining
management flexibility
and reliability and to
comply with legal
reserve regulations

Project Progress

49%

4 January 2018



first integrated supplier and distributor of solvent and chemical products in Northern Vietnam, strengthening its competitive position for future market expansion. This will also provide commercial support to Sak Chaisidhi Co., Ltd., and other products from Thailoil and Subsidiaries and PTT Group. The project is currently under construction and due to start commercial production in Q4/2018.

Projects under Feasibility Studies

Clean Fuel Project (CFP)

Thailoil has initiated this project to improve the production process, thus raising its marketing competitiveness and better responding to the increasing demand of both domestic and ASEAN countries with the upward trends of fuel imports. The CFP aims to upgrade a refining unit

with higher yields for converting fuel oil into premium products, meaning diesel and jet fuels. This will increase the capacity from 275,000 to 400,000 barrels per day, thus making Thailoil the energy leader in Southeast Asia and generating higher revenue for Thailand.

The project's Front-End Engineering Design (FEED) was completed and is currently under Engineering Procurement and Construction (EPC) bidding. The final investment decision is due by 2018, after which it will take four years of construction.

Specialty Products

As part of its strategy, Thailoil plans to increase business values and create new niche markets by further developing commodity products to specialty products. Thailoil and

Subsidiaries have studied how to add value to commodities, improving both light-ended and heavy-ended products to specialties to serve new downstream customers with specific demand, such as those in food, pharmaceutical, cosmetics, solvent, rubber goods, and cleaning agent industries.

Thaioil Marine's Fleet Expansion

Thaioil Marine Co., Ltd. aims to be the leader of large vessel fleet in PTT Group and in Asia Pacific to support domestic and international market expansion of energy, petroleum, and petrochemicals. It plans to improve and expand the tanker fleet to cope with the dynamic economic environment, and expand its business to emerging markets abroad as a major business platform for future business growth of Thaioil and Subsidiaries and PTT Group.

Business Opportunities and Partnership for International Investment

To become a leading fully integrated refining and petrochemical company in Asia Pacific, Thaioil plans to expand its core businesses internationally, initially focusing on ASEAN member countries with growth potential. Thaioil and Subsidiaries are currently conducting feasibility studies to select appropriate investment strategies for petroleum, petrochemical, solvent, and related businesses with a focus on selecting business partners with strength and advantage that support Thaioil and Subsidiaries' growth strategy.

Ethanol Business Investment Feasibility Studies

Through Thaioil Ethanol Co., Ltd., Thaioil has studies more on ethanol and biobusiness to further the sustainable growth. Under a joint venture with Sapthip Co., Ltd.,

in which TET holds 50% share, an ongoing study is aimed to expand its ethanol production capacity to respond to higher demand following the government policy to promote ethanol use. In addition, in collaboration with PTT Group, another study on biobusiness expansion is underway to generate value-added businesses while supporting the reduction of greenhouse gas emission, leading to less impact on the environment.

Other Business Opportunities

Under the current competitive environment, business expansion and new business development in line with the industrial megatrend and technological evolution are essential to bolster Thaioil's competitiveness, particularly in areas of future uses of energy. It is, therefore, crucial for Thaioil to study and identify investment potential in both domestic and international markets. This also includes identification of joint ventures as well as Mergers and Acquisitions (M&As), with an emphasis on businesses with synergistic opportunities, value-added to existing structures, and strengthening Thaioil's business value chain, as well as searching for new S-curve businesses or new business models. By extending knowledge, competency, and skills, as well as achievements and experience of Thaioil and Subsidiaries, Thaioil hopes to retain the leading position, together with sustainable growth.

HUMAN RESOURCES AND ORGANIZATION DEVELOPMENT



Human Capital Index

from 82% to **90%**

Employee Engagement Score

from 84% to **89%**

Human Resources Development

Thaioil and Subsidiaries have a firm conviction in the brand promise “Refining Values”, prioritizing the Company’s human resources which is considered the vital force and strength for driving the organization under intense competition. This year, Thaioil and Subsidiaries continued their human resources (HR) development and management to concretely support business strategies through various programs, such as Leadership and Talent Development, Dynamic Career Management System (for cross-functional career plans to support Thaioil’s future business directions which require personnel with diversified business skills and knowledge), Mindful Leadership, and Scholarship Program. Thaioil and Subsidiaries held various activities to promote employees’ quality of life and engagement, including Orientation Program for New Employees, Good Deed for Dad, Employee Health Program, Team building, Kid Camp and Scholarships, and Happy Retirement.

Activities in the past year earn Thailoil and Subsidiaries 90% for Human Capital Index (an increase of 8% from 2016) and 89% for employee engagement score (an increase of 5% from 2016). The Company was also recognized as the leader in sustainable human resources development and was ranked by Dow Jones Sustainability Indices (DJSI) in the Emerging Markets group at the top in human capital development for two consecutive years.

Many challenges are expected in 2018 necessitating prompt actions to ensure workforce readiness, such as labor market challenge on the competition for high-potential personnel, which has become increasingly intense. Thailoil and Subsidiaries do need a larger workforce of high quality to support future business expansion and to substitute the retiring ones within 10 years' time. Operating plans for 2018 are, therefore, adjusted to cope with the aforementioned challenges through the following HR strategies.

1. Upgrade the proactive recruitment strategy to ensure a quality workforce through the DRIFT Strategy:

- >> **D - Digital Recruitment:** Emphasize on digital technology and entertaining activities to attract the millennial generation
- >> **R - Robust Partnership:** Expand external partnership network to accommodate increasingly diverse future business needs
- >> **I - International Sourcing:** Elevate proactive recruitment to international labor markets to support future business
- >> **F - Fast Recruitment:** Increase efficiency for fast recruitment and nomination
- >> **T - TES Employer Brand:** Create common working experiences inside out to attract quality personnel

2. Develop competency of personnel to be prepared for business expansion in the digital age through the "People 4.0" development strategy, using the DANCE⁺ competency package:

- >> **D - Diversity:** Adjust to and understand diversities
- >> **A - Adaptability:** Be flexible and adaptable to changes and emerging situations
- >> **N - Negotiation:** Foster relations and get ready for win-win negotiations
- >> **C - Collective Leader:** Be a collective leader leading diverse teams as one in a sustainable manner
- >> **E⁺ - Execution:** Dare to introduce new but analyzed ideas and apply digital technology for concrete implementation.



Technology makes learning processes more interesting as a means to increase the efficiency of human resources development, ranging from planning, transferring, applying and reviewing content (Micro-Learning Technology), to the efficiency upgrade of personnel management with advanced technology (HR Digital Value).

3. Promote employees' quality of life and engagement

through the Digital Workplace Project by applying technology with working methods to ensure flexibility, modern and efficiency to suit the millennial generation. In addition, Thailoil and Subsidiaries are going to further study on the Employee Well-being Project to elevate their health, mental, financial, social, and work life well-being.

4. Upgrade the one-stop HR service structure

through the development of HR staff in this "4.0" age to be HR Business Partners in response to dynamic business needs.

Organization Development

Thailoil and Subsidiaries' business strategy is aimed to enhance business efficiency and competition potential, raise profit and returns on investment, as well as increase the profit proportion from Thailoil's subsidiaries and new businesses to become a sustainable centenary organization. In enhancing organization capacity to achieve the strategic goals, corporate development and design must be in line with business direction. In 2017, related implementations included:

1. Macro Structure Revising and Strategic Workforce Planning

Corporate macro structure was revised in alignment with Thailoil and Subsidiaries' medium-term and long-term

business plans to drive toward the strategic goals. Strategic workforce plans were prepared to accommodate sufficient workforce for future business expansion, and manpower productivity increased on a par with peer companies.

2. Generation-to-Generation Knowledge Management

Data analysis showed that Thailoil and Subsidiaries' employees with less than five years' experience accounted for about 35%, while the number of retiring ones within 10 years' time accounted for 25%. "Generation-to-Generation Knowledge Management" Project was implemented to:

- >> Put in place a system and a structure for the compilation and storage of organization knowledge
- >> Ensure generation-to-generation knowledge transfer in a time-saving and cost-effective manner
- >> Apply knowledge to create business value.

These resulted in Thailoil's knowledge architect map and readiness of critical knowledge, which derive from planning with supervisors on compiling in-line knowledge, and linking the knowledge from one unit to another for efficient knowledge circulation.

3. Leverage Business Sustainability by Driving Organization Culture

This action was initiated through Leader Drive Culture Project from top executives to employees at all levels to drive and emphasize on organization value creation and the "TOP" organization culture; namely, Teamwork and Collaboration, Ownership and Commitment, and Professionalism. Culture Energizers from all units brainstormed and designed corporate value promotion and cultivation process to suit each unit's environment so that all employees can comply consistently with the values and together forge a good corporate culture,



enhance their strength to support current operation and future growth of Thailoil and Subsidiaries.

4. Review and Outline the Framework of Procurement Business Process Management

This meant procurement process design to support the organization's mega-projects with appropriate control points while maintaining efficiency. Results of the report on the analysis of overall processes were studied, reviewed, and compiled as a procurement blueprint to enable one to see the overall picture and process linkage of each procurement process. Assessment reports from the consultant since 2010 were also complied for further analysis and assessment to identify key processes which might pose potential impacts on the business for work process improvement and efficiency enhancement.

BOARD OF DIRECTORS



PROFESSOR DR. THOSAPORN SIRISUMPHAND

Independent Director (Non-Executive)
and Chairman of the Board
Age 57 Yrs.

Director Term Duration

- >> Independent Director (Non-Executive) (Appointed on May 25, 2012: 2 years 11 months)
- >> Independent Director (Non-Executive) (Re-elected on April 3, 2015: 2 year 8 months)
- >> Chairman of the Board (Elected on April 7, 2017: 8 months)

Board-Committee Term Duration

- >> Member of the Corporate Governance Committee (Appointed on June 22, 2012: 2 years 10 months and completed the term in the 2015 Annual General Meeting of Shareholders)
- >> Chairman of the Corporate Governance Committee (Elected on August 31, 2013: 1 year 8 months and completed the term in the 2015 Annual General Meeting of Shareholders)
- >> Member of the Nomination and Remuneration Committee (Appointed on September 26, 2014: 7 months and completed the term in the 2015 Annual General Meeting of Shareholders)
- >> Member of the Nomination and Remuneration Committee (Appointed on April 24, 2015: 2 years)
- >> Member of the Corporate Governance Committee (Appointed on April 24, 2015: 2 years)
- >> Chairman of the Corporate Governance Committee (Elected on July 22, 2015 and resigned from the Position of "Chairman of the Corporate Governance Committee" on August 19, 2016: 1 year 1 month)
- >> Chairman of the Nomination and Remuneration Committee (Elected on April 19, 2016: 1 year)
- >> Board-Committee Directorship ends since being elected as the Chairman of the Board on April 7, 2017: 8 months

Education

- >> Bachelor of Public Administration (Honors), Chulalongkorn University
- >> Master of Public Administration, Pi Alpha Alpha (National Honor Society for Public Affairs and Administration), Northern Illinois University, USA
- >> Ph.D. in Policy Analysis, Public Administration and Comparative Politics, Northern Illinois University, USA

Director Training Courses of Thai Institute of Directors Association (IOD)

- >> Director Certification Program (DCP 80/2006)
- >> Finance for Non-Finance Director (FND 30/2006)
- >> Director Certification Program Update (DCPU 4/2015)

Other Trainings

- >> Capital Market Academy Leader Program, Class 10, Capital Market Academy
- >> The Programme for Senior Executives on Justice Administration, Batch 15, Judicial Training Institute, National Justice Academy
- >> The Executive Program in Energy Literacy for a Sustainable Future, Class 4, Thailand Energy Academy
- >> Corporate Governance: Effectiveness and Accountability in the Boardroom 2014, Kellogg School of Management, Northwestern University, USA
- >> Chairman Forum: "The Role of Chairman in Leading Strategic Risk Oversight"

Working Experience in the 5 Preceding Years

2002 - 2013	Secretary General, the Public Sector Development Commission
2013 - 2014	Secretary General, the Higher Education Commission
2014 - Sep 30, 2016	Advisor, Prime Minister's Office
Oct 1, 2016 - Present	Secretary General, the Public Sector Development Commission

Other Positions

1. Listed Company - None -
2. Public Company - None -
3. Limited Company - None -
4. Other Organizations/Institutions (4)
 - >> Member of Chulalongkorn University's Council
 - >> Director, Electronic Government Agency (Public Organization)
 - >> Councilor, Thailand Management Association (TMA)
 - >> Advisor to Executive Board, Thailand Institute of Justice (Public Organization)
5. State Enterprise - None -

% of Shareholding in Thaioil	- None -
Conflict of Interest	- None -
Family Relation with Other Directors	- None -
Dispute in the 10 Preceding Years	- None -



MS. CHULARAT SUTEETHORN

Independent Director (Non-Executive),
Chairman of the Audit Committee
and Member of the Nomination and Remuneration Committee
Age 63 Yrs.

Director Term Duration

- >> Independent Director (Non-Executive) (Appointed on September 20, 2013: 1 year 7 months)
- >> Independent Director (Non-Executive) (Re-elected on April 3, 2015: 2 year 8 months)

Board-Committee Term Duration

- >> Member of the Audit Committee (Appointed on September 20, 2013: 1 year 7 months and completed the term in the 2015 Annual General Meeting of Shareholders)
- >> Member of the Audit Committee (Re-elected on April 3, 2015 and appointed on April 24, 2015: 2 years 8 months)
- >> Chairman of the Audit Committee (Elected on February 12, 2016: 1 year 10 months)
- >> Member of the Nomination and Remuneration Committee (Appointed on April 27, 2016: 1 year 8 months)

Education

- >> Bachelor of Economics (Banking and Finance) (2nd Class Honors), Kasetsart University
- >> Master of Development Studies (Economic Policy and Planning), Institute of Social Studies, The Netherlands

Director Training Courses of Thai Institute of Directors Association (IOD)

- >> Director Accreditation Program (DAP 40/2005)
- >> Director Certification Program (DCP 72/2006)
- >> Finance for Non-Finance Director (FND 28/2006)
- >> Financial Statement for Director (FSD 10/2010)
- >> Audit Committee Program (ACP 39/2012)
- >> The Role of Chairman Program (RCP 28/2012)
- >> Financial Institutions Governance Program (FGP 4/2012)
- >> Role of the Nomination and Governance Committee (RNG 3/2012)
- >> Anti-Corruption for Executive Program (ACEP 10/2014)
- >> Advance Audit Committee Program (AACP 15/2014)
- >> Director Certification Program Update (DCPU 4/2015)
- >> Role of the Compensation Committee (RCC 20/2015)
- >> Ethical Leadership Program (ELP 7/2017)
- >> Board Nomination & Compensation Program (BNCP 1/2017)

Other Trainings

- >> Civil Service Executive Program: Visionary and Moral Leadership, Class 41, Office of the Civil Service Commission
- >> Strategic Thinking and Executive Action, Kellogg Executive Program, Northwestern University, USA
- >> The Joint State-Private Sector Course, Class 19, National Defence College
- >> Advanced Security Management Program, Class 1, National Defence College
- >> Capital Market Academy Leader Program, Class 12, Capital Market Academy
- >> Top Executive Program in Commerce and Trade (TEPCoT), Class 5, Commerce Academy, University of the Thai Chamber of Commerce
- >> The Executive Program in Energy Literacy for a Sustainable Future, Class 3, Thailand Energy Academy
- >> Thammasat Leadership Program, Class 4, Thammasat University
- >> Advanced Certificate Course in Politics and Governance in Democratic Systems for Executives, Class 18, King Prajadhipok's Institute
- >> Audit Committee Seminar-Get Ready for the Year End
- >> Seminar "PTT Group AC Forum 2017: Infinite AC Challenge"
- >> "Resource Revolution: Another Chapter in the 4th Industrial Revolution"
- >> Seminar: "Key Audit Matters"
- >> Training in Development Assistance, Canada
- >> Training course on Administrative court and its procedured matter, The Administrative Court
- >> Training Course on Good Governance for Directors and Executives of State-Owned Enterprises and Public Organization, Class 11, King Prajadhipok's Institute, State Enterprise Policy Office and Office of the Public Sector Development Commission

Working Experience in the 5 Preceding Years

- | | |
|-------------|--|
| 2010 - 2014 | Director and Chairman of the Investment Committee, Deposit Protection Agency |
| 2011 - 2012 | Inspector General, Ministry of Finance |
| 2011 - 2014 | Executive Director, Thailand Tobacco Monopoly |
| 2012 - 2014 | Director, Chairman of the Risk Management Committee, and Member of the Corporate Governance, the Government Savings Bank |
| 2012 - 2014 | Director-General, Public Debt Management Office, Ministry of Finance |
| 2014 - 2015 | Vice Minister for Finance, Ministry of Finance |

Other Positions

1. **Listed Company (1)**
 - >> Director, MFC Asset Management Plc
 2. **Public Company (1)**
 - >> Director, Member of the Audit Committee and Member of the Nomination and Remuneration Committee, Advance Finance Plc
 3. **Limited Company** - None -
 4. **Other Organizations/Institutions (1)**
 - >> Chairman of the Board, Neighbouring Countries Economic Development Cooperation Agency (Public Organization)
 5. **State Enterprise** - None -
- | | |
|--------------------------------------|---------------------------------------|
| % of Shareholding in Thai Oil | 10,000 ((%) Share Possession: 0.0004) |
| Conflict of Interest | - None - |
| Family Relation with Other Directors | - None - |
| Dispute in the 10 Preceding Years | - None - |

**MS. SUVIMOL CHRITYAKIERNE**

Independent Director (Non-Executive)
and Member of the Audit Committee
Age 66 Yrs.

**GENERAL THANAKARN KERDNAIMONGKOL**

Independent Director (Non-Executive),
Member of the Audit Committee
and Member of the Corporate Governance Committee
Age 61 Yrs.

Director Term Duration

>> Independent Director (Non-Executive) (Appointed on January 22, 2016 and effective from February 1, 2016: 1 year 11 months)

Board-Committee Term Duration

>> Member of the Audit Committee (Appointed on January 22, 2016 and effective from February 1, 2016: 1 year 11 months)

Education

>> Bachelor of Accountancy, Chulalongkorn University
>> Master of Accountancy, Chulalongkorn University

Director Training Courses of Thai Institute of Directors Association (IOD)

>> Director Certification Program (DCP 92/2007)
>> Audit Committee Program (ACP 36/2011)
>> Advanced Audit Committee Program (AAP 27/2017)
>> Ethical Leadership Program (ELP 10/2017)

Other Trainings

>> Training Course on Tax Law, Class 1, Institute of Judicial Officer Development
>> Certified Professional Internal Auditor of Thailand, Class 1, Institute of Internal Auditor of Thailand
>> Balanced Scorecard Course, Faculty of Commerce and Accountancy, Chulalongkorn University
>> Academic Seminar: "Money Laundering in Daily Life that We Must Have"
>> Seminar "PTT Group AC Forum 2017: Infinite AC Challenge"
>> "Resource Revolution: Another Chapter in the 4th Industrial Revolution"
>> Seminar: "Key Audit Matters"

Working Experience in the 5 Preceding Years

2010 - Present Managing Director, DIA International Audit Company Limited

Other Positions

1. Listed Company (1)
>> Independent Director and Chairman of Audit Committee, Khonburi Sugar Plc
 2. Public Company - None -
 3. Limited Company (3)
>> Executive Director, DIA Audit Company Limited
>> Director, 75 C P E Company Limited
>> Independent Director and Member of Audit Committee, Team Consulting Engineering & Management Company Limited
 4. Other Organizations/Institutions - None -
 5. State Enterprise - None -
- % of Shareholding in Thaioil - None -
Conflict of Interest - None -
Family Relation with Other Directors - None -
Dispute in the 10 Preceding Years - None -

Director Term Duration

>> Independent Director (Non-Executive) (Elected on April 7, 2016: 1 year 8 months)

Board-Committee Term Duration

>> Member of the Audit Committee (Appointed on April 27, 2016: 1 year 1 month and resigned from the Position of Member of the Audit Committee on May 16, 2017)
>> Member of the Corporate Governance Committee (Appointed on May 26, 2017: 7 months)
>> Member of the Audit Committee (Appointed on November 24, 2017: 1 month)

Education

>> Bachelor of Science, Chulachomklao Royal Military Academy

Director Training Courses of Thai Institute of Directors Association (IOD)

>> Director Certification Program (DCP 227/2016)
>> Board That Make a Difference (BMD 4/2017)

Other Trainings

>> Officer Basic Course
>> Officer Advanced Course
>> Mandatory Course, Class 65, Command and General Staff College
>> Executive Relationship Development Course, Class 13
>> National Defence Course, Class 52, National Defence College
>> Internal Audit Course for Executives, Comptroller General's Department, Ministry of Finance

Working Experience in the 5 Preceding Years

Oct 2011 - Mar 2015	Director, Army Internal Audit Office
April 2015 - Mar 2016	Deputy Chief of Executive Committee to the Commanders, Royal Thai Army
April - Sep 2016	Army Special Qualified General, Royal Thai Army

Other Positions

1. Listed Company - None -
 2. Public Company - None -
 3. Limited Company - None -
 4. Other Organizations/Institutions - None -
 5. State Enterprise - None -
- % of Shareholding in Thaioil - None -
Conflict of Interest - None -
Family Relation with Other Directors - None -
Dispute in the 10 Preceding Years - None -



AIR CHIEF MARSHAL SUTTIPONG INSEEPONG

Independent Director (Non-Executive)
and Chairman of the Nomination and Remuneration Committee
Age 60 Yrs.

Director Term Duration

- >> Independent Director (Non-Executive)
(Appointed on January 22, 2016 and effective from February 1, 2016:
1 year 2 months)
- >> Independent Director (Non-Executive) (Re-elected on April 7, 2017:
8 months)

Board-Committee Term Duration

- >> Member of the Corporate Governance Committee (Appointed on April 27,
2016: 1 year and completed the term in the 2017 Annual General Meeting
of Shareholders)
- >> Chairman of the Corporate Governance Committee
(Elected on November 21, 2016: 5 months and completed the term in the 2017
Annual General Meeting of Shareholders)
- >> Member of the Nomination and Remuneration Committee
(Appointed on April 28, 2017: 8 months)
- >> Chairman of the Nomination and Remuneration Committee
(Elected on May 17, 2017: 7 months)

Education

- >> Bachelor of Science in Aeronautical Engineering,
Navaminda Kasatidhiraj Royal Air Force Academy
- >> Bachelor of Political Science Program in International Relations
and Comparative Government and Politics,
Sukhothai Thammathirat Open University

Director Training Courses of Thai Institute of Directors Association (IOD)

- >> Director Accreditation Program (DAP 114/2015)

Other Trainings

- >> Pilot Training Course, Flying Training School, Royal Thai Air Force
- >> Flight Safety Course, Royal Thai Air Force
- >> Air Command and Staff College Course, Royal Thai Air Force
- >> Air War Course, Royal Thai Air Force
- >> National Defence Course, Class 52, National Defence College

Working Experience in the 5 Preceding Years

- | | |
|---------------------|--|
| Oct 2012 - Sep 2013 | Director of Operations, The Royal Thai Air Force |
| Oct 2013 - Sep 2014 | Assistant Chief of the Air Staff for Operations,
The Royal Thai Air Force |
| Oct 2014 - Sep 2015 | Deputy Chief of the Air Staff for Operations,
The Royal Thai Air Force |
| Oct 2015 - Sep 2016 | Commander of Directorate of Air Operation Control,
The Royal Thai Air Force |
| Oct 2016 - Sep 2017 | Assistant Commander-in-Chief,
The Royal Thai Air Force |
| Oct 2017 - Present | Deputy Chief of Defence Forces,
The Royal Thai Armed Forces |

Other Positions

- | | |
|--|----------|
| 1. Listed Company | - None - |
| 2. Public Company | - None - |
| 3. Limited Company | - None - |
| 4. Other Organizations/ Institutions (1) | |
| >> Member of the National Legislative Assembly | |
| 5. State Enterprise | - None - |
| % of Shareholding in Thailoil | - None - |
| Conflict of Interest | - None - |
| Family Relation with Other Directors | - None - |
| Dispute in the 10 Preceding Years | - None - |

**MR. SARUN RUNGKASIRI**

Director (Non-Executive),
Chairman of the Risk Management Committee
and Member of the Nomination and Remuneration Committee
Age 60 Yrs.

Director Term Duration

>> Director (Non-Executive) (Elected on April 7, 2016: 1 year 8 months)

Board-Committee Term Duration

>> Member of the Nomination and Remuneration Committee
(Appointed on April 8, 2016: 1 year 8 months)
>> Member of the Risk Management Committee
(Appointed on April 27, 2016: 1 year 8 months)
>> Chairman of the Risk Management Committee
(Elected on May 11, 2016: 1 year 7 months)

Education

>> Bachelor of Engineering (Industrial Engineering), Chulalongkorn University
>> Master of Science (Management), Polytechnic Institute of New York, USA

Director Training Courses of Thai Institute of Directors Association (IOD)

>> Company Secretary Program (CSP 8/2004)
>> Directors Certification Program (DCP 61/2005)
>> Finance for Non-Finance Director (FND 19/2005)

Other Trainings

>> The Joint State-Private Sector Course, Class 23, National Defense College
>> Top Executive in Industrial Development and Investment, Class 1/2013,
Institute of Business and Industrial Development
>> The Executive Program in Energy Literacy for a Sustainable Future, Class 5,
Thailand Energy Academy
>> Thirty Fourth Oxford Energy Seminar, St.Catherine's College,
Oxford University, United Kingdom
>> NIDA-Wharton Executive Leadership Program 2009,
The Wharton School, University of Pennsylvania, USA
>> Seminar : "Anti-corruption: Leadership Role of the Board"

Working Experience in the 5 Preceding Years

2011 - 2013	Senior Executive Vice President, Oil Business Unit, PTT Plc
Oct 2013 - Sept 2017	Chief Operating Officer, Downstream Petroleum Business, PTT Plc
Oct 2017 - Present	Consultant , PTT Plc

Other Positions**1. Listed Company (1)**

>> Director, Member of the Nomination and Remuneration Committee,
and Member of the Risk Management Committee,
PTT Global Chemical Plc

2. Public Company

- None -

3. Limited Company

- None -

4. Other Organizations/Institutions

- None -

5. State Enterprise

- None -

% of Shareholding in Thailoil

- None -

Conflict of Interest

- None -

Family Relation with Other Directors

- None -

Dispute in the 10 Preceding Years

- None -



MS. NITIMA THEPVANANGKUL

Director (Non-Executive)
and Member of the Risk Management Committee
Age 60 Yrs.

Director Term Duration

- >> Director (Non-Executive) (Appointed on October 28, 2016: 6 months)
- >> Director (Non-Executive) (Re-elected on April 7, 2017: 8 months)

Board-Committee Term Duration

- >> Member of the Risk Management Committee
(Appointed on May 26, 2017: 7 months)

Education

- >> Bachelor of Accounting, Chulalongkorn University
- >> Master of Business Administration Program (Finance) (Honor),
National Institute of Development Administration (NIDA)

Director Training Courses of Thai Institute of Directors Association (IOD)

- >> Director Certification Program (DCP 126/2009)
- >> Risk Management Committee Program (RMP 3/2014)
- >> Anti-Corruption: The Practical Guide (ACPG 18/2015)
- >> Ethical Leadership Program (ELP 3/2016)

Other Trainings

- >> NIDA - Wharton Executive Leadership Program,
The Wharton School, University of Pennsylvania , USA
- >> PTT Executive Leadership Program, General Electric, New York, USA

Working Experience in the 5 Preceding Years

2011 - April 2014	Executive Vice President, PTT Plc Secondment to Thai Oil Plc as Executive Vice President - Finance and Accounting
May 2014 - May 2016	Executive Vice President, Corporate Accounting, PTT Plc
Jun - Sep 2016	Executive Vice President, Group Finance and Accounting Policy, PTT Plc
Oct 2016 - Mar 2017	Executive Vice President, Acting Chief Financial Officer, PTT Plc
Apr 2017 - Present	Chief Financial Officer, PTT Plc

Other Positions

1. Listed Company	- None -
2. Public Company	- None -
3. Limited Company (2)	
>> Director and Chairman of the Board, PTT Energy Resources Co., Ltd.	
>> Director, PTT International Trading Pte. Ltd.	
4. Other Organizations/Institutions	- None -
5. State Enterprise	- None -
% of Shareholding in Thailoil	2,000 ((%) Share Possession: 0.0000)
Conflict of Interest	- None -
Family Relation with Other Directors	- None -
Dispute in the 10 Preceding Years	- None -

**MR. NOPPADOL PINSUPA**

Director (Non-Executive)
and Member of the Risk Management Committee
Age 53 Yrs.

Director Term Duration

- >> Director (Non-Executive) (Appointed on September 25, 2015 and effective from October 1, 2015: 7 months)
- >> Director (Non-Executive) (Re-elected on April 7, 2016: 1 year 8 months)

Board-Committee Term Duration

- >> Member of the Risk Management Committee
(Appointed on September 25, 2015, effective from October 1, 2015: 7 months and completed the term in the 2016 Annual General Meeting of Shareholders)
- >> Member of the Risk Management Committee (Appointed on April 27, 2016: 1 year 8 months)

Education

- >> Bachelor of Engineering (Electrical Engineering), Chulalongkorn University
- >> Master of Engineering (Electrical Engineering), Chulalongkorn University

Director Training Courses of Thai Institute of Directors Association (IOD)

- >> Director Certification Program (DCP 146/2011)
- >> Financial Statement for Director (FSD 12/2011)

Other Trainings

- >> National Defence Course, Class 60, National Defence College
- >> Capital Market Academy Leader Program, Class 22, Capital Market Academy
- >> G-20 Y Summit 2015, France
- >> Mitsui-HBS Global Management Academy 2015, Japan and USA
- >> The Programme for Senior Executives on Justice Administration, Batch 19, Judicial Training Institute, National Justice Academy
- >> PTT Leadership Development Program III, PTT Leadership and Learning Institute (PLLI)
- >> Breakthrough Program for Senior Executives (BPSE), International Leading Business School (IMD), Lausanne, Switzerland
- >> Assessor Training Program, Office of Thailand Quality Award
- >> Financial Statements for Directors by PTT Plc
- >> Seminar: "Anti-corruption: Leadership Role of the Board"

Working Experience in the 5 Preceding Years

2010 - 2012	Executive Vice President - Natural Gas Distribution Pipeline System, PTT Plc
2012 - 2014	Executive Vice President - Natural Gas Vehicle, PTT Plc
2014	Senior Executive Vice President, Global Power Synergy Plc
Oct 2014 - Sep 2015	President, Global Power Synergy Plc
Oct 2015 - Present	Senior Executive Vice President-Gas Business Unit, PTT Plc

Other Positions

1. Listed Company (1)
 - >> Senior Executive Vice President-Gas Business Unit, PTT Plc
2. Public Company - None -
3. Limited Company (3)
 - >> Director and Chairman of the Board, PTT Natural Gas Distribution Co., Ltd.
 - >> Director and Chairman of the Board, PTT LNG Co., Ltd.
 - >> Director, Ratchaburi Power Co., Ltd.
4. Other Organizations/Institutions - None -
5. State Enterprise - None -
- % of Shareholding in Thaioil - None -
- Conflict of Interest - None -
- Family Relation with Other Directors - None -
- Dispute in the 10 Preceding Years - None -



POLICE GENERAL AEK ANGSANANONT

Independent Director (Non-Executive)
and Chairman of the Corporate Governance Committee
Age 62 Yrs.

Director Term Duration

>> Independent Director (Non-Executive) (Elected on April 7, 2017: 8 months)

Board-Committee Term Duration

>> Member of the Corporate Governance Committee
(Appointed on May 26, 2017: 7 months)
>> Chairman of the Corporate Governance Committee
(Elected on June 21, 2017: 6 months)

Education

>> Bachelor of Law (First Class Honor), Ramkhamhaeng University
>> Master of Law, Chulalongkorn University
>> Barrister, Institute of Legal Education, Thai Bar Association

Director Training Courses of Thai Institute of Directors Association (IOD)

>> Director Certification Program (DCP 111/2008)
>> Board Matters & Trends (BMT 4/2017)

Other Trainings

>> The Joint State-Private Sector Course, Class 4414, National Defence College
>> Capital Market Academy Leader Program, Class 7, Capital Market Academy
>> The Programme for Senior Executives on Justice Administration, Batch 8, Judicial Training Institute, National Justice Academy
>> Advanced Administration Program, Class 34, Institute of Administration Development
>> Advanced Certificate Course in Politics and Governance in Democratic Systems for Executives, Class 7, King Prajadhipok's Institute
>> Public Director Certification Program, Public Director Institute (PDI), Class 3, King Prajadhipok's Institute
>> The Executive Program in Energy Literacy for a Sustainable Future, Class 1, Thailand Energy Academy
>> Training Course on Administrative Justice for Executives, Class 3, Office of the Administrative Courts of Thailand

Working Experience in the 5 Preceding Years

2010 - 2015 Deputy Commissioner General, Royal Thai Police
2015 - 2016 Permanent Secretary, Office of the Permanent Secretary, The Prime Minister's Office

Other Positions

1. Listed Company (2)

>> Independent Director and Member of the Audit Committee, TWZ Corporation Plc
>> Independent Director and Chairman of the Corporate Governance Committee, Big C Supercenter Plc

2. Public Company

- None -

3. Limited Company (1)

>> Member of Committee of Property Management Office, Thai Red Cross Society

4. Other Organizations/Institutions

- None -

5. State Enterprise

- None -

% of Shareholding in Thai Oil

- None -

Conflict of Interest

- None -

Family Relation with Other Directors

- None -

Dispute in the 10 Preceding Years

- None -

**MR. YONGYUT JANTARAROTAI**

Director (Non-Executive)

and Member of the Corporate Governance Committee

Age 58 Yrs.

Director Term Duration

- >> Director (Non-Executive) (Elected on April 2, 2014: 3 years)
- >> Director (Non-Executive) (Re-elected on April 7, 2017: 8 months)

Board-Committee Term Duration

- >> Member of the Corporate Governance Committee
(Appointed on April 25, 2014: 3 years and completed the term in the 2017 Annual General Meeting of Shareholders)
- >> Member of the Corporate Governance Committee
(Appointed on May 26, 2017: 7 months)

Education

- >> Bachelor of Engineering (Civil Engineering), Kasetsart University

Director Training Courses of Thai Institute of Directors Association (IOD)

- >> Corporate Governance for Executives Program (CGE 5/2015)
- >> Financial Statements for Directors (FSD 31/2016)
- >> Director Certification Program (DCP 237/2017)

Other Trainings

- >> Civil Service Executive Program, Class 59,
Office of the Civil Service Commission
- >> National Defence Course, Class 52, National Defence College
- >> Training Course on Government Fiscal Management for Executives, Class 1,
Comptroller General's Department
- >> Training Course on Administrative Justice for Executives, Class 6,
Office of the Administrative Courts of Thailand
- >> Academic Seminar: "Money Laundering in Daily Life that We Must Have"

Working Experience in the 5 Preceding Years

Jan 2012	Expert on Energy Strategy, Central Administration
Jan 16, 2012	Director, Bureau of Public Participation Cooperation
Mar 18 - Oct 2013	Director, Office of the Minister, Ministry of Energy
Nov 2013 - Nov 16, 2014	Assistant for Permanent Secretary, Ministry of Energy
Nov 17, 2014 - Sep 2015	Deputy Director General, the Department of Alternative Energy Development and Efficiency, Ministry of Energy
Oct 2015 - Sep 2016	Inspector General, Ministry of Energy
Oct 2016 - Present	Deputy Permanent Secretary, Ministry of Energy

Other Positions

1. Listed Company	- None -
2. Public Company	- None -
3. Limited Company	- None -
4. Other Organizations/Institutions	- None -
5. State Enterprise	- None -
% of Shareholding in Thaioil	- None -
Conflict of Interest	- None -
Family Relation with Other Directors	- None -
Dispute in the 10 Preceding Years	- None -



MR. CHEN NAMCHAISIRI

Independent Director (Non-Executive)

Age 61 Yrs.

Director Term Duration

>> Independent Director (Non-Executive) (Elected on April 7, 2017: 8 months)

Board-Committee Term Duration

- None -

Education

>> Bachelor of Engineering (Mechanical Engineering), Chulalongkorn University
>> Master of Engineering (Mechanical and Industrial Engineering),
Stanford University, California, USA

Director Training Courses of Thai Institute of Directors Association (IOD)

>> Director Accreditation Program (DAP 11/2004)
>> Director Certification Program (DCP 138/2010)
>> Diploma Examination Program (EXAM 30/2011)

Other Trainings

>> The Joint State-Private Sector Course, Class 17, National Defence College
>> The Executive Program in Energy Literacy for a Sustainable Future, Class 2,
Thailand Energy Academy
>> Capital Market Academy Leader Program, Class 23, Capital Market Academy
>> Modern Managers Program (MMP), Class 3, Chulalongkorn Business School
>> Internal Accounting Control Seminar, SGV-Arthur Anderson
>> Cooperate Finance, Institute for International Research, SGV-Arthur Anderson
>> Activity Based Costing, Institute for International Research,
SGV-Arthur Anderson
>> CSR for Corporate Sustainability,
The Stock Exchange of Thailand-Sustainable Development

Working Experience in the 5 Preceding Years

1989 - Present Manager, Siri Holding Co., Ltd.
1996 - Present Managing Director, Chen Ann Jule Co., Ltd.
1997 - Present Executive Director and President, Asia Fiber Plc

Other Positions

- | | |
|--|----------|
| 1. Listed Company | - None - |
| 2. Public Company | - None - |
| 3. Limited Company | - None - |
| 4. Other Organizations/Institutions (7) | |
| >> Director, Rajamangala University of Technology Lanna | |
| >> Director, Energy Fund Administration Institute (Public Organization),
Ministry of Energy | |
| >> Director, Thailand Greenhouse Gas Management Organization
(Public Organization) | |
| >> Executive Director, Sirindhorn International Institute of Technology,
Thammasat University | |
| >> Director, Defence Technology Institute (Public Organization),
Ministry of Defence | |
| >> Chairman, The Federation of Thai Industries | |
| >> Member of the National Legislative Assembly | |
| 5. State Enterprise | - None - |
| % of Shareholding in Thailoil | - None - |
| Conflict of Interest | - None - |
| Family Relation with Other Directors | - None - |
| Dispute in the 10 Preceding Years | - None - |

**MS. SRIWAN EAMRUNGROJ**

Director (Non-Executive)

Age 60 Yrs.

**MR. SUCHALEE SUMAMAL**

Director (Non-Executive)

Age 59 Yrs.

Director Term Duration

- >> Director (Non-Executive) (Appointed on September 25, 2015, effective from October 1, 2015: 7 months and completed the term in the 2016 Annual General Meeting of Shareholders)
- >> Director (Non-Executive) (Re-elected on April 7, 2016: 1 year 8 months)

Board-Committee Term Duration

- None -

Education

- >> Bachelor of Engineering (Mechanical Engineering), 2nd Class Honors, Kasetsart University
- >> Master of Business Administration, Thammasat University

Director Training Courses of Thai Institute of Directors Association (IOD)

- >> The Board's Role in Mergers and Acquisitions (M&A 1/2011)
- >> Director Certification Program (DCP 160/2012)

Other Trainings

- >> The Strategy Challenge (TSC) Program, Class 2010, IMD Business School, Switzerland
- >> INSEAD Business School, Class 2010, INSEAD Executive Education, France
- >> Advance Management Program (AMP), Class 183/2012, Harvard Business School, USA
- >> Strategic Marketing Management Program, Class 2014, Stanford Graduate School of Business, USA
- >> The Executive Program in Energy Literacy for a Sustainable Future, Class 8, Thailand Energy Academy
- >> Capital Market Academy Leader Program, Class 25, Capital Market Academy

Working Experience in the 5 Preceding Years

2011 - 2015	Executive Vice President, Petrochemicals and Refining Business Unit, PTT Plc Secondment to PTT Global Chemical Plc as Executive Vice President, Marketing Commercial and Supply
Present	Senior Executive Vice President, Corporate Strategy, PTT Plc

Other Positions

1. Listed Company (1)
 - >> Senior Executive Vice President, Corporate Strategy, PTT Plc
 2. Public Company - None -
 3. Limited Company - None -
 4. Other Organizations/Institutions - None -
 5. State Enterprise - None -
- % of Shareholding in Thaioil - None -
- Conflict of Interest - None -
- Family Relation with Other Directors - None -
- Dispute in the 10 Preceding Years - None -

Director Term Duration

- >> Director (Non-Executive) (Appointed on November 24, 2017 and effective from December 1, 2017: 1 month)

Board-Committee Term Duration

- None -

Education

- >> Bachelor of Economics, Ramkhamhaeng University
- >> Master of Public Administration, Sripatum University

Director Training Courses of Thai Institute of Directors Association (IOD)

- >> Director Accreditation Program (DAP 142/2017)

Other Trainings

- >> The Executive Program in Energy Literacy for a Sustainable Future, Class 9, Thailand Energy Academy
- >> Ministry Inspector General Skills, Class 2016, Office of the Civil Service Commission
- >> Public Legal Executive Training Programme, Class 4, Public Lawyer Development Institute, Officer of the Council of State
- >> Training Course on Administrative Justice for Executives, Class 6, Office of the Administrative Courts of Thailand

Working Experience in the 5 Preceding Years

2010 - 2013	Director, Petroleum and Petrochemical Policy Bureau, Ministry of Energy
2013 - 2015	Deputy Director-General, Energy Policy and Planning Office, Ministry of Energy
2015 - 2017	Inspector General, Ministry of Energy
2017 - Present	Chief of Inspector General, Ministry of Energy

Other Positions

1. Listed Company - None -
 2. Public Company - None -
 3. Limited Company (1)
 - >> EGAT International Company Limited
 4. Other Organizations/Institutions - None -
 5. State Enterprise - None -
- % of Shareholding in Thaioil - None -
- Conflict of Interest - None -
- Family Relation with Other Directors - None -
- Dispute in the 10 Preceding Years - None -



MR. ATIKOM TERBSIRI

Director (Executive), Member of the Risk Management Committee
Chief Executive Officer and President, and the Secretary to the Board of Directors
Age 55 Yrs.

Director Term Duration

- >> Director (Appointed on September 12, 2014: 1 month)
- >> Director (Executive) (Appointed on September 26, 2014 and effective from October 1, 2014: 6 months)
- >> Director (Executive) (Re-elected on April 3, 2015: 2 year 8 months)

Board-Committee Term Duration

- >> Member of the Risk Management Committee
(Appointed on October 1, 2014: 3 years 2 months)

Education

- >> Bachelor of Business Administration, Assumption University
- >> Master of Business Administration (Finance & International Business),
High Distinction, Armstrong University, USA

Director Training Courses of Thai Institute of Directors Association (IOD)

- >> Director Certification Program (DCP 125/2009)
- >> Risk Management Program for Corporate Leaders (RCL 4/2016)
- >> Role of the Chairman Program (RCP 41/2017)

Other Trainings

- >> The Executive Program in Energy Literacy for a Sustainable Future, Class 6, Thailand Energy Academy
- >> The State, Private Sector and Political Sectors Course, Class 5, National Defence College
- >> Advanced Security Management Program, Class 1, National Defence College
- >> Capital Market Academy Leader Program, Class 17, Capital Market Academy
- >> Executive Education Program, Harvard Business School, Harvard University, USA
- >> Seminar: "Anti-corruption: Leadership Role of the Board"

Working Experience in the 5 Preceding Years

2011 - 2013	President, IRPC Plc
2013 - Sep 2014	Senior Executive Vice President-Petrochemicals & Refining Business Unit, PTT Plc
Oct 2014 - Present	Chief Executive Officer and President, Thai Oil Plc Senior Executive Vice President, PTT Plc

Other Positions

1. Listed Company (2)

- >> Director and Member of the Risk Management Committee, Global Power Synergy Plc
- >> Senior Executive Vice President, PTT Plc

2. Public Company (1)

- >> Director and Chairman of the Board, Thai Lube Base Plc

3. Limited Company (7)

- >> Director and Chairman of the Board, Thai Paraxylene Company Limited
- >> Director and Chairman of the Board, Labix Company Limited
- >> Director and Chairman of the Board, Thailoil Power Company Limited
- >> Director and Chairman of the Board, TOP SPP Company Limited
- >> Director and Chairman of the Board, Thailoil Solvent Company Limited
- >> Director and Chairman of the Board, TOP Solvent Company Limited
- >> Director and Chairman of the Board, Thailoil Marine Company Limited

4. Other Organizations/Institutions (10)

- >> Member of Trustee (as Company representative), Petroleum Institute of Thailand
- >> Director, Policy Planning on Materials Technology Development, National Science Technology and Innovation Policy Office
- >> Director, Thai Industries Estate Foundation
- >> Director, Power of Innovation Foundation
- >> Director, Power of Learning Foundation
- >> Member of Council, Vidyasirimedhi Institute of Science and Technology
- >> Executive Director, Thailand Energy Academy
- >> Executive Director, Thailand Swimming Association
- >> Director, The Federation of Thai Industries Board
- >> Director, Thai Listed Companies Association

5. State Enterprise

- None -

% of Shareholding in Thailoil

- None -

Conflict of Interest

- None -

Family Relation with Other Directors

- None -

Dispute in the 10 Preceding Years

- None -

**MR. KURUJIT NAKORNTHAP**

Director (Non-Executive) and Chairman of the Board

(Completed the term in the 2017 Annual General Meeting of Shareholders)

Age 62 Yrs.

Director Term Duration

- >> Director (Non-Executive) (Appointed on September 12, 2014: 2 years 7 months)
- >> Chairman of the Board (Elected on September 26, 2014: 2 years 7 months)

Board-Committee Term Duration

- None -

Education

- >> Bachelor of Science (Special Distinction) in Petroleum Engineering, University of Oklahoma, USA
- >> Master of Science in Petroleum Engineering, University of Oklahoma, USA
- >> Ph.D. in Petroleum Engineering, University of Oklahoma, USA

Director Training Courses of Thai Institute of Directors Association (IOD)

- >> Director Accreditation Program (DAP 64/2007)
- >> Audit Committee Program (ACP 32/2010)
- >> Role of Compensation Committee (RCC 12/2011)

Other Trainings

- >> National Defence Course, Class 51, National Defence College
- >> Top Executive Program in Commerce and Trade (TEPCoT), Class 3, Commerce Academy, University of the Thai Chamber of Commerce
- >> Training Course on Administrative Justice for Executives, Class 2, Office of the Administrative Courts of Thailand
- >> Capital Market Academy Leader Program, Class 13, Capital Market Academy
- >> The Executive Program in Energy Literacy for a Sustainable Future, Class 1, Thailand Energy Academy
- >> Bhumpalung Phandin Course for Executives, Class 2, Chulalongkorn University
- >> Civil Service Executive Program: Visionary and Moral Leadership, Class 46, Office of the Civil Service Commission
- >> Senior Executive Program (SEP), Class 60, London Business School, United Kingdom
- >> Training Course on Leadership for Change, Class 2, Right Livelihood Foundation & Matichon Publishing Group
- >> Systematic Problem Solving and Decision Making (SPSDM), Office of the Civil Service Commission in cooperation with ACI Consultants Co., Ltd.
- >> Academic Seminar: "Money Laundering in Daily Life that We Must Have"
- >> Seminar: "Anti-corruption: Leadership Role of the Board"

Working Experience in the 5 Preceding Years

2010 - Jul 2014	Deputy Permanent Secretary, Ministry of Energy
Jul - Sep 2014	Director-General, Department of Mineral Fuels, Ministry of Energy
Oct 2014 - Sep 2015	Member of the National Reform Council
Oct 2014 - Jun 2015	Deputy Permanent Secretary, Ministry of Energy
Jan - Dec 2015	Chairman of the Board, Electricity Generating Authority of Thailand
Jun - Sep 2015	Permanent Secretary, Ministry of Energy
Oct 2015 - Aug 2017	Member of National Reform Steering Assembly
Oct 2015 - Present	Member of the Council of State Co-Chairman (Thailand), Malaysia-Thailand Joint Authority
Nov 2015 - Aug 2017	Chairman of Energy Affairs Committee, National Reform Steering Assembly

Other Positions**1. Listed Company (2)**

- >> Independent Director, Padaeng Industry Plc
- >> Independent Director, Chairman of the Nomination and Remuneration Committee and Chairman of the Corporate Governance Committee, Global Power Synergy Plc

2. Public Company

- None -

3. Limited Company

- None -

4. Other Organizations/Institutions (4)

- >> Member of the Council of State
- >> Co-Chairman (Thailand), Malaysia-Thailand Joint Authority
- >> Member of the University Council, Khon Kaen University
- >> Chairman of the Board, Thailand Greenhouse Gas Management Organization (Public Organization)

5. State Enterprise

- None -

% of Shareholding in Thaioil

- None -

Conflict of Interest

- None -

Family Relation with Other Directors

- None -

Dispute in the 10 Preceding Years

- None -



MR. SIRI JIRAPONGPHAN

Independent Director (Non-Executive) and Member of the Audit Committee
(Resigned from Directorship: November 17, 2017)
Age 63 Yrs.

Director Term Duration

- >> Independent Director (Non-Executive) (Appointed on October 30, 2015 and effective from November 1, 2015: 5 months)
- >> Independent Director (Non-Executive) (Re-elected on April 7, 2016: 1 year 7 months)

Board-Committee Term Duration

- >> Member of the Audit Committee (Appointed on October 30, 2015, effective from November 1, 2015: 5 months and completed the term in the 2016 Annual General Meeting of Shareholders)
- >> Member of the Audit Committee (Re-elected on April 7, 2016 and appoint on April 27, 2016: 1 year 7 months)

Education

- >> Bachelor of Engineering (Chemical Engineering) (Honor), California Institute of Technology, USA
- >> Doctor of Philosophy (Chemical Engineering), Massachusetts Institute of Technology, USA

Director Training Courses of Thai Institute of Directors Association (IOD)

- >> Director Certification Program (DCP 77/2006)

Other Trainings

- >> Audit Committee Seminar-Get Ready for the Year End
- >> Seminar: "Anti-corruption: Leadership Role of the Board"
- >> Seminar "PTT Group AC Forum 2017: Infinite AC Challenge"
- >> Academic Seminar : Energy Symposium 2017 Energy 4.0"

Working Experience in the 5 Preceding Years

2010 - Nov 2017 Executive Director, Petroleum Institute of Thailand
23 Nov 2017 - Present Minister, Ministry of Energy

Other Positions

- | | |
|--------------------------------------|----------|
| 1. Listed Company | - None - |
| 2. Public Company | - None - |
| 3. Limited Company | - None - |
| 4. Other Organizations/Institutions | - None - |
| 5. State Enterprise | - None - |
| % of Shareholding in Thairoil | - None - |
| Conflict of Interest | - None - |
| Family Relation with Other Directors | - None - |
| Dispute in the 10 Preceding Years | - None - |



MS. NANTIKA THANGSUPHANICH

Director (Non-Executive)
(Resigned from Directorship: December 1, 2017)
Age 52 Yrs.

Director Term Duration

- >> Director (Non-Executive) (Appointed on November 25, 2016: 1 year)

Board-Committee Term Duration

- None -

Education

- >> Bachelor of Arts (Political Science), Kasetsart University
- >> Master of Arts in Urban Studies, Long Island University, USA

Director Training Courses of Thai Institute of Directors Association (IOD)

- None -

Other Trainings

- >> The Executive Program in Energy Literacy for a Sustainable Future, Class 7, Thailand Energy Academy
- >> Public Director Certification Program, Class 10, Public Director Institute, King Prajadhipok's Institute
- >> e-Government Executives Program (e-GEP) Class 2, Electronic Government Agency (Public Organization)
- >> Strengthen Ministry Inspector General Skills, Class 2010, Office of the Civil Service Commission and Office of the Permanent Secretary
- >> Civil Service Executive Program: Visionary and Moral Leadership, Class 66, Office of the Civil Service Commission

Working Experience in the 5 Preceding Years

2009 - Sep 2017 Inspector General, Ministry of Energy
Oct 2017 - Present Deputy Permanent Secretary, Ministry of Energy

Other Positions

- | | |
|--------------------------------------|----------|
| 1. Listed Company (1) | |
| >> Director, IRPC Plc | |
| 2. Public Company | - None - |
| 3. Limited Company | - None - |
| 4. Other Organizations/Institutions | - None - |
| 5. State Enterprise | - None - |
| % of Shareholding in Thairoil | - None - |
| Conflict of Interest | - None - |
| Family Relation with Other Directors | - None - |
| Dispute in the 10 Preceding Years | - None - |

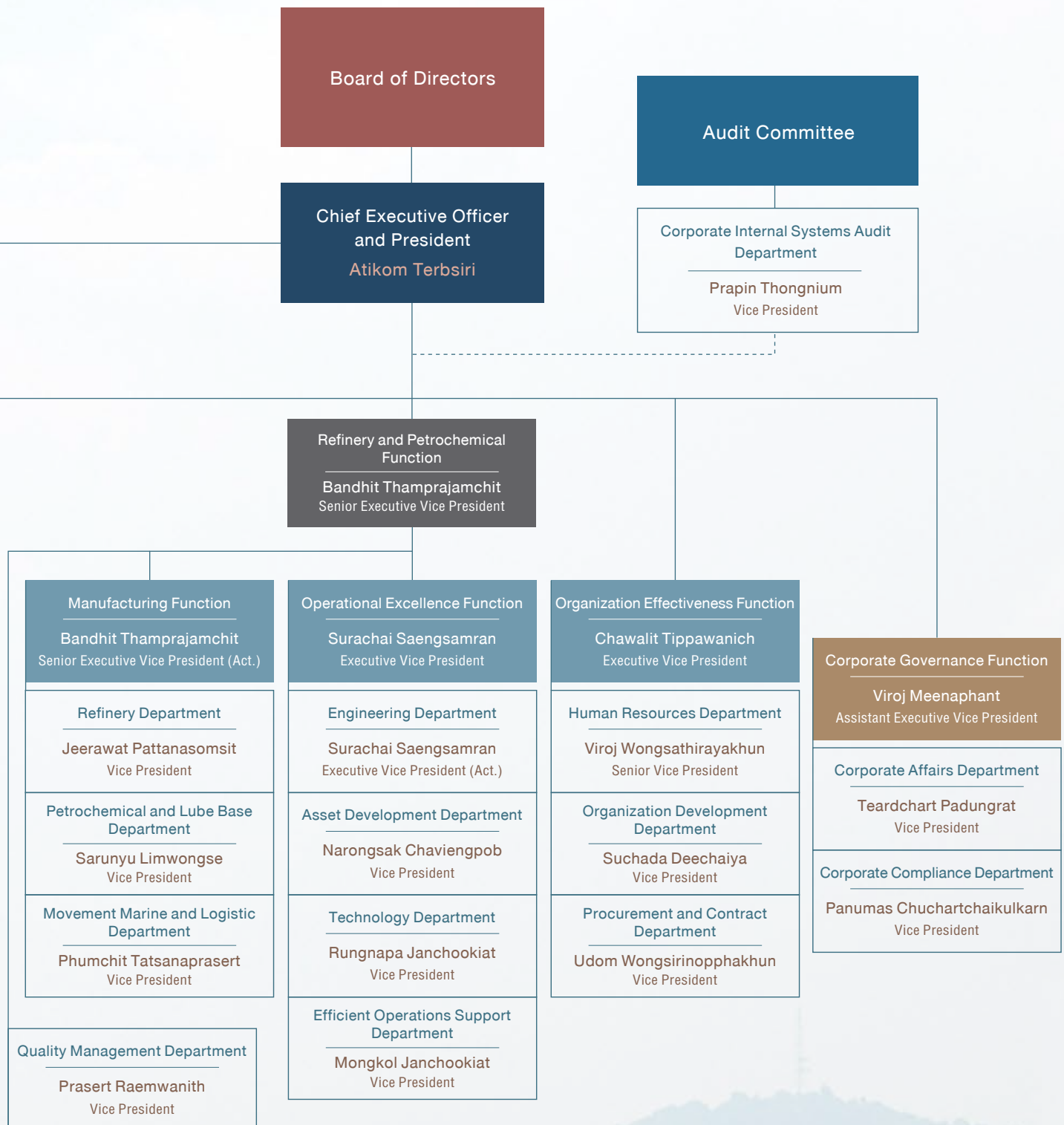
ORGANIZATIONAL STRUCTURE

Managing Director - TLB
Managing Director - TPX
Managing Director - TM
Managing Director - TES
Managing Director - TP
Managing Director - TET
Managing Director - TS
Managing Director - SAKC
Managing Director - LABIX
Managing Director - TOP SPP



Remarks :

1 May 2009 >> Nitas Krongvanitchayakul	Senior Vice President-Assignment as Managing Director, Thailoil Marine Co., Ltd.
1 Jan 2013 >> Viroj Wongsathirayakhun	Senior Vice President-Assignment as Managing Director, Thailoil Energy Services Co., Ltd.
10 Jan 2013 >> Klahan Tochamnanvit	Vice President-Assignment to Global Power Synergy Plc
11 Jul 2013 >> Suchart Monyanont	Senior Vice President-Assignment as Managing Director, Labix Co., Ltd.
7 May 2015 >> Acharee Tiyaabhorn	Vice President-Assignment as Managing Director, TOP Solvent Co., Ltd.
3 Jun 2015 >> Acharee Tiyaabhorn	Vice President-Assignment as Managing Director, Thailoil Solvent Co., Ltd.
16 May 2016 >> Charlee Balmongkol	Vice President-Assignment as Managing Director, Thailoil Power Co., Ltd. and TOP SPP Co., Ltd.
1 Aug 2016 >> Saruny Limwongse	Vice President-Assignment as Managing Director, Thai Lube Base Plc and Thai Paraxylene Co., Ltd.
1 Aug 2016 >> Ampon Singsakda	Vice President-Assignment as Managing Director, Sak Chaisidhi Co., Ltd.
1 Apr 2017 >> Duangporn Teerapabpaisit	Senior Vice President-Assignment as Executive Vice President-Downstream Business Group Collaboration, PTT Plc



EXECUTIVES

As of December 31, 2017

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01 Mr. Atikom Terbsiri
Chief Executive Officer and President

02 Mr. Bandhit Thamprajamchit
Senior Executive Vice President -
Refinery and Petrochemical
Taking a Position of
Executive Vice President -
Manufacturing

03 Mr. Chatapong Wungtanagorn
Executive Vice President -
Corporate Commercial
Taking a Position of
Vice President - Commercial

04 Mr. Chawalit Tippawanich
Executive Vice President -
Organization Effectiveness

05 Mr. Pongpun Amornvivat
Executive Vice President -
Strategy (Act.)
Taking a Position of
Vice President -
Business Development

06 Ms. Pattaralada Sa-Ngasang
Executive Vice President -
Finance and Accounting
Taking a Position of
Vice President - Financial Planning

07 Mr. Surachai Saengsamran
Executive Vice President -
Operation Excellence
Taking a Position of
Vice President - Engineering

08 Mr. Viroj Meenaphant
Assistant Executive Vice President -
Corporate Governance

- 09 Mr. Klahan Tochamnanvit**
Vice President - Assignment to
Global Power Synergy Plc
- 10 Mr. Jeerawat Pattanasomsit**
Vice President - Refinery
- 11 Mr. Charlee Balmongkol**
Vice President -
Assignment as Managing Director,
Thaioil Power Co., Ltd. and
TOP SPP Co., Ltd.
- 12 Mr. Narongsak Chaviengpob**
Vice President - Asset Development
- 13 Ms. Duangporn Teerapabpaisit**
Senior Vice President -
Assignment as
Executive Vice President -
Downstream Business Group
Collaboration, PTT Plc
- 14 Ms. Torsang Chaipravat**
Vice President - Strategic Planning
Taking a Position of
Vice President -
Corporate Project Development
- 15 Mr. Teardchart Padungrat**
Vice President - Corporate Affairs
- 16 Mr. Nikom Kongnok**
Vice President - Accounting
- 17 Mr. Nitas Krongvanitchayakul**
Senior Vice President -
Assignment as Managing Director,
Thaioil Marine Co., Ltd.

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18 Ms. Prapin Thongnium
Vice President -
Corporate Internal Systems Audit

19 Mr. Prasert Raemwanith
Vice President - Quality Management

20 Ms. Panumas Chuchartchaikulkarn
Vice President - Corporate Compliance
and Company Secretary

21 Mr. Phumchit Tatsanaprasert
Vice President -
Movement Marine and Logistic

22 Mr. Mongkol Janchookiat
Vice President -
Efficient Operations Support

23 Ms. Rungtip Maneesarachun
Vice President - Treasury

24 Ms. Rungnapa Janchookiat
Vice President - Technology

25 Mr. Viroj Wongsathirayakhun
Senior Vice President -
Human Resources
Taking a Position of
Vice President -
Assignment as Managing Director,
Thaioil Energy Services Co., Ltd.

26 Mr. Saran Harinsuta
Manager -
Assignment as Managing Director,
Thaioil Ethanol Co., Ltd.

27 Mr. Sarunyu Limwongse
Vice President -
Petrochemical and Lube Base
Taking a Position of
Vice President -
Assignment as Managing Director,
Thai Lube Base Plc and
Thai Paraxylene Co., Ltd.

28 Ms. Somporn Bunluesriruang
Vice President -
Supply Chain Optimization

29 Mr. Santi Wasanasiri
Vice President -
Innovation and Sustainability

30 Ms. Suchada Deechaiya
Vice President -
Organization Development

31 Mr. Suchart Monyanont
Senior Vice President -
Assignment as Managing Director,
Labix Co., Ltd.

32 Ms. Sudarat Orrattanasakul
Vice President -
Commercial Planning

33 Ms. Acharee Tiyaabhorn
Vice President -
Assignment as Managing Director,
Thaioil Solvent Co., Ltd. and
TOP Solvent Co., Ltd.

34 Mr. Udom Wongsirinopphakhun
Vice President -
Procurement and Contract

35 Mr. Ampon Singsakda
Vice President -
Assignment as Managing Director,
Sak Chaisidhi Co., Ltd.

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ASSETS AND SHAREHOLDERS INFORMATION AND MANAGEMENT STRUCTURE

Assets and Shareholders Information

THB 20,400,278,730, comprised of 2,040,027,873 ordinary shares at the par value at 10 Baht per share.

Registered and Paid-up Capitals

Ordinary Shares

On the share registration book closing date as of October 31, 2017, the Company's registered capital was THB 20,400,278,730 and the paid-up capital was

Shareholders

As of October 31, 2017, the first ten major shareholders are as follows:

Top 10 Major Shareholders ⁽¹⁾	Number of Shares	Shareholding Percentage
1 PTT PUBLIC COMPANY LIMITED ⁽²⁾	1,001,647,483	49.100%
2 STATE STREET EUROPE LIMITED	54,190,645	2.656%
3 CHASE NOMINEES LIMITED	44,324,053	2.173%
4 STATE STREET BANK EUROPE LIMITED	29,012,663	1.422%
5 STATE STREET BANK AND TRUST COMPANY	24,527,753	1.202%
6 SE ASIA (TYPE B) NOMINEES LLC	21,759,752	1.067%
7 HSBC (SINGAPORE) NOMINEES PTE. LTD.	17,419,400	0.854%
8 THE BANK OF NEW YORK (NOMINEES) LIMITED	17,329,230	0.849%
9 SOCIAL SECURITY OFFICE	14,938,500	0.732%
10 THE BANK OF NEW YORK MELLON	14,689,053	0.720%
TOTAL	1,239,838,532	60.775%

Remark:

⁽¹⁾ Excluding shareholders of Thai NVDR Co., Ltd., a subsidiary of the Stock Exchange of Thailand with the objective of promoting investor's investment, particularly foreign investors, in order to invest in common stock of listed companies without being restricted by the foreign shareholding limit which does not have the right to vote at meetings of listed companies.

⁽²⁾ As a major shareholder of Thailoil, PTT Public Company Limited (PTT) participates in formulating the Company's management and operational policies via Directors nominated to Thailoil's Board of Directors and casting their votes in Board meetings. As of December 31, 2017, there are five Directors from a total of 14 who are also holding position as PTT's Board of Directors and/or Management team.

Issuance of Other Securities

Debentures

The Company issued two unsecured debentures of USD 1 billion in total, comprised of USD 500 million due in 2023 and USD 500 million due in 2043.

Also, the Company issued five unsecured and unsubordinated debentures of THB 23.5 billion in total, comprised of THB 3 billion due in 2019, THB 3 billion due in 2021, THB 3 billion due in 2022, THB 7 billion due in 2024, and THB 7.5 billion due in 2027.

Dividend Policy

The Company's dividend payout policy is to pay at least 25 percent of the consolidated net profit after deductions of all categories of reserves as specified in applicable laws and the Company's Article of Association. Payment of such dividend is subject to the cash flows and investment plans of Thailoil and its subsidiaries in each year, and other requirements and considerations as determined by the Board of Directors (the Board). The Board may consider paying the annual dividend with approval from the Annual General Meeting of Shareholders (AGM) except payment of interim dividend which the Board is authorized to approve periodically when the Company's profit deems it appropriate. The interim dividend payment shall be reported at the following Shareholders' meeting.

The dividend policy for Thailoil's subsidiaries shall be considered by the Board of each subsidiary and later proposed to each subsidiary's AGM for approval. Consideration shall be given to investment plans and other requirements and considerations, such as the adequacy of cash flow of each company after deducting reserve funds in accordance with the law.

Dividend Payout Information

Year	2011	2012	2013 ⁽¹⁾	2014 ⁽¹⁾	2015	2016
Earnings (Baht per share)	7.28	6.04	4.57	(2.03)	5.97	10.40
Dividend (Baht per share)	3.30	2.70	2.30	1.16	2.70	4.50
Dividend Payout (%)	45.0	45.0	50.0	N/A	45.0	43.0

⁽¹⁾ Revised in accordance with Thai Financial Reporting Standards 10 (TFRS 10) on Consolidated Financial Statements which is effective for Annual Accounting periods beginning on or after January 1, 2015, having a restatement on Statement of Financial Position as of December 31, 2013 and 2014 as well as Statement of Income and Statement of Cash Flows as of December 31, 2014.

Management Structure

The management structure of Thai Oil Public Company Limited comprises:

- >> The Board of Directors (the Board)
- >> The four Board-Committees supporting the consideration and important issues as assigned by the Board: the Audit Committee, the Nomination and Remuneration Committee, the Corporate Governance Committee, and the Risk Management Committee

>> The executive with the Chief Executive Officer and President as the highest executive of the Company

The Board of Directors

As of December 31, 2017, the Board of Directors is comprised of 14 Directors as follows:

- >> Thirteen Non-Executive Directors, seven of which are Independent Directors
- >> One Executive Director, namely the Chief Executive Officer and President

The Board of Directors as of December 31, 2017 comprised of:

Name - Surname	Position	Appointment Date
1. Professor Dr. Thosaporn Sirisumphand ⁽¹⁾	Independent Director Chairman of the Board	April 3, 2015 (Re-elected) April 7, 2016
2. Ms. Chularat Suteethorn	Independent Director Member of the Audit Committee Chairman of the Audit Committee Member of the Nomination and Remuneration Committee	April 3, 2015 (Re-elected) April 24, 2015 February 12, 2016 April 27, 2016
3. Ms. Suvimol Chrityakierne	Independent Director Member of the Audit Committee	January 22, 2016 January 22, 2016
4. Gen. Thanakarn Kerdnaimongkol ⁽²⁾	Independent Director Member of the Audit Committee Member of the Corporate Governance Committee Member of the Audit Committee	April 7, 2016 April 27, 2016 (Resigned on May 16, 2017) May 26, 2017 November 24, 2017
5. ACM Suttipong Inseeyong ⁽³⁾	Independent Director Member of the Nomination and Remuneration Committee Chairman of the Nomination and Remuneration Committee	April 7, 2017 (Re-elected) April 28, 2017 May 17, 2017
6. Mr. Sarun Rungkasiri	Director Member of the Nomination and Remuneration Committee Member of Risk Management Committee Chairman of the Risk Management Committee	April 7, 2016 April 8, 2016 April 27, 2016 May 11, 2016

Name - Surname	Position	Appointment Date
7. Ms. Nitima Thepvanangkul ⁽⁴⁾	Director Member of the Risk Management Committee	April 7, 2017 (Re-elected) May 26, 2017
8. Mr. Noppadol Pinsupa	Director Member of the Risk Management Committee	April 7, 2016 (Re-elected) April 27, 2016
9. Pol. Gen. Aek Angsanant ⁽⁵⁾	Independent Director Member of the Corporate Governance Committee Chairman of the Corporate Governance Committee	April 7, 2017 May 26, 2017 June 21, 2017
10. Mr. Yongyut Jantararotai ⁽⁶⁾	Director Member of the Corporate Governance Committee	April 7, 2016 (Re-elected) May 26, 2017
11. Mr. Chen Namchaisiri ⁽⁷⁾	Independent Director	April 7, 2017
12. Ms. Sriwan Eamrungrroj	Director	April 7, 2016 (Re-elected)
13. Mr. Suchalee Sumamal ⁽⁸⁾	Director	November 24, 2017
14. Mr. Atikom Terbsiri	Director Member of the Risk Management Committee Chief Executive Officer and President Secretary to the Board of Directors	April 3, 2015 (Re-elected) September 26, 2014 September 26, 2014

Remark:

- ⁽¹⁾ Elected as Chairman of the Board in Board of Directors Meeting (Extra) No. 1/2017 on Friday, April 7, 2017; hence vacating Chairman of the Nomination and Remuneration Committee and Member of the Corporate Governance Committee
- ⁽²⁾ Appointed as Member of the Audit Committee in the Board of Directors Meeting no. 4/2016 on Friday, April 27, 2016; resigned from the Position of Member of the Audit Committee on Tuesday, May 16, 2017; and re-appointed as Member of the Audit Committee in the Board of Directors Meeting no. 11/2017 on Friday, November 24, 2017; and appointed as Member of the Corporate Governance Committee in the Board of Directors Meeting no. 5/2017 on Friday, May 26, 2017
- ⁽³⁾ Term completed and re-elected as Independent Director in the 2017 Annual General Meeting of Shareholders on Friday, April 7, 2017; and appointed as Member of the Nomination and Remuneration Committee in the Board of Directors Meeting no. 4/2017 on Friday, April 28, 2017; and elected as Chairman of the Nomination and Remuneration Committee in the Nomination and Remuneration Committee Meeting no. 4/2017 on Wednesday, May 17, 2017
- ⁽⁴⁾ Term completed and re-elected as Director in the 2017 Annual General Meeting of Shareholders on Friday, April 7, 2017, and appointed as Member of the Risk Management Committee in the Board of Directors Meeting no. 5/2017 on Friday, May 26, 2017
- ⁽⁵⁾ Appointed as Independent Director in the 2017 Annual General Meeting of Shareholders on Friday, April 7, 2017; appointed as Member of the Corporate Governance Committee in the Board of Directors Meeting no. 5/2017 on Friday, May 26, 2017; and elected as Chairman of the Corporate Governance Committee in the Corporate Governance Committee Meeting no. 2/2017 on Wednesday, June 21, 2017
- ⁽⁶⁾ Term completed and re-elected as Director in the 2017 Annual General Meeting of Shareholders on Friday, April 7, 2017, and appointed as Member of the Corporate Governance Committee in the Board of Directors Meeting no. 5/2017 on Friday, May 26, 2017
- ⁽⁷⁾ Appointed as Independent Director in the 2017 Annual General Meeting of Shareholders on Friday, April 7, 2017
- ⁽⁸⁾ Appointed as Director in the Board of Directors Meeting no. 11/2017 on Friday, November 24, 2017, effective as from Friday, December 1, 2017

The List of Directors who Resigned and Completed the Term during the Year 2017 is as follows:

Name - Surname	Position	Reason for Retirement
1. Mr. Kurujit Nakornthap	Director Chairman of the Board	Completed the term in the 2017 Annual General Meeting of Shareholders
2. Mr. Siri Jirapongphan	Independent Director Member of the Audit Committee	Resigned on November 17, 2017
3. Ms. Nantika Thangsuphanich	Director	Resigned on December 1, 2017

Shareholding Report of the Board of Directors and the Company's Management in 2017
(Inclusive of Spouse, Unmarried Partner, and Minor)
Information as of December 31, 2017:

Name - Surname	No. of Share (shares)		No. of Shares Addition (Reduction) During the Year
	Dec 31, 2016	Dec 31, 2017	
1. Professor Dr. Thosaporn Sirisumphand	-	-	-
By Spouse and Minor	-	-	-
2. Ms. Chularat Suteethorn	-	10,000	10,000
By Spouse and Minor	-	-	-
3. Ms. Suvimol Chrityakierne	-	-	-
By Spouse and Minor	-	-	-
4. Gen. Thanakarn Kerdnaimongkol	-	-	-
By Spouse and Minor	-	-	-
5. ACM Suttipong Inseeyong	-	-	-
By Spouse and Minor	-	-	-
6. Mr. Sarun Rungkasiri	-	-	-
By Spouse and Minor	-	-	-
7. Ms. Nitima Thepvanangkul	2,000	2,000	-
By Spouse and Minor	-	-	-
8. Mr. Noppadol Pinsupa	-	-	-
By Spouse and Minor	-	-	-
9. Pol. Gen. Aek Angsananont	N/A	-	N/A
By Spouse and Minor	N/A	-	N/A

Name - Surname	No. of Share (shares)		No. of Shares Addition (Reduction) During the Year
	Dec 31, 2016	Dec 31, 2017	
10. Mr. Yongyut Jantararotai	-	-	-
By Spouse and Minor	-	-	-
11. Mr. Chen Namchaisiri	N/A	-	N/A
By Spouse and Minor	N/A	-	N/A
12. Ms. Sriwan Eamrungraj	-	-	-
By Spouse and Minor	-	-	-
13. Mr. Suchalee Sumamal	N/A	-	N/A
By Spouse and Minor	N/A	-	N/A
14. Mr. Atikom Terbsiri	-	-	-
By Spouse and Minor	-	-	-
Directors who Resigned and Completed the Term during the Year 2017			
1. Mr. Kurujit Nakornthap	-	N/A	N/A
By Spouse and Minor	-	N/A	N/A
2. Mr. Siri Jirapongphan	-	N/A	N/A
By Spouse and Minor	-	N/A	N/A
3. Ms. Nantika Thangsuphanich	-	N/A	N/A
By Spouse and Minor	-	N/A	N/A
Company's High-Level Executives			
1. Mr. Atikom Terbsiri	-	-	-
Chief Executive Officer and President			
By Spouse and Minor	-	-	-
2. Mr. Bandhit Thamprajamchit	12,200	7,200	(5,000)
Senior Executive Vice President - Refinery and Petrochemical Taking a Position of Executive Vice President - Manufacturing			
By Spouse and Minor	-	-	-
3. Mr. Chatapong Wungtanagorn	97,400	97,400	-
Executive Vice President - Corporate Commercial Taking a Position of Vice President - Commercial			
By Spouse and Minor	-	-	-

Name - Surname	No. of Share (shares)		No. of Shares Addition (Reduction) During the Year
	Dec 31, 2016	Dec 31, 2017	
4. Mr. Chawalit Tippawanich Executive Vice President - Organization Effectiveness By Spouse and Minor	N/A N/A	- -	N/A N/A
5. Mr. Pongpun Amornvivat Executive Vice President - Strategy (Act.) Taking a Position of Vice President - Business Development By Spouse and Minor	N/A N/A	17,100 -	N/A N/A
6. Ms. Pattaralada Sa-NGasang Executive Vice President - Finance and Accounting Taking a Position of Vice President - Financial Planning By Spouse and Minor	- -	- -	- -
7. Mr. Surachai Saengsamran Executive Vice President - Operation Excellence Taking a Position of Vice President - Engineering By Spouse and Minor	98,500 -	98,500 -	- -
8. Mr. Nikom Kongnok Vice President - Accounting By Spouse and Minor	- -	- -	- -
9. Ms. Rungtip Maneesarachun Vice President - Treasury By Spouse and Minor	N/A N/A	- -	N/A N/A

Remark: N/A means no information since the Director or Executive was appointed, resigned, or completed the term during the year 2017.

Structure of the Board of Directors

According to the Company's Articles of Association, the Board of Directors shall consist of at least five members and not more than 15 members. Not less than half of the number of such Directors must reside in the Kingdom of Thailand. A Director needs not be a shareholder of the Company.

Appointment and Termination of Directors

The nomination, appointment, removal and termination of Directors are prescribed in the Company's Articles of Association, which can be summarized as follows:

Appointment of Directors

The appointment of Directors must be explicitly made at the Annual General Meeting of Shareholders (AGM) under the following criteria and procedures:

1. Each shareholder shall have one vote for one share;
2. Each shareholder may exercise all the votes he or she has under (1) to elect one or several persons as Directors, but the shareholder cannot divide his or her votes to any person in any number; and
3. The indicated number of nominees who receive the largest number of votes in descending order shall be elected. In the event of the number of nominees receiving equal votes exceeds the number of vacancies to be filled, the chairman of the meeting shall cast the decisive vote.

Since 2007, the Board of Directors has adopted a resolution to allow minor shareholders' nomination of qualified Director candidates, which must be explicitly made before the AGM and under the Company's nomination criteria. However, in the year 2017, there was no nomination proposed by minor shareholders (see detail in Corporate Governance Policy Section on page 127-128)

Removal and Termination of Directors

1. At every Annual General Meeting of Shareholders, one-third of the Directors, or, if the number of Directors cannot be divided exactly into three parts, the number of Directors nearest to one-third shall vacate office. A vacating Director may be eligible to re-election. The Directors to vacate office in the first and second years following the registration of the conversion of the company shall be drawn by lots. In subsequent years, the Directors who have remained in office for the longest time shall vacate office.
2. Apart from completing the term, a Director shall vacate office upon death, resignation, lack of qualifications or disqualifications under the law pertaining to Public Company Limited and/or under the Securities and Exchange Act, removal pursuant to resolution passed at the Shareholders' meeting, or removal pursuant to a court order.
3. To resign from office, a Director has to hand in his resignation letter. Such resignation shall become effective on the date it reaches the company. The Director who has resigned may also inform the registrar of the facts.
4. The Shareholders' meeting may pass a resolution to remove any Director from office prior to the term completion, by the vote of not less than three-fourths of the number of shareholders attending the meeting and having the right to vote and the shares held by them shall, in aggregate, be not less than half of the number of shares held by the shareholders attending the meeting and having the right to vote.
5. In the event that a position of Director becomes vacant for any reason other than the completion of his office term, the Board of Directors shall on the next Board meeting appoint a qualified person, not having unacceptable qualities under the laws pertaining to Public Limited Company and the Securities and

Exchange Act to be a new Director, except if such office term remaining is less than two months. The replacement Director shall hold office only for the remainder of the office term of the Director whom he replaces. The resolution of the Board of Directors must be approved by the votes of not less than three-fourths of the number of the remaining Directors.

Authorized Directors

According to the Company's Articles of Association, Chief Executive Office and President (CEO/President) or two authorized Directors shall sign with affixation of the Company's seal to represent the Company. The Board of Directors has the right to prescribe and rectify the list of the Company's authorized Directors.

Through the Board of Directors Meeting No. 12/2017 on Friday, December 15, 2017, the Board of Directors has approved Directors having authority to sign on behalf of the Company, namely Mr. Atikom Terbsiri, CEO/President, signing with affixation of the Company's seal; or, Ms. Nitima Thepvanangkul, and Mr. Noppadol Pinsupa, any two representative Directors jointly sign together with the affixation of the Company's seal.

Board of Directors Roles and Responsibility

Observing Company's regulations, the Board of Directors is authorized to conduct roles and responsibilities under the law, Company's objectives, regulations, and resolutions approved by Shareholders' meetings. Directors must observe the "Code of Practice for Directors of Listed Companies" stipulated by the Stock Exchange of Thailand (SET) with integrity and prudence to protect the Company's interests and maximize profits for its shareholders. To enable employees to observe the business principles and establish credibility among shareholders and investors, the Company has defined the following roles and responsibilities for the Board of Directors:

1. Define the business vision and be responsible for the Company's and executives' performance outcomes to give the business long-term continuity and provide for employees' development plans and executives' continuity;
2. Review and endorse significant strategies and policies with a focus on business objectives, financial targets, risks, work programs and budgets, and assure that the management efficiently and effectively follow policies and plans;
3. Review and endorse actions required by law, and serve as leaders/role models for performance, compliance with the law, and alignment with corporate governance guidelines;
4. Provide assurance of the accounting system, financial reporting, and audits by efficiently and effectively forging processes for suitable internal control and audit, and oversee financial reporting and monitoring progress;
5. Institute a corporate risk management policy by seeking quarterly risk management reports from the management via the Audit Committee, and encouraging the Company to conduct risk management system assessment at least once a year, while paying due attention to warning signs and anomalies;
6. Oversee and resolve potential conflicts of interest and connected transactions, and set practical guidelines to prevent them with a focus on maintaining the best interests of the shareholders and stakeholders at large; institute transaction guidelines prohibiting stakeholders with vested interests from decision-making on such matters; and establish standard procedures and thorough information disclosure of all potential conflicts of interest;
7. Promote a written code of conduct for Directors, executives, and employees to ensure full understanding

of the Company's business standards, including earnest, periodic follow-ups of compliance;

8. Conduct the annual performance appraisal and decide compensation for the CEO/President.

Chairman Roles and Responsibilities

Stated in the Corporate Governance and Code of Conduct Manual, roles and responsibilities of the Chairman of the Board (the Chairman) are as follows:

1. By oneself or assign a delegate, calls the meetings of the Board of Directors with meeting notices sent at least seven days prior to the meeting date so that the Directors may have adequate time to study, review, and make proper decisions;
2. Jointly with the CEO/President, defines the agenda of each meeting;
3. Ensures the efficiency of each meeting by allocating enough time for the executives to present information, encouraging and allowing Directors' queries and expression of free views, controlling the issues under discussion, and summarizing the meeting's resolutions;
4. Plays a key role in encouraging the Board of Directors' conformance to corporate governance principles, including identifying themselves, refraining from voting, and leaving the meeting in case of having conflicts of interest in any agenda;
5. Informs the Board of Directors all significant matters;
6. Encourages the Board of Directors to attend Shareholders' meetings and presides over such meetings to ensure the meeting efficiency and address shareholders' queries;
7. Encourages the Board of Directors to perform their duties under the scope of authority given by laws, and the corporate governance.

Chief Executive Officer and President (CEO/President) Roles and Responsibilities

Assigned by the Board of Directors to conduct the Company business under the approved plans and budgets with rigor and integrity, while protecting the best interests of the Company and its shareholders, the CEO/President must not be engaged in any conflicts of interest with Thailoil and Subsidiaries. His roles and responsibilities consist of the following:

1. Prepares and proposes to the Board of Directors five-year and 10-year business plans, including the Company's strategic imperatives;
2. Prepares and provides to the Board of Directors information relevant to the Company business and activities, as well as other information needed;
3. Manages the Company business and activities under the approved plans and budgets, as well as business strategies;
4. Structures and manages the organization under guidelines given by the Board of Directors;
5. Fine-tune the Company's POSITIVE culture in support of its vision, mission, and strategic imperatives;
6. Executes all other tasks assigned by the Board of Directors;
7. Delegates authority and/or assigns others to act on his or her behalf, under the rules, terms, principles, and orders given by the Board of Directors and/or the Company;
8. Prepares and presents the significant company business performance and activity reports as well as other reports required by the Board of Directors;
9. Represents the Company in external contacts.

Meeting Attendance of the Board of Directors, Board-Committees, and AGM in 2017

Name - Surname	Position	Board of Directors (15 times)	Audit Committee (9 times)	Nomination and Remuneration Committee (6 times)	Corporate Governance Committee (3 times)	Risk Management Committee (9 times)	Annual General Meeting of Shareholders (AGM) (1 time)	Independent Directors Meeting (2 times)	Non-Executive Directors Meeting (1 time)
1 Professor Dr. Thosaporn Sirisumphanth ⁽¹⁾	Independent Director and Chairman of the Board	15/15		3/3	1/1		1/1	2/2	1/1
2 Ms. Chularat Suteelhorn	Independent Director, Chairman of the Audit Committee, and Member of the Nomination and Remuneration Committee	14/15	9/9	6/6			1/1	2/2	1/1
3 Ms. Suwimol Chrityakieme	Independent Director and Member of the Audit Committee	14/15	9/9				1/1	2/2	1/1
4 Gen. Thanakarn Kerchaimongkol ⁽²⁾	Independent Director, Member of the Audit Committee and Member of the Corporate Governance Committee	14/15	4/4		2/2		1/1	2/2	1/1
5 ACM Sutitipong Inseeeyong ⁽³⁾	Independent Director and Chairman of the Nomination and Remuneration Committee	14/15		3/3	1/1		1/1	2/2	1/1
6 Mr. Sarun Rungkasiri	Director, Chairman of the Risk Management Committee, and Member of the Nomination and Remuneration Committee	15/15		6/6		9/9	1/1		1/1
7 Ms. Nilima Thepvanangkul ⁽⁴⁾	Director and Member of the Risk Management Committee	14/15				9/9	1/1		1/1
8 Mr. Noppadol Pinsupa	Director and Member of the Risk Management Committee	14/15				8/9	1/1		1/1
9 Pol. Gen. Aek Angsananon ⁽⁵⁾	Independent Director and Chairman of the Corporate Governance Committee	11/12			2/2		N/A	2/2	1/1
10 Mr. Yongyut Jantararat ⁽⁶⁾	Director and Member of the Corporate Governance Committee	14/15			3/3		1/1		1/1
11 Mr. Chen Nanchaisiri ⁽⁷⁾	Independent Director	6/12					N/A	1/2	1/1
12 Ms. Siwan Eamungroj	Director	14/15					1/1		1/1
13 Mr. Suchalee Sumamal ⁽⁸⁾	Director	1/1					N/A		N/A
14 Mr. Atikom Terbsiri	Director, Member of the Risk Management Committee, Chief Executive Officer and President, and Secretary to the Board	15/15				9/9	1/1		
Directors who resigned and completed their terms during the year 2017									
1 Mr. Kurujit Nakomthap	Director and Chairman of the Board (Completed his term in the 2017 Annual General Meeting of Shareholders)	3/3					1/1	N/A	N/A
2 Mr. Sir Jirapongphan	Independent Director and Member of the Audit Committee (Resigned on November 17, 2017)	13/13	8/8				1/1	0/1	1/1
3 Ms. Nantika Thangsuphanich	Director (Resigned on December 1, 2017)	14/14					1/1	N/A	1/1

Remark:

N/A means not attend since the Director resigned or was appointed during the year 2017.

⁽¹⁾ Elected as Chairman of the Board in Board of Directors Meeting (Extra) No. 1/2017 on Friday, April 7, 2017; hence vacating Chairman of the Nomination and Remuneration Committee and Member of the Corporate Governance Committee

⁽²⁾ Appointed as Member of the Audit Committee in the Board of Directors Meeting no. 4/2016 on Friday, April 27, 2016; resigned from the Position of Member of the Audit Committee on Tuesday, May 16, 2017; and re-appointed as Member of the Audit Committee in the Board of Directors Meeting no. 11/2017 on Friday, November 24, 2017; and appointed as Member of the Corporate Governance Committee in the Board of Directors Meeting no. 5/2017 on Friday, May 26, 2017

⁽³⁾ Term completed and re-elected as Independent Director in the 2017 Annual General Meeting of Shareholders on Friday, April 7, 2017; and appointed as Member of the Nomination and Remuneration Committee in the Board of Directors Meeting no. 4/2017 on Friday, April 28, 2017; and elected as Chairman of the Nomination and Remuneration Committee in the Nomination and Remuneration Committee Meeting no. 4/2017 on Wednesday, May 17, 2017

⁽⁴⁾ Term completed and re-elected as Director in the 2017 Annual General Meeting of Shareholders on Friday, April 7, 2017, and appointed as Member of the Risk Management Committee in the Board of Directors Meeting no. 5/2017 on Friday, May 26, 2017

⁽⁵⁾ Appointed as Independent Director in the 2017 Annual General Meeting of Shareholders on Friday, April 7, 2017; appointed as Member of the Corporate Governance Committee in the Board of Directors Meeting no. 5/2017 on Friday, May 26, 2017; and elected as Chairman of the Corporate Governance Committee in the Corporate Governance Committee Meeting no. 2/2017 on Wednesday, June 21, 2017

⁽⁶⁾ Term completed and re-elected as Director in the 2017 Annual General Meeting of Shareholders on Friday, April 7, 2017, and appointed as Member of the Corporate Governance Committee in the Board of Directors Meeting no. 5/2017 on Friday, May 26, 2017

⁽⁷⁾ Appointed as Independent Director in the 2017 Annual General Meeting of Shareholders on Friday, April 7, 2017

⁽⁸⁾ Appointed as Director in the Board of Directors Meeting no. 11/2017 on Friday, November 24, 2017, effective as from Friday, December 1, 2017

[illegible]

Information of Directors, Executive Officers and Control Executives as of December 31, 2017

Name	Subsidiaries										Indirect Subsidiaries							Jointly-Controlled Entity of Subsidiaries				Associates				Related Companies
	Thai Lube Base Pte. Co., Ltd.	Thai Paraxylene Co., Ltd.	Thai Marine Co., Ltd.	Thai Energy Services Co., Ltd.	Thai Solvent Co., Ltd.	Thai Ethanol Co., Ltd.	Thai Oil Power Co., Ltd.	TOP SPP Co., Ltd.	TOP Solvent Co., Ltd. ⁽¹⁾	Sak Chaisidhi Co., Ltd. ⁽²⁾	TOP Solvent (Vietnam) LLC ⁽³⁾	Saphip Co., Ltd. ⁽⁴⁾	Thai Marine International Pte. Ltd. ⁽⁵⁾	TOP Maritime Service Co., Ltd. ⁽⁶⁾	Labix Co., Ltd. ⁽⁷⁾	TOP-NTL Pte. Ltd. ⁽⁸⁾	TOP Nautical Star Co., Ltd. ⁽⁹⁾	TOP-NYK MarineOne Pte. Ltd. ⁽¹⁰⁾	PTT Digital Solutions Co., Ltd.	PTT Energy Solutions Co., Ltd.	Global Power Synergy Pte. (11)	Ubon Bio Ethanol Co., Ltd. ⁽¹²⁾	T.M. Ship Management (Thailand) ⁽¹³⁾	Thai Petroleum Pipeline Co., Ltd.		
28 Mr. Teardchart Padungrat	✱									✱																
29 Mr. Nikom Kongnok	✱				✱			✱		✱																
30 Mr. Nitas Krongvanitchayakul	✱		✱										✱	✱			✱	✱	✱				✱			
31 Ms. Prapin Thongnium	✱																									
32 Mr. Prasert Raemwanth	✱																									
33 Ms. Panumas Chuchatchaikulkarn	✱																									
34 Mr. Phumchit Taisanaprasert	✱																									
35 Mr. Mongkol Janchookiat	✱																									
36 Ms. Rungtip Maneesarachun	✱	✱							✱		✱															
37 Ms. Rungnapha Janchookiat	✱																									
38 Mr. Viraj Wongsathirayakhun	✱				✱				✱																	
39 Mr. Saran Harinsuta	✱					✱	✱					✱														
40 Mr. Saruny Limwongse	✱	✱	✱												✱											
41 Ms. Somporn Bunluesriuang	✱												✱													
42 Mr. Santi Wasanasiri	✱																									
43 Ms. Suchada Deechaiya	✱																									
44 Mr. Suchart Monyanont	✱																									
45 Ms. Sudarat Orrattanasakul	✱										✱					✱	✱									
46 Ms. Acharee Tiayabhorn	✱		✱			✱			✱	✱	✱	✱	✱	✱												
47 Mr. Udom Wongsiririnnophakhun	✱																									
48 Mr. Ampon Singsakda	✱											✱														

Notes: * = Chairman * = Director * = Chief Executive Officer or Managing Director * = Executive Officer

⁽¹⁾ TOP Solvent Co., Ltd. is a subsidiary of Thai Oil Solvent Co., Ltd. (TOS), in which TOS holds 100% of shares.

⁽²⁾ Sak Chaisidhi Co., Ltd. is a subsidiary of TOP Solvent Co., Ltd. (TS), in which TS holds 80.52% of shares.

⁽³⁾ TOP Solvent (Vietnam) LLC. is a subsidiary of TOP Solvent Co., Ltd. (TS), in which TS holds 100% of shares.

⁽⁴⁾ Saphip Co., Ltd. is a subsidiary of Thai Oil Ethanol Co., Ltd. (TET), in which TET holds 50% of shares.

⁽⁵⁾ Thai Oil Marine International Pte. Ltd. is a subsidiary of Thai Oil Marine Co., Ltd. (TM), in which TM holds 100% of shares.

⁽⁶⁾ TOP Maritime Service Co., Ltd. is a subsidiary of Thai Oil Marine Co., Ltd. (TM), in which TM holds 55% of shares.

⁽⁷⁾ Labix Co., Ltd. is a subsidiary of Thai Paraxylene Co., Ltd. (TPX), in which TPX holds 75% of shares.

⁽⁸⁾ TOP-NTL Pte. Ltd. is a jointly-controlled entity of Thai Oil Marine Co., Ltd. (TM), in which TM holds 50% of shares.

⁽⁹⁾ TOP Nautical Star Co., Ltd. is a jointly-controlled entity of Thai Oil Marine Co., Ltd. (TM), in which TM holds 35% of shares.

⁽¹⁰⁾ TOP-NYK MarineOne Pte. Ltd. is a jointly-controlled entity of Thai Oil Marine International Pte. Ltd. (TOMI), in which TOMI holds 50% of shares.

⁽¹¹⁾ Global Power Synergy Pte. Ltd. has become public company limited since November 27, 2014.

⁽¹²⁾ Ubon Bio Ethanol Co., Ltd. is an associate company of Thai Oil Ethanol Co., Ltd. (TET), in which TET holds 21.28% of shares.

⁽¹³⁾ T.M. Ship Management (Thailand) Co., Ltd. is an associate company of Thai Oil Marine Co., Ltd. (TM), in which TM holds 33.3% of shares.

Management Team

As of December 31, 2017:

Name – Surname	Position
1. Mr. Atikom Terbsiri	Chief Executive Officer and President
2. Mr. Bandhit Thamprajamchit	Senior Executive Vice President - Refinery and Petrochemical Taking a Position of Executive Vice President - Manufacturing
3. Mr. Chatapong Wungtanagorn	Executive Vice President - Corporate Commercial Taking a Position of Vice President - Commercial
4. Mr. Chawalit Tippawanich	Executive Vice President - Organization Effectiveness
5. Mr. Pongpun Amornvivat	Executive Vice President - Strategy (Act.) Taking a Position of Vice President - Business Development
6. Ms. Pattaralada Sa-NGasang	Executive Vice President - Finance and Accounting Taking a Position of Vice President - Financial Planning
7. Mr. Surachai Saengsamran	Executive Vice President - Operation Excellence Taking a Position of Vice President - Engineering
8. Mr. Viroj Meenaphant	Assistant Executive Vice President - Corporate Governance
9. Mr. Klahan Tochananvit	Vice President - Assignment to Global Power Synergy Plc
10. Mr. Jeerawat Pattanasomsit	Vice President - Refinery
11. Mr. Charlee Balmongkol	Vice President - Assignment as Managing Director, Thaioil Power Co., Ltd. and TOP SPP Co., Ltd.
12. Mr. Narongsak Chaviengpob	Vice President - Asset Development
13. Ms. Duangporn Teerapabpaisit	Senior Vice President - Assignment as Executive Vice President - Downstream Business Group Collaboration, PTT Plc
14. Ms. Torsang Chaipravat	Vice President - Strategic Planning Taking a Position of Vice President - Corporate Project Development
15. Mr. Teardchart Padungrat	Vice President - Corporate Affairs
16. Mr. Nikom Kongnok	Vice President - Accounting
17. Mr. Nitas Krongvanitchayakul	Senior Vice President - Assignment as Managing Director, Thaioil Marine Co., Ltd.
18. Ms. Prapin Thongnium	Vice President - Corporate Internal Systems Audit
19. Mr. Prasert Raemwanith	Vice President - Quality Management
20. Ms. Panumas Chuchartchaikularn	Vice President - Corporate Compliance and Company Secretary
21. Mr. Phumchit Tatsanaprasert	Vice President - Movement Marine and Logistic
22. Mr. Mongkol Janchookiat	Vice President - Efficient Operations Support
23. Ms. Rungtip Maneesarachun	Vice President - Treasury

Name – Surname	Position
24. Ms. Runghapa Janchookiat	Vice President - Technology
25. Mr. Viroj Wongsathirayakhun	Senior Vice President - Human Resources Taking a Position of Vice President - Assignment as Managing Director, Thaioil Energy Services Co., Ltd.
26. Mr. Saran Harinsuta	Manager - Assignment as Managing Director, Thaioil Ethanol Co., Ltd.
27. Mr. Sarunyu Limwongse	Vice President - Petrochemical and Lube Base Taking a Position of Vice President - Assignment as Managing Director, Thai Lube Base Plc and Thai Paraxylene Co., Ltd.
28. Ms. Somporn Bunluesri Ruang	Vice President - Supply Chain Optimization
29. Mr. Santi Wasanasiri	Vice President - Innovation and Sustainability
30. Ms. Suchada Deechaiya	Vice President - Organization Development
31. Mr. Suchart Monyanont	Senior Vice President - Assignment as Managing Director, Labix Co., Ltd.
32. Ms. Sudarat Orrattanasakul	Vice President - Commercial Planning
33. Ms. Acharee Tiya bhorn	Vice President - Assignment as Managing Director, Thaioil Solvent Co., Ltd. and TOP Solvent Co., Ltd.
34. Mr. Udom Wongsirinopphakhun	Vice President - Procurement and Contract
35. Mr. Ampon Singsakda	Vice President - Assignment as Managing Director, Sak Chaisidhi Co., Ltd.

Company Secretary

The Board of Directors (the Board) appointed the Company Secretary to take responsibilities in providing advices to the Board and executives regarding the applicable laws and regulations that the Board must recognize and act upon, the corporate governance policies as well as the arrangement of the Board meetings and the Annual General Meeting of Shareholders. The Company Secretary must monitor and coordinate to ensure that the Board and shareholders' resolutions are fully complied. The Company Secretary is also assigned to keep the Company's important documents as required by the laws. In 2015, the Board of Directors Meeting No. 4/2015 held on April 24, 2015 passed the resolution on appointing Ms. Panumas Chuchartchaikul karn as the Company Secretary.

Brief Biography:

Name: Ms. Panumas Chuchartchaikul karn
Education: >> Bachelor of Business
(Banking and Finance),
Ramkhamhaeng University
>> Certificate of Business
Administration (Mini MBA),
Chulalongkorn University

Working Experience in the 5 Preceding Years

2013 - April 23, 2015 Vice President -
Corporate Compliance and
Corporate Support Manager (Act.)
April 24, 2015 - Present Vice President -
Corporate Compliance,
Corporate Support Manager (Act.),
and Company Secretary

Company Secretary Training:

Thai Institute of Directors (IOD)

- >> Company Secretary Program (CSP 49/2013)
- >> Company Reporting Program (CRP 5/2013)
- >> Board Reporting Program (BRP 10/2013)
- >> Effective Minute Taking (EMT 25/2013)
- >> Director Certification Program (DCP 216/2016)
- >> Board Nomination and Compensation Program (BNCP 1/2017)

King Prajadhipok's Institute

- >> Basic Concepts on Public Policy Management through Peaceful Means, Class 8
- >> Intermediate Certificate Course in Negotiation, Class 5

Thai Listed Companies Association (TLCA)

- >> Fundamental Practice for Corporate Secretary (FPCS), Class 30
- >> Fundamental Practice of Law for Corporate Secretaries, Class 12
- >> Executive Development Program (EDP), Class of the Year 2017

Legal Guardian Co., Ltd.

- >> Seminar on Responsibilities of Corporate and State Enterprise Directors

Chief of the Internal Audit:

Vice President-Corporate Internal Systems Audit

Name: Ms. Prapin Thongnium

Education: >> Bachelor of Accounting,
Thammasat University
>> Master of Business Administration,
Burapha University

Working Experience in the 5 Preceding Years:

2007 - 2014 Vice President - Accounting
2015 - Present Vice President - Corporate Internal Systems Audit

Internal Audit Training:

- >> Cyber Security 4.0 for Accountants and Auditors
- >> Cyber Security Fundamental
- >> CRISC® Preparation Program
- >> Audit Program Development
- >> Sampling for Internal Auditors
- >> Leading Culture with Adaptive Mindset Workshop
- >> PwC Forensics Summit
- >> CIA Review Part 1
- >> Verifying the CAC Checklist; Experience Sharing from Auditors
- >> Using COSO 2013 in Practice, IA Profession Practice, Risk-Based IA Plan, Proactive & Updated Techniques
- >> Internal Audit Methodology, Transforming IA and Challenges in Oil and Gas Industry and Experience Sharing in Best Practice
- >> Practical Fraud Prevention, Detection & Investigation Strategies
- >> TLCA Executive Development Program (EDP)
- >> Financial Executive Development Program (FINEX)
- >> Board Reporting Program (BRP 21/2016)

In the Audit Committee Meeting No. 12/2014 on December 17, 2014, the Committee appointed Ms. Prapin Thongnium as the Chief of the Internal Audit Unit due to qualified knowledge, competency, experience, and continuous improvement through various training programs.

The appointment, removal, and replacement of the Chief of the Internal Audit Unit must be considered and approved by the Audit Committee. The Committee also assesses the performance of the Chief of the Internal Audit Unit against the responsibilities stated in the Audit Committee Charter.

Directors and Executives Remuneration

Directors Remuneration

The Annual General Meeting of Shareholders (AGM) in 2017 set the monthly remuneration for the Company's Directors and Board-Committees including meeting fee and a special bonus reflecting the Company performance as follows:

2017 Remuneration Structure

Retainer Fee	Baht per Month
Chairman of the Board ⁽¹⁾	75,000
Vice Chairman of the Board (If any) ⁽¹⁾	67,500
Member of the Board	60,000
Special Bonus for the Board of Directors ⁽²⁾	50 Million Baht/Year

Board-Committees' Remuneration

(Comprised of the Audit Committee, the Nomination and Remuneration Committee, the Corporate Governance Committee, and the Risk Management Committee)

Retainer Fee

Chairman of the Board ⁽¹⁾	31,250
Member of the Board	25,000

Meeting Fee for Directors who attend the Meeting

Chairman of the Board ⁽¹⁾	25,000 Baht/meeting
Vice Chairman of the Board (If any) ⁽¹⁾	22,500 Baht/meeting
Member of the Board	20,000 Baht/meeting

Remark:

- ⁽¹⁾ Chairman of the Board and Chairman of the Board-Committees shall receive monthly remuneration of 25% higher than the Directors. Vice Chairman of the Board (if any) shall receive monthly remuneration of 12.5% higher than the Directors.
- ⁽²⁾ The special bonus is for the Board of Directors in office in the year 2016 including those Directors who resigned or whose term completed during 2016. The bonus is allocated due to each Director's office period. The Chairman of the Board shall receive the bonus of 25% higher than the Directors.

In summary, the remuneration of 24 Directors, which includes Directors in office during 2017 for a period of 12 months ending as of December 31, 2017, and Directors who completed their terms or resigned during 2017, totals THB 18.70 million. This comprises monthly remuneration for the Company Directors of THB 10.70 million, monthly remuneration for Board-Committees of THB 4.03 million, and meeting fee of THB 3.97 million. Directors' remuneration in the form of the special bonus for 2016 performance of THB 50 million, the resolution of which was passed by the 2017 AGM on April 7, 2017. The remuneration is considered through the comparison with organizations with the equal size in the same industry, as well as the Company performance, achievement, responsibilities of the Board of Directors, and overall business circumstances. In addition, the Company provides vehicles for Chairman of the Board of Directors to facilitate during the Chairman on duty in office.

Directors Remuneration in 2017

(Baht)

No.	Name - Surname	Position	Meeting Fee	Board of Directors	Board-Committees				Total Remuneration	Annual Bonus for 2016 Performance ⁽¹⁾ (Paid in April 2017)
					Audit Committee	Nomination and Remuneration Committee	Corporate Governance Committee	Risk Management Committee		
1	Professor Dr. Thosaporn Srisumphant ^(a)	Independent Director and Chairman of the Board	345,000.00	851,500.00	-	101,041.67	80,833.33	-	1,378,375.00	3,361,807.66
2	Ms. Chularat Suleethorn	Independent Director, Chairman of the Audit Committee, and Member of the Nomination and Remuneration Committee	270,000.00	720,000.00	375,000.00	300,000.00	-	-	1,665,000.00	3,361,807.66
3	Ms. Suwimol Chrityakrue	Independent Director and Member of the Audit Committee	265,000.00	720,000.00	300,000.00	-	-	-	1,285,000.00	3,168,917.06
4	Gen. Thanakarn Kerchaimongkol ^(b)	Independent Director, Member of the Audit Committee and Member of the Corporate Governance Committee	265,000.00	720,000.00	142,930.10	-	179,838.71	-	1,307,768.81	2,461,651.51
5	ACM Suttipong Inseepong ^(c)	Independent Director and Chairman of the Nomination and Remuneration Committee	270,000.00	720,000.00	-	249,274.19	101,041.67	-	1,340,315.86	3,168,917.06
6	Mr. Sarun Rungkasiri	Director, Chairman of the Risk Management Committee, and Member of the Nomination and Remuneration Committee	285,000.00	720,000.00	-	300,000.00	-	375,000.00	1,680,000.00	2,461,651.51
7	Ms. Nitima Thepvanangkul ^(d)	Director and Member of the Risk Management Committee	265,000.00	720,000.00	-	-	-	179,838.71	1,164,838.71	597,042.35
8	Mr. Noppadol Prinsupa	Director and Member of the Risk Management Committee	265,000.00	720,000.00	-	-	-	300,000.00	1,285,000.00	3,361,807.66
9	Pol. Gen. Aek Angsanant ^(e)	Independent Director and Chairman of the Corporate Governance Committee	220,000.00	526,000.00	-	-	219,422.05	-	965,422.05	-
10	Mr. Yongyut Jantararat ^(f)	Director and Member of the Corporate Governance Committee	265,000.00	720,000.00	-	-	260,672.04	-	1,245,672.04	3,361,807.66
11	Mr. Chen Namchaisri	Independent Director	120,000.00	526,000.00	-	-	-	-	646,000.00	-
12	Ms. Sriwan Eamrungraj ^(g)	Director	265,000.00	720,000.00	-	-	-	-	985,000.00	3,361,807.66
13	Mr. Suchalee Sunamal ^(h)	Director	20,000.00	60,000.00	-	-	-	-	80,000.00	-
14	Mr. Atikom Terbsiri	Director, Member of the Risk Management Committee, Chief Executive Officer and President, and Secretary to the Board	285,000.00	720,000.00	-	-	-	300,000.00	1,305,000.00	3,361,807.66
Directors who Resigned during the Year 2017										
1	Mr. Kurujit Nakornthap	Director and Chairman of the Board (Completed his term in the 2017 Annual General Meeting of Shareholders)	56,250.00	242,500.00	-	-	-	-	298,750.00	4,202,259.58
2	Mr. Siri Jirapongphan	Independent Director and Member of the Audit Committee (Resigned on November 17, 2017)	245,000.00	632,000.00	263,333.33	-	-	-	1,140,333.33	3,361,807.66
3	Ms. Nantika Thangsupsaninch	Director (Resigned on December 1, 2017)	265,000.00	660,000.00	-	-	-	-	925,000.00	339,854.87
Directors who Resigned and Completed the Term during the Year 2016 (Received Annual Bonus for 2016 Performance)										
1	Mr. Tanasak Wahawisan	Independent Director	-	-	-	-	-	-	-	91,852.67
2	Mr. Chulasingh Vasantasingh	Independent Director and Chairman of the Audit Committee	-	-	-	-	-	-	-	275,558.00
3	Gen. Jiradej Mokkhasmit	Independent Director, Chairman of the Nomination and Remuneration Committee	-	-	-	-	-	-	-	900,156.15
4	Mr. Nuttachat Charuchinda	Director, Chairman of the Risk Management Committee, and Member of the Nomination and Remuneration Committee	-	-	-	-	-	-	-	900,156.15
5	Mr. Thaworn Phanichaphan	Independent Director, Chairman of the Corporate Governance Committee, and Member of the Nomination and Remuneration Committee	-	-	-	-	-	-	-	2,516,763.11
6	Mr. Wirat Unanumit	Director	-	-	-	-	-	-	-	2,516,763.11
7	Mr. Thammayot Srichuai	Director and Member of the Risk Management Committee	-	-	-	-	-	-	-	2,865,803.25
Total			3,971,250.00	10,698,000.00	1,081,263.43	950,315.86	841,807.80	1,154,838.71	18,697,475.80	50,000,000.00

Remark:

⁽¹⁾ N/A means not attend since the Director resigned or was appointed during the year 2017.⁽²⁾ Special Bonus for 2016 Company Performance as resolved by the 2017 Annual General Meeting of Shareholders on Friday, April 7, 2017, paid to the Directors on Friday, April 28, 2017.⁽³⁾ Elected as Chairman of the Board in Board of Directors Meeting (Extra) No. 1/2017 on Friday, April 7, 2017; hence vacating Chairman of the Nomination and Remuneration Committee and Member of the Corporate Governance Committee⁽⁴⁾ Appointed as Member of the Audit Committee in the Board of Directors Meeting no. 4/2016 on Friday, April 27, 2016; resigned from the Position of Member of the Audit Committee on Tuesday, May 16, 2017; and re-appointed as Member of the Audit Committee in the Board of Directors Meeting no. 11/2017 on Friday, November 24, 2017; and appointed as Member of the Corporate Governance Committee in the Board of Directors Meeting no. 5/2017 on Friday, May 26, 2017⁽⁵⁾ Term completed and re-elected as Independent Director in the 2017 Annual General Meeting of Shareholders on Friday, April 7, 2017; and appointed as Member of the Nomination and Remuneration Committee in the Board of Directors Meeting no. 4/2017 on Friday, April 28, 2017; and elected as Chairman of the Nomination and Remuneration Committee Meeting no. 4/2017 on Wednesday, May 17, 2017⁽⁶⁾ Term completed and re-elected as Director in the 2017 Annual General Meeting of Shareholders on Friday, April 7, 2017; and appointed as Member of the Risk Management Committee in the Board of Directors Meeting no. 5/2017 on Friday, May 26, 2017 and elected as Chairman of the Corporate Governance Committee in the 2017 Annual General Meeting of Shareholders on Friday, April 7, 2017; appointed as Member of the Corporate Governance Committee in the Board of Directors Meeting no. 5/2017 on Friday, May 26, 2017;⁽⁷⁾ Term completed and re-elected as Director in the 2017 Annual General Meeting of Shareholders on Friday, April 7, 2017; and appointed as Member of the Corporate Governance Committee in the Board of Directors Meeting no. 5/2017 on Friday, May 26, 2017⁽⁸⁾ Appointed as Independent Director in the 2017 Annual General Meeting of Shareholders on Friday, April 7, 2017⁽⁹⁾ Appointed as Director in the Board of Directors Meeting no. 11/2017 on Friday, November 24, 2017, effective as from Friday, December 1, 2017

Executives Remuneration

As of the fiscal year ended on December 31, 2017, the remuneration of 28 executives totaled to THB 225.24 million. This comprises remuneration in the forms of monthly salaries and allowances of THB 140.33 million, special bonus of THB 49.70 million, provident fund contributions of THB 14.33 million, retirement gratuity fund payments of THB 10.11 million, and other payments of THB 10.77 million.

Remark:

>> The Remuneration for 28 executives as of December 31, 2017, excludes the following executives who work in the subsidiary companies:

Mr. Klahan Tochamnanvit

Mr. Nitas Krongvanitchayakul

Mr. Suchart Monyanont

Ms. Acharee Tiyaabhorn

Mr. Charlee Balmongkol (partially included while divided by the proportion of the managing position of companies within Thaioil and Subsidiaries)

Mr. Viroj Wongsathirayakhun (partially included while divided by the proportion of the managing position of companies within Thaioil and Subsidiaries)

Mr. Sarunyu Limwongse (partially included while divided by the proportion of the managing position of companies within Thaioil and Subsidiaries)

Ms. Duangporn Teerapabpaisit (excluded from April 2017 onwards)

RISK FACTORS AND CORPORATE RISK MANAGEMENT

To be able to manage volatile risk factors and uncertainty and to lessen the probability or impact of such risks compromising corporate objectives and goals, Thailoil constantly commits itself to the development of Enterprise Risk Management (ERM) and applies with the risk management best practices and international standards; namely the corporate risk management under the Committee of Sponsoring Organizations of Treadway Commission (COSO), AS/NZS 4360:2004, and ISO 31000:2009 (Risk Management Principles and Guidelines). This focuses on integrated management, embracing Thailoil and Subsidiaries' risk management under the five "Risk Appetites"; namely, performance and investment, compliance, safety-occupation health-environment, reputation, and fraud and corruption. Thailoil, then, links risk management to the preparation process of strategic plans, investment, and business planning to align with short-term, medium-term, and long-term corporate objectives and goals. Based on stakeholders' expectations, internal and external key risk factors are used for defining measures and plans for each risk factor. Also identified are key risks and early-warning key risk indicators (KRIs), designed to closely monitor key risks and risk management outcomes. Such outcomes are reported to the Risk Management Steering Committee (RMSC), Risk Management Committee (RMC), and the Board of Directors (the Board) to ensure the efficient and effective governance of enterprise risk management. In addition, Thailoil requires that risk management shall be one of the executives' key performance indicators (KPIs).

To cope with possible threats and natural catastrophes, Thailoil has defined all key processes in Business Continuity Management Plans (BCPs) under ISO 22301:2012. Various disaster simulations are defined for BCP drills in conjunction with the refinery's regular emergency drills. It also promotes profound knowledge and attitudes among employees to improve their caliber of risk management and Business Continuity Management (BCM) to ensure readiness to deal with risk factors through annual assessment of employees' knowledge and attitude that is thorough and on a par with international standards and corporate governance. The latest assessment shows employees' high confidence in corporate risk management processes, which support the successful corporate risk management achievement and contribute to a corporate risk culture.

Corporate Risks and Risk Management Plans or Measures

Thailoil promotes systematic monitoring and revision of its key risks and the effectiveness of risk management measures. Thailoil and Subsidiaries' 2017 risks, risk management measures, and KRI outcomes were presented for the RMC's endorsement before tabling to the Board. Thailoil and Subsidiaries' risks are divided into five major areas and eight distinct risks, and measures or plans are developed to prevent or mitigate their impacts to achieve the corporate goals.

Strategic Risks

1. Loss of Competitiveness Risks

Because of the refining business' highly competitive production cost, which results from more efficient

technology and Asia Pacific's refining capacity growth, Thailoil needs to develop its production capability as well as efficient cost control to become competitive with leading regional refineries. To this end, it has continued the Transcendence Project to add profit, ranging from crude oil sourcing, production, distribution, to delivery of products. At the same time, Thailoil leverages its operating cost control measures by executing the Orchestra Project to assure that it still commands competitive advantages relative to regional refinery industry leaders.

2. Sustainable Business Growth Risks

Since the current business' high competition incurs risks to continuous growth, Thailoil has defined investment strategies for expanding its business and pursuing current and future business opportunities through various strategic projects to ensure the business' growth and sustainability. This year, it investigated the Clean Fuel Project (CFP) to increase refinery potential. Currently, the front-end engineering design (FEED) stage has been completed, and is on process of engineering procurement and construction (EPC) bidding. In addition, the Company has initiated the Jetty Expansion Project to enhance product distribution capability and efficiency to accommodate Thailoil and Subsidiaries' future growth. Today, the engineering design and construction are on process. Moreover, Thailoil commands other strategic projects to accommodate its business growth, including a TOP Crude Oil Tank Project and another to improve its landscape for future projects.

Commercial Risks

3. Market/Commercial Risks

Crude oil prices and spreads of petroleum products, which represent key indices directly affecting Thailoil's profitability, are now highly volatile. Thailoil, therefore, deploys more

aggressive oil price hedging by preventing financial loss due to crack spreads and stock loss, including smart management of oil stocks. The Hedging Steering Committee is in charge of screening and partly reviewing the corporate strategic plans and goals for transaction risks under a hedging framework regularly approved by RMC and the Board to minimize the impact.

In addition, Thailoil has relentlessly improved its capability by building on the Transcendence Project to review and revise all systems for greater efficiency, ranging from the processes of crude oil sourcing, refining, product distribution, to product delivery. The Company also monitors market situations and analyzes market data, as well as search for new crude oil sources for Thailoil and Subsidiaries' feedstock.

Financial Risks

4. Financial Risks

Fluctuation of foreign exchange and interest rates pose risks to funding efficiency. Since Thailoil's major production cost (crude oil and other feedstock) is paid in US dollar, Thailoil, thus, restructures the Company's and Subsidiaries' debt to assure that the US dollar currency portion matches the revenue structure through natural hedging, and engages in forward contracts for transactions in foreign currencies for loan withdrawals and loan repayment in line with actual payment, as done last year. The Company also executes the sourcing of new funds, and the developing of new forms of financial instruments for wider choices and flexibility of loan sourcing through money and capital markets, as well as capital structuring to secure future growth and closely monitoring the movement of money and capital markets.

With their commitment to becoming a leading fully integrated refining and petrochemical company in Asia Pacific,

Thaioil and Subsidiaries value centralized financial management and has established Thaioil Treasury Center Co., Ltd. to enhance the financial transaction competency and maximize its benefit to Thaioil and Subsidiaries, including higher treasury efficiency and tax benefits.

To achieve its commitment, Thaioil continues to value the cost management and launch the Orchestra Project to brainstorm and closely review all sectors' operating costs with a focus on system integration, involving crude oil sourcing, production process, product distribution as well as refinery shutdown. This helps reduce the cost by about 6.8%.

Operations Risks

5. Business Disruption Risks

The risks of severe incidents affecting business or causing business disruption could result from both external and internal factors, including natural catastrophes, security threats, IT threats, unplanned shutdown due to equipment breakdown, and mishaps that could devastate the environment and communities, such as oil spill and major accidents. These factors could adversely affect business operation, corporate image, communities, society, and the environment. That prompts Thaioil to initiate measures to prevent and mitigate impacts, which embrace the addition of measures concerning safety, security, occupational health, and work environment for employees and relevant parties, collaboration with all sectors – neighboring communities and local government – to monitor the measure implement, accident prevention, and establishment of cooperation on equipment and resources to ease the impacts of potential accidents. Also, Thaioil constantly stages emergency drills, reviews and improves its emergency plans, and prepares BCM. Furthermore, together with related sectors, it develops communication

guidelines by constantly visiting sites and creating diverse communication channels to establish confidence in its operation. Finally, before actual implementation, the Company develops documents and forms to assess safety, security, occupational health, and environment for high-risk tasks to ensure safety and continuing business operation.

As for IT system threats, Thaioil adds IT system safety measures to ward off external threats. These include the Disaster Recovery Plan Exercise, constant system monitoring and audit, and communication of measures and guidelines among relevant parties. These measures are regularly tested by third-party experts to detect deficiencies and pursue additional protection guidelines to enhance smooth business operation and constant customers and stakeholders' satisfaction without affecting communities, society, and the environment.

As for security threats, Thaioil extends cooperation with government agencies, police and military units, and local authorities on monitoring intelligence and security situations inside and outside its areas. The Company joins meetings with PTT Group to map out security operation at the policy level and the local level and to monitor and develop additional measures apart from existing security-based risk management plans. The goal is to ensure continuing business operation while protecting lives and properties of both refinery and neighboring communities.

6. Regulation/Legislative Change and Compliance Risks

Changes in government policies focusing on national economic growth, and development of society, communities, and the environment do affect the Company's current businesses, business expansion, and investment in new projects under Thaioil and Subsidiaries' strategic plans. Thaioil, therefore, requires the monitoring of public policies

to keep pace with their changes. For instance, a Transfer Pricing Working Team was set up to monitor and ensure suitable and fair operation, complying with accounting standards and new tax laws, as well as strict compliance with general laws. This enables Thailoil to completely pass the audit on law compliance conducted by the third party, MASCI, in October. The Company also schedules surveillance of new legislation to enable itself to promptly cope with changes, including laws concerning Thailand's greenhouse gas reduction as a result of its compliance with the COP 21 meeting in Paris. In addition, Thailoil fosters awareness of the significance of law compliance among all staff and operators, and undertakes the self-assessment designed to verify the efficiency and effectiveness of the compatibility between its business and relevant public policies, rules, laws, and regulations.

7. Communities and Stakeholders Risks

Thailoil prioritizes business conduct as well as community development for a higher quality of life. The Company deliberately selects the fuel used for production to ensure the least impact on the environment and community. It also commands the control over production process to reduce pollutant emission, and communicates with the community in advance on the operation possibly affecting the community. Thailoil also executes Corporate Social Responsibility (CSR) projects covering communities surrounding the refinery and remote areas, dealing with education, conservation of the environment, energy and natural resources, and quality-of-life promotion. Notable projects include the construction of the trauma and emergency building of Laem Chabang Hospital. To upgrade CSR activity support to a social enterprise, Thailoil and PTT Group have also established Sarn Palung Social Enterprise Co., Ltd. to operate in accordance with the aforementioned objectives.

Thailoil provides opportunities for stakeholders to take part in administration through the principle of operation called "3 Synchronizations" namely Thailoil, the community, and the municipality, and "5-Together"; namely thinking together, doing together, fixing together, learning together, and developing together. That way, all sectors could together operate for public interest with the same goal. The Company also follows the process for handling environment impact notification in case its operation affects community lifestyles, ensuring that it commands management practices to ease environmental impacts affecting communities. Thailoil is also committed to running its businesses with fair treatment of all stakeholders to secure sustainable mutual benefits.

Corporate Risks

8. Failure to Attain and Retain Human Capital Risks

Nowadays, business expansion requires both the quantity and quality of human resources, especially the executive level. This is to address the business needs and to support and drive to the fulfillment of both short-term and long-term strategies. Thailoil, therefore, needs to upgrade its recruitment, retention, and staff development strategies. To this end, Thailoil has taken actions to minimize risks, including launching the "GREAT Leader Model" program, designed to develop leadership for successors to ensure their all-rounded readiness, implementing Leadership Capital Indices for constant monitoring. The "4 Bs" (Build / Buy / Borrow / Bring-In) strategic plan focuses on personnel management so that the number of staff is enough and meets business plans' needs. Apart from recruitment marketing and HR branding activities, Thailoil executes strategies to develop the quantity and quality of future leaders; the strategies of which include the Future People 4.0 Project, designed to revise current and future business needs. The project outcomes result in competency sets

and methods of further development. There is also the Talent Retention Program to accelerate personnel development to suit strategic plans so that their performances may keep pace with corporate growth, and to accommodate Thailoil to conduct more diverse businesses.

Emerging Risks

In the next 3-5 years, Thailoil has estimated that, there will possibly be new risks emerging from political, economic, environmental, legal, and technological factors.

1. Risks from Rules and Regulations Changes Due to Climate Change

Climate change is becoming increasingly critical. The 23rd Conference of Parties under the United Nations Framework Convention on Climate Change, held from November 6-17, 2017. The framework defined new rules, regulations, and work scopes, in accordance with the agreement on the reduction of greenhouse gas emission, to which Thailand agreed, cutting 20-25% by 2030 from the base-year (2015) and was committed to monitoring, reviewing, and submitting its participation goals for solving global warming every five years. As a result, the public sector needs to issue additional regulations on the reduction of greenhouse gas emission over the next 3-5 years. Therefore, this impact is classified as a regulation/legislative change and compliance risk.

Mitigation: To cope with this risk, Thailoil has defined plans and adjusted its operation process before the change actually takes place by implementing the reduction of greenhouse gas emission plan, both directly and indirectly. This includes an investment plan for the construction of an efficient crude distillation unit with a lower greenhouse gas emission intensity, a plan to

decommission refining units aged over 50 years, and a plan to reduce energy consumption corresponding to the Solomon Energy Intensity Index (EII) of at least one point per year. Together with Petroleum Institute of Thailand, Thailoil has issued Life Cycle Inventory of the greenhouse gas to plan and set long-term goals for the reduction of greenhouse gas emission.

2. Risks from Rapid Technological Change: the Consumption of Alternative Energy instead of Fuel Oil

Technological changes concerning the consumption of alternative energy in place of fuel oil tend to happen swiftly, directly affecting the oil industry. Currently, there is a technological improvement for alternative-energy production, including cars powered by electricity and hydrogen. Moreover, the public sector has issued regulations promoting alternative energy, in place of fuel oil. As a result, the industry may find it difficult to adapt in time, thus lessening its revenue and growth in the long run.

Mitigation: Thailoil has planned to improve its refining efficiency by investing in refining efficiency development focusing on producing more diesel and jet fuels. The projects derived from the aforementioned plan are, for example, Clean Fuel Project, and the project to increase the investment in businesses independent from the oil price. Furthermore, Thailoil has restructured the investment portfolio for greater competitiveness through its pursuit of emerging investment opportunities, including production of specialties and New S-Curve Business with the target to preserve Thailoil and Subsidiaries' revenue growth rate.

INTERNAL CONTROLS

Relentlessly, Thailoil values internal control by following the scope of the Committee of Sponsoring Organizations of Treadway Commission (COSO) 2013 and applying the “Three Lines of Defense”, where the “1st Line” includes task designers, risk analysts, and control activity planners; the “2nd Line”, coordinators, managers, and efficiency supervisors of risk management and the internal control system; and the “3rd Line”, assurers and assessors of the efficiency of risk management and the internal control system. Leveraging these three, Thailoil strives to achieve all three objectives of internal control: efficient and effective task performance, credible financial and other reports, and laws and regulations compliance. Ultimately, operators are expected to realize the value of internal control and its required existence in their units. In addition, Thailoil can then ensure stakeholders that it commands an adequate and suitable internal control system that covers all activities.

Each year, the Board of Directors (the Board) assigns the Audit Committee to review adequacy assessment of the internal control system. The Corporate Risk Management unit is responsible for monitoring and revising the aforementioned adequacy assessment. This year, both the Board and the Audit Committee, agreed that Thailoil’s internal control system is indeed adequate and suitable for its businesses, enabling Thailoil to accomplish its objectives. Below is a five-point highlight of the system.

1. Control Environment

Thailoil commands a sound and adequate internal control environment for business, operating under corporate

governance (CG) and code of conduct (CoC) principles, the management highlights are as follows:

- 1.1 Defining the internal control policies and protocols in writing under CG, which includes the definition of the CoC for directors, executives, and employees together with a CoC focusing on straightforward practices in accordance with the good business conduct. It is considered the duty and responsibility of the Board, the executives, and all staff to comply with such policies and requirements. Thailoil also undergoes annual corporate governance assessment for Thai Listed Companies by Thai Institute of Directors Association (IOD), in which Thailoil ranked “excellent” for nine consecutive years with top score.
- 1.2 Defining CoC in writing to steer good business conduct. This CoC governs conflicts of interest by requiring all employees to annually report their vested interests through an electronic reporting system. This year, Thailoil also came up with guidelines on giving and accepting gifts, properties, or other benefits so as to emphasize to executives and employees the need to comply with the guidelines and CoC.
- 1.3 Adhering to business conduct with fairness, integrity, and transparency under CG while recognizing that corruption is its major obstacle. As a result, Thailoil has defined the anti-corruption policy as an element of CG. Moreover, on March 9, 2017, the Company has successfully re-certified for the Collective Action Coalition Against Corruption (CAC) membership.

1.4 Being independent from the executives, the Board's and the executives' responsibilities are clearly separated. The Board's roles, duties and responsibilities involve reviewing and endorsing key strategies and policies; defining the Company's objectives, financial goals, risks, plans, and budgets; and ensuring the executives' efficient and effective compliance with policies and plans.

1.5 Structuring the organization focusing on efficient internal control and internal checks and balances of power by assuring that each key department and its authority, duty and responsibility are independent. Moreover, each department is supervised by its executive. Thailoil's organization structure is regularly revisited to keep pace with the strategies and work plans of Thailoil and Subsidiaries.

1.6 Defining Human Resource (HR) Policy to increase employees' competency in a systematic and sustainable way. The policy suitably embraces aspects of personnel attraction, development, and retention and engagement. It also features the process of fair performance management, which reflects the ability to perform against targets and different key performance indicators (KPIs). In addition, personnel recruitment complies with the HR policy, with recruitment strategies reviewed to keep abreast of business environment and changing business needs. Furthermore, the readiness of successors to executive positions is thoroughly assessed.

the Risk Management Committee (RMC) to devise risk management policies and institute protocols and processes to reduce impacts on business and ensure corporate goal achievement. Thailoil and Subsidiaries' Risk Management Steering Committee (RMSC) has been appointed to review, monitor, and inspect risk management outcomes and business continuity management of the Company to assure that they comply with the corporate risk management policy, and that the management is efficient and suitable for business conduct and growth.

To this end, Thailoil prepared a risk management plan embracing risk assessment, analysis, and review in line with its strategic and business plans under its objectives and goals. It reviewed both external and internal factors, including domestic political situations, world economy, laws, regulations, government policies, and stakeholders' expectations. It also defined key risk indicators (KRIs) to help track and report the outcomes of each unit and the corporation to meet the goals. Also, the risk management measures are monitored, to reduce the impact on the business by establishing risk appetites. These key risks and their management measures are regularly and respectively tabled for Thailoil and Subsidiaries' RMSC, the RMC and the Board.

In addition, Thailoil has reviewed and inserted risk management measures on margin hedging, inventory hedging, and foreign currency risks. At the same time, the internal control measures are to be revised to cope with such change.

2. Risk Assessment

Thailoil values and advocates corporate risk management in all departments of the Company. The Board assigned

3. Control Activities

Thailoil has laid out efficient and effective control activities which help reduce any risks incurring failure to achieve

its objectives, and keep it at a tolerable level. The key measures are as follows:

- 3.1 Internal control policies, including work protocols, manuals, and clear procedures, as well as Corporate Authorization Procedures (CAPs), designed to define fund limits and approval authority, involving budgets, personnel administration, material procurement, hiring contract administration, commerce, finance and treasury, accounting, and asset transfer and amortization.
- 3.2 Internal control measures embracing key processes, including separation of duties, approval process, reviewing process, and document filing, to ensure efficient and effective conduct, credible reports, and compliance with relative laws and regulations. This year, for the purpose of monitoring internal control adequacy and suitability, Thailoil has developed Control Self-Assessment (CSA) for key processes; namely, procurement and contract, salary payment, general IT system control, account closing for financial statement preparation, investment, inventory management, and fixed-asset management.
- 3.3 Control activities of the prevention and monitoring types, both manual and automated, inherent in work processes. The activities determine it as executives' duty and responsibility to supervise and inspect their respective work processes for efficiency and propriety under work regulations, with suitable impervious and auditable internal controls. In addition, applied is the Continuous Control and Monitoring System (CCMS) to prevent and track automated control.
- 3.4 Measures under ISO/IEC 27001 (Information Security Management System). This year, Thailoil achieved the renewal of Information Security Management System

and applied two-factor authentication to increase the safety level when accessing the key project data.

- 3.5 Definition of TOP Group Affiliates Management (TAM) policy and TOP Way of Conduct to steer Thailoil and Subsidiaries' management in the same directions through joint deliberation and decision on critical matters and regular monitoring of subsidiaries' and associates' businesses. To this end, Thailoil executives are assigned as managing directors or directors of such companies. This leads to Thailoil participating in policy-setting, data acknowledging, and periodically monitoring the performance against KPIs.

4. Information and Communication

Thailoil values information and communication systems that systematically support business operation, execution, management, and financial reports, which facilitate the Board and executives' decision making, and efficient and effective internal control. The Company has defined an Information and Communication Technology (ICT) policy together with suitable protocols for ICT security.

Recognizing the importance of internal communication with a focus on prompt, complete, and accurate information for employees, Thailoil has developed an internal communication manual for steering purposes and defined efficient guidelines for managing the contents and practical communication channels. To this end, the Company has established the intranet, emails, e-newspaper, and internal journal (named Akanee). Also, it has established communication between executives and staff to ensure the target achievement, and the communication of critical information to suitably facilitate the Board's consideration. Meeting documents are to reach the Board at least seven days ahead of each meeting.

As for external communication, Thailoil leverages PR channels and advertisement through printed media, radio commercials, advertisement films, and its website to allow external stakeholders to access key information more quickly and conveniently.

Thailoil has also defined complaint-filing and whistleblowing measures in writing, including complaint channels, complaint-handling processes, and whistleblower and relevant people's protection. This helps facilitate employees and third parties to report or provide information concerning violations of laws and regulations, fraud, or any actions regarded as improper exploitation.

5. Monitoring Activities

Thailoil deems it all executives' duty and responsibility to steer and audit internal work processes for efficiency and conformance to policies, requirements, and work regulations under a strict internal control regime.

To this end, the Company's Corporate Risk Management unit is tasked with the annual monitoring of internal control through CSA to assure that the internal control system is adequate and suitable for prevailing surroundings, and helps prevent and mitigate risks. In addition, should there be changes in tasks or work processes during the year, the unit is to update work procedures and control measures, whereas Corporate Internal Systems Audit Department formulates annual audit plans based on critical risks, change or increase of work processes, and requests from executives and the Audit Committee (if any) to review the adequacy and suitability of the internal control system for each activity, including CCMS application for tracking, assessing, and communicating on internal control for procurement and contract, and general control for the IT system.



CORPORATE GOVERNANCE REPORT

Thai Oil Plc (Thaioil) is committed to operate business with fairness, transparency, and accountability by adhering to Corporate Governance (CG) Principles and Code of Conduct (CoC), a cornerstone for generating trust and confidence among investors and stakeholders. This will also increase competitiveness and enhance business growth in a sustainable manner.

In line with Thaioil's mission, "to emphasize good corporate governance and commit to corporate social responsibility," the Board of Directors (the Board) and executives always focus on compliance with Good Corporate Governance. Therefore, Thaioil's Board established the "Corporate Governance Committee (CG Committee)" to supervise, monitor, and promote its conduct to ensure compliance with policies and guidelines on CG and CoC. Annually, Thaioil conduct review and develop improvement plan to promote CG and CoC each year. The following are Thaioil's CG Policy and practices:

1. Corporate Governance Policy

The Board formulated the CG Policy in written form in 2001, and the most updated version was issued in 2013. All Directors, executives and employees are responsible for acknowledging and abiding by this policy. Thaioil disseminated this policy, principles and guidelines via Thaioil's website at www.thaioilgroup.com, which allows the interested public to study and download the information. In 2017, Thaioil studied and reviewed rules, notices and guidelines on good corporate governance. Without any significant change, Thaioil's CG policy and principles remain relevant and consistent.

Thaioil regularly monitored its CG development. In 2017, the Securities and Exchange Commission Thailand (SEC) issued the newly revised Corporate Governance Code (CG Code) for listed companies' compliance. Such CG Code emphasize on the roles of directors, as the leader of organization, to drive business to sustainable growth, while creating sustainable business value. Assigned by the Board, the CG Committee has reviewed Thaioil's performance, in comparison to the CG Code. The CG Committee concluded that Thaioil's CG Policy and CoC are appropriate and consistent with the new CG code. Furthermore, Thaioil has a proper implementation plan for its CG improvement.

Moreover, Thaioil has defined its CG principles (**REACT+E**) to make it easier to communicate to the Board, executives, and employees to comply with CG and CoC principles. Thaioil has established the principles as followed:

1. Responsibility for performing duties with due competence and adequate efficiency
2. Equitable treatment of all stakeholders
3. Accountability for one's own decision-making and acts, as well as those of others under one auspices
4. Creation of long-term value
5. Transparency in conducting business, openness to scrutiny, and transparent disclosure of corporate information to related parties
6. Ethically under taking business operation and conformance to the Code of Conduct.

2. Corporate Governance and Code of Conduct

2.1 Code of Conduct (CoC)

Thaioil establishes its CoC as guidelines for business conduct for the Board, executives, and employees to comply with and focuses on the key essences of CG principles under equitable treatment, fairness, and transparency with utmost respect for all stakeholders' rights. The Board and executives are required to be the ethical leaders and the role models in performing their duties with integrity, honesty, fairness, and transparency in accordance with Thaioil's CG and CoC principles. Thaioil's CoC principles consist of the following areas:

1. Code of Conduct for the Board, Executives, and Employees
 - 1) Behavior
 - 2) Treatment of Colleagues
 - 3) Treatment of Company
2. Code of Conduct
 - 1) Stakeholders
 - 2) Purchasing
 - 3) Respect for Principles of Universal Human Rights
 - 4) Compliance with Laws and Regulations and the Respect for Cultures and Customs
 - 5) Political Neutrality
 - 6) Charitable Contribution and Sponsorship
 - 7) Giving or Acceptance of Presents, Assets, or Other Benefits
 - 8) Conflicts of Interest
 - 9) Connected Transactions
 - 10) Maintaining Confidential Information and Use of Inside Information
 - 11) Marketing Communications
 - 12) Intellectual Properties
 - 13) Application of Information and Communication Technology

2.2 Communication and Promotion of Corporate Governance

In 2017, Thaioil communicated and encouraged all Thaioil

and Subsidiaries' employees as well as stakeholders to acquire knowledge and understanding on the importance of CG Policy and CoC; thus promoted this policy and practices into concrete actions as follows:

Corporate Governance and Code of Conduct Manual

Thaioil issued the **Corporate Governance and Code of Conduct Manual (CG and CoC Manual)** since 2004, currently is the Fourth Revision. Thaioil distributed the CG and CoC Manual to all Directors, executives, and employees of Thaioil and Subsidiaries. Upon receiving, **they are required to study the contents, sign the acknowledgment form, and return the form to the Corporate Compliance Department for record-keeping.** Moreover, the CG and CoC Manual has been published on Thaioil's website, stakeholders and the public are welcomed to access such information easily.

CG e-learning

Thaioil established the first CG e-learning program in 2007 with intention for the employees to easily access and learn CG and CoC principles. In 2016, CG e-learning was re-introduced (3rd edition), with edited content by using fun and interactive games. The program consisted of pre-test and post-test to ensure employees' understandings before and after using the program. This will allow us to collect data for further improvement with future CG e-learning projects.

New Employee Orientation, Training, Activities and Communication

Thaioil and Subsidiaries communicate the CG Policy, CoC, and Anti-Corruption Policy to all new employees to foster the conscience on the first day they become Thaioil and Subsidiaries' members. To continuously create awareness, throughout 2017, Thaioil hosted several activities to promote CG, CoC, and anti-corruption practices. For example, the CG e-learning promotions to encourage employees to access and learn more about

CG, CoC, and anti-corruption practices anywhere and anytime. Moreover, Thailoil together with affiliates under PTT Group, hosted PTT Group CG Day 2017 under the theme, “CG in DNA, Together We Can” to cultivate PTT Group employees’ awareness under the same framework, along with embedding ethical, transparency, and morality in employees’ DNA. Business partners of each company were invited to participate in this event. Additionally, Thailoil communicated its “No-Gift Policy”, whereby all employees are prohibited to receive any gifts or tokens of any kind, via different communication channels, such as e-news, Thailoil’s website, and signage at different locations in Bangkok and Sriracha offices. Moreover, Thailoil regularly communicates CG and CoC principles to all employees in Akanee Journal (for internal communication) and corporate e-newspaper throughout the year.

Corporate Governance and the Code of Conduct Employee Survey

Thailoil improvised the employees’ CG satisfaction survey (CG Survey) with the objective to create clarity, boost confidence, and further implementation of CG among employees. In 2017, the CG Survey were launched together with Employee Engagement Survey, received a perfect response (100%). This allows Thailoil to obtain useful information to improve opportunities for CG and CoC development.

2.3 Enforcement and Guidelines

Thailoil has defined the duties and responsibilities for Directors, executives, and all employees to acknowledge and comply with the policies and terms in the CG and CoC Manual. If Directors, executives, and employees violate these principles, they will face strict disciplinary punishment; if it is suspected that they have violated any law, regulation, rule, and requirement laid down by the public sector, they will be handed to public officials for prosecution.

If employees find it difficult to decide on any given matter in regards to of Thailoil’s CoC or is not explicitly stated in Thailoil’s CoC, they should ask themselves the following questions:

1. Is this action against the law?
2. Is this action against Thailoil’s policy, its Code of Conduct, or its image?
3. Is this action going to severely affect Thailoil and Subsidiaries’ stakeholders?
4. Is this action socially acceptable and disclosable?

Compliance with the Law, Rules, and Regulations

Thailoil regularly audit and monitor performance of each unit to ensure compliance to any business law and regulations. This is also certifying that Thailoil has properly complied with law, rules, and regulations. In 2017, Thailoil established the TOP Group Compliance Management, which consist scopes, structures, duties and responsibilities of Corporate Governance Unit. It also defined operational procedures and taking assistance in connecting to related unit, and ultimately, to generate “TOP Group Compliance Working Committee,” with the role of the regulatory body to drive and control that all units within Thailoil comply to the law, rules, and regulations.

2.4 Whistle-Blowing Measures and Whistle-Blower Protection Mechanism

Thailoil’s whistle-blowing measures and whistle-blower protection mechanism is published in Thailoil CG and CoC Manual and in Thailoil’s website. Thailoil frequently review whistle-blowing measures and protection mechanism to ensure effectiveness and completeness. This also aid the monitoring and auditing processes on the performance of the Board, the executives, and employees across Thailoil and Subsidiaries for law, rules and regulations, CG, CoC, and refrain from involving in any fraudulent matter.

Scope of Complaint and Whistle-Blowing

Stakeholders, employees, related officers, or external parties that come across or are aware of clues, as well as those affected by Thailoil and Subsidiaries' business or by the job performance of Directors, executives, and employees can file a complaint or whistle-blowing in the areas as followed:

- >> Violation of laws, regulations, the CG Policy or principles, CoC, and Thailoil's regulations
- >> Unlawful acts implying corrupt practices for undue benefits, either for personal or others' gains, including embezzlement, corrupt practices, and fraud.

Complaint-Making and Whistle-Blowing Channels

Complainants can file their cases by clearly spelling out "Confidential" through the following channels:



Chairman of the Board or
Chairman of the Corporate Governance Committee or
Chairman of the Audit Committee or
Chief Executive Officer/President or
Company Secretary

Thai Oil Public Company Limited
555/1 Energy Complex Building A, 11th Floor
Vibhavadi Rangsit Road, Chatuchak, Chatuchak,
Bangkok 10900



cgcoordinate@thaioilgroup.com

(The Corporate Governance Manager will acknowledge receipt of the matter and duly forward it to responsible parties.)



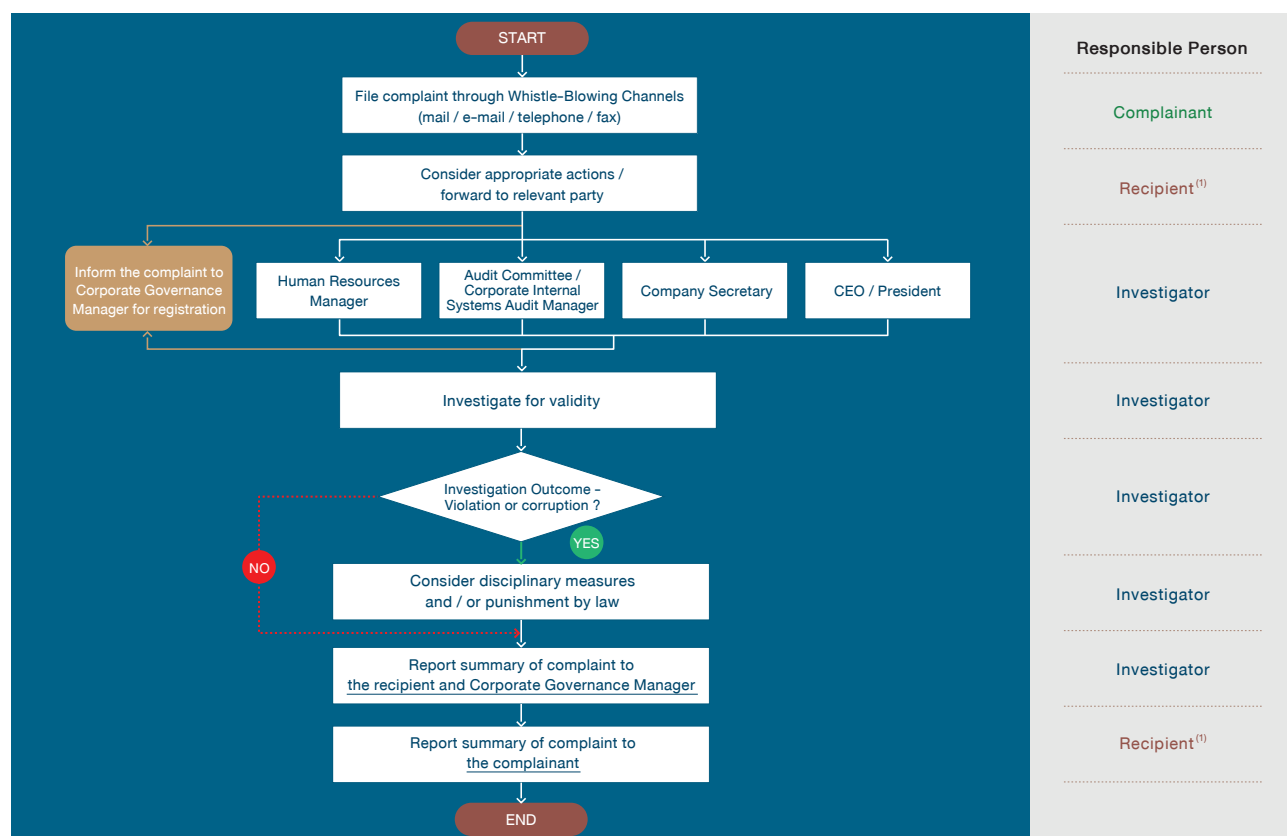
+66(0) -2797-2900 or

+66(0) -2797-2999 or

+66(0) -2299-0000 ext. 7440-7442



+66(0) -2797-2973



Remark : ⁽¹⁾ Chairman of the Board, Chairman of the Corporate Governance Committee, Chairman of the Audit Committee, CEO/President, Company Secretary

However, if a violation is proved valid, the guilty party is subject to Thailoil's disciplinary measures or punishment by law if the violation is unlawful, or both.

Protection of Complainants, Whistle-Blowers, and Related Parties

Complainants or whistle-blowers are to be suitably and fairly protected by Thailoil, which implies no change in job titles, job nature, workplaces, job relief, threats, job harassment, dismissal, or unfair acts. Thailoil will keep their complaints confidential and not disclose them to unrelated parties except when required by law. Those with knowledge of complaints or related information must maintain confidentiality and not disclose it except when required by law. If this is intentionally violated, Thailoil will punish them under its regulations or the law, or both, as seen fit.

In 2017, Thailoil received three complaints from e-mail channel (cgcoordinate@thailoilgroup.com) and one information inquiry letter. All complaints were registred and undergone reviewed under the Complaint-Making and Whistle-Blowing Process. Three has been resolved, in which Thailoil has separately concluded the outcome to each complainant.

3. Compliance with the Principles of Good Corporate Governance

3.1 Right of Shareholders

Shareholders own the company, controlling it by appointing the board of directors to act as their representatives. Thailoil values rights and equality of all shareholders. Beyond such fundamental rights, Thailoil provides an opportunity for shareholders to propose agenda and nominate Director Candidates before the date of the shareholders' meeting. Thailoil also sends e-newsletters to minor shareholders to provide essential information on business in a clear and timely manner, even if the information is not required by law.

Annual General Meeting of Shareholders (AGM) 2017

Thailoil arranges the Annual General Meeting of Shareholders (AGM) every year for shareholders to vote on essential matters and ask questions during the AGM. In 2017, Thailoil organized the AGM on Friday, April 7, from 14.00 hrs. at Bangkok Convention Center, 5th Floor, Central Ladprao, a location convenient for transportation, whether by car, underground train (MRT), or public transport. This year, Thailoil saw a total attendance of 1,326 shareholders comprising of 888 shareholders and 438 representatives by proxy, representing 1,464,119,045 shares or 71.7696 percent of the total issued share capital. The meeting was organized in accordance with the process and procedures of the AGM Checklist, prepared by the Thai Investors Association (TIA), the Thai Listed Companies Association (TLCA) and SEC which Thailoil received the full score of 100 points on the quality assessment of the 2017 AGM Checklist. This reflects Thailoil's continual commitment in organizing such event in accordance to the highest CG standards. Moreover, Thailoil provided AGM Quality Assesment for the shareholders during its AGM to acquire essential views and comments to efficiently improve the future AGM, increase transparency, and beneficial to the shareholders.

Before the AGM

>> **Provided an opportunity for shareholders to propose agenda and to nominate Director candidates.** The details and procedures are placed on Thailoil's website and SET's SCP system **at least three months prior to the year-end** (from September 30 to December 31, 2016). The proposed agenda and the nominated directors will be considered in accordance to criteria specified by Thailoil to be applicable to its business and for

utmost benefits. For 2017, none of the shareholders has proposed agenda or nominate Director Candidates for the Board. This information also disclosed in this year's AGM invitation notice.

- >> Thailoil submitted news releases to SET's SCP system. On February 15, 2017, a resolution was passed by the Board to set the 2017 AGM date. **Thailoil published the 2017 AGM invitation notice via Thailoil's website in both Thai and English for at least 30 days prior to the date of the AGM (March 2, 2017) and distribute the AGM invitation notice along with its annual report and sustainability report in the CD-ROM format to shareholders no less than 21 days prior to the meeting (March 14, 2017).** Thailoil also announced the date of the AGM in newspapers in both Thai and English for three consecutive days and at least three days prior to the AGM for the shareholders to prepare themselves for the meeting.

For **institutional investors**, Thailoil facilitated the AGM registration process. Thailoil has contacted institutional investors to coordinate on preparation of proxy forms prior to the date of the meeting.

On the Date of the AGM

- >> Thailoil held the 2017 AGM on Friday, April 7 at Bangkok Convention Center, 5th Floor, Central Ladprao. Thailoil ensured that the meeting venue has enough room to accommodate shareholders in attendance. To ensure the safety of all shareholders, a contingency plan is in place for emergencies. Surrounding the AGM venue are exhibitions that display Thailoil's key information. Thailoil also provided an Investor Relations (IR) Corner to facilitate shareholders, and sufficient amount of snacks and beverages to accommodate shareholders upon arrival.
- >> To facilitate all shareholders at the meeting date, the bar code system was implemented in the shareholders' registration process and counting of votes for accuracy and more convenience. Thailoil made the registration process available two hours prior to the meeting. Furthermore, after this registration period, shareholders who wish to attend the meeting could register to attend without losing their rights. Shareholders were also included as part of the quorum and could vote on the agenda on consideration process and had not yet been voted on.
- >> Thailoil values the voting right of shareholders of **one share equals one vote**. For the convenience of voting and ballot-counting, Thailoil has prepared separate ballots for each agenda item. **Specifically, on the agenda on the appointment of new Directors, Thailoil provided separate ballots for each of the Director. Thailoil allowed independent legal counselors and volunteers from the shareholders to be witnesses in the vote counting.** Thailoil also provides the opportunity for the shareholders to inquire about the voting procedures.
- >> At the meeting's commencement, the Chairman of the Board (Chairman), the Chairman of each Board-Committee, Thailoil's Directors, executives, auditors, and independent legal counselors must be at the meeting. The Chairman will clarify rules and criteria in relation to the meeting, such as voting procedures, and counting of shareholders' votes for each session.
- >> **Thailoil organizes the meeting in the orders of the agenda in the invitation notice without changing the sequence.** Thailoil refrains from considering agenda that are not listed in the invitation notice and **does not have a policy to add agenda items to the meeting without prior notice to shareholders.**

Thaioil has specified Director's vested interests in the invitation notice and at the AGM. If Directors have particular vested interests or personal involvement on any agenda, the Chairman of the meeting must notify the participants prior to each agenda. Such Directors must not participate in the meeting and must abstain from voting on such matter.

- >> The Chairman of the meeting allocates adequate meeting time and conduct the meeting in an appropriate and transparent manner. Thaioil encourages all shareholders to exercise their rights and protect their own interests by asking questions, expressing opinions, and making recommendations prior to voting and the announcement of resolution for each agenda. Thaioil records questions and comments in the minutes of the AGM for shareholders' verification, and allows shareholders to propose questions prior to the meeting as indicated in the invitation notice.

To facilitate foreign shareholders, Thaioil provides staff to translate responses from Thai to English, and reply to the questions or comments.

After the AGM

- >> Thaioil **disclosed the resolutions of the AGM along with the vote results on the same day after the meeting** by notifying SET in the form of a newsletter through SET's SCP system and on Thaioil's website.
- >> Thaioil prepared the minutes of the shareholder's meeting in both Thai and English and notified SET within 14 days after the meeting (April 21, 2017) through SET's SCP system and on Thaioil's website.

3.2 Equitable Treatment of Shareholders

All shareholders are entitled to identical treatment and protection of fundamental rights. Thaioil therefore adopts

good practices to protect the rights of the shareholders fairly and equally.

- >> Thaioil has a direct channel for all shareholders and investors to request information, feedback, make comments through email at ir@thaioilgroup.com or by direct telephone at +66(0) -2797-2961. The Investor Relations Unit is in charge of this channel and is responsible for providing information to shareholders and investors.

- >> **If shareholders are unable to attend the meeting, they are entitled to assign proxies to the meeting to cast ballots for them. Shareholders can use Thaioil's proxy form that incorporated in the invitation notice**, hence the shareholders can cast their votes (agree, disagree, or abstain from voting) on each agenda. Shareholders may also delegate proxies to any of the six Independent Directors, and are entitled to receive Independent Directors' complete profiles, data on work experiences, and reports on conflicts of interest for their consideration.

- >> Thaioil organizes various activities for its shareholders, to maintain good relations among shareholders, such as a site-visit to Thaioil Refinery, which located in Sriracha, Chonburi. Shareholders not only visit the refinery, but also meet executives to obtain business information. Thaioil also joins events for shareholders organized by SET, for instance, SET in the City 2017 and Opportunity Day, which are normally held after the announcement of the financial statements each quarter.

In addition, Thaioil has policies and procedures to promote equitable treatment of shareholders and establishes a system to prevent the use of inside information. Such details can be found in the "Use of Inside/Confidential Information" on page 137.

3.3 Roles toward the Stakeholders

Thaioil is committed to conducting its business with fairness to all stakeholders for common sustainable interests. Thaioil establishes policies and ethical guidelines for each group of stakeholders in the CG and CoC Manual, which can be downloaded from Thaioil's website. All employees are to strictly adhere to these policies to add value to the stakeholders, while paying due regard for impacts on stakeholders in tandem with social and environmental stewardship. Thaioil must conduct its business with due respect for the stakeholders' fundamental rights.

Thaioil has publicized its **Sustainability Report based on the Global Reporting Initiative (GRI) framework**, in addition to the Annual Report. The Sustainability Report discloses information on economic, social, and environment factors for shareholders' acknowledgment. Presently, Thaioil is investigating the feasibility of an Integrated Report.

Equitable Treatment of Stakeholders

In 2017, Thaioil conducted its business in accordance with the policies, corporate plans, and projects for all stakeholders as followed:

Shareholders, Investors, and Analysts

In addition to the "Rights of Shareholders" and "Equitable Treatment of Shareholders", in 2017, Thaioil regularly communicated its performance outcomes and assorted data with domestic and international investors through the SET's SCP system, Thaioil's website and organized various activities including quarterly analysts meeting on Thaioil's performance outcomes, quarterly meetings with investors on SET's Opportunity Day, preparation of the IR Website; IR e-newsletters; oil situation reviews; and essential information on Thaioil's industrial status during key changes and transitions.

Customers

Thaioil values customer satisfaction that achieved through delivery of quality products which meet their requirements; in addition to honoring agreements and conditions made with customers fairly, regularly, completely, promptly, and factually. Thaioil has set up "Customers Relationship Management Unit", responsible for customer care and direct communication with them. If there is any unfair treatment or dissatisfaction of the customers about Thaioil and Subsidiaries' service, customers can directly file complaints at crm@thaioilgroup.com.

Over the past several years, Thaioil has conducted various activities to create customers' satisfaction:

- >> **Regularly visit customers to forge good relationship**, receive comments to address areas for improvement, and report on domestic and international market outlooks.
- >> **Explored customers' satisfaction and engagement** by applying outcomes of the customer satisfaction survey to organizing a Customer Satisfaction Improvement Workshop with relevant sections to brainstorm ideas on increasing customers' satisfaction.
- >> Increased product distribution capacity by expanding its lorry loading facility, allowing Thaioil to meet customers' demands, able to control the number of vehicles in the loading area, and sufficiently accommodate them.
- >> Organized Customer Event to strengthen relationship with its customers. This year, Thaioil together with its customers, organized Sport Day. Games in this event include Badminton, Chairball, Marathon, among others.

Business Partners

Thaioil realizes that the procurement and service process must be made in a professional, fair, and transparent

manner under acceptable international management standards. Therefore, Thailoil released “Thailoil Group Procurement Policy” in TOP Way of Conduct Manual, as tools to drive all Subsidiaries’ Business in the same strategic direction with Thailoil. To ensure that procurement process is systematic, efficient, and in compliance with CG principles, **the procurement and selection process must comply with the regulations and criteria of Thailoil, obtain an efficient assessment of potential partners, and execute with clear selection methods. The outcome must also be systematically recorded.**

Furthermore, Thailoil has set up the “Supplier Relationship Management Unit” to take care and communicate with Thailoil’s business partners and suppliers. It also conducts employee and business partners and suppliers satisfaction surveys annually used to improve Thailoil’s procurement service.

In 2017, Thailoil organized various events to strengthen relationships between its business partners, such as Contractor Seminar, PTT Group CG Day 2017, etc. Thailoil also initiated the first ESG Plus Verification to ensure conformance to environment, social, and governance aspects. To date, a total of 18 business partners have already been evaluated. Moreover, Thailoil developed the Green Procurement Guideline and organized PC Operational Risk Management for Good Governance Seminar for employees within the Procurement and Contract Unit in charge of review their understandings of these principles. This will eventually lead to a precise and effective implementation.

Creditors

Thailoil stringently honors contracts, agreements, and conditions given to creditors and consistently reports Thailoil’s financial status with professional, integrity,

accuracy, and promptly to creditors. If conditions cannot be honored, it negotiates with creditors well in advance to jointly find remedies and prevent damage.

Employees

Thailoil strongly committed to the effectiveness of human resources management, in which it enhanced corporate culture development, creating friendly-working atmosphere, and fair salary as to generate confidence and morality among Thailoil and Subsidiaries’ employees. This year, the “Career and Competency Development Project” and the “Quality of Life and Employee Engagement Project” were established to manage its human resources, as follows:

>> Thailoil strictly complied with the Universal Declaration of Human Rights at national and international levels, labour law, and regulations of Thailoil. Thailoil treated all employees equally on the basis of fundamental human rights principles as listed in the “Code of Conduct: Respect for Principles of Universal Human Rights”. In 2015, Thailoil established “Human Rights in Workplace Policy” to concretely support the human rights principles. Moreover, Thailoil established “**Human Rights Policy for Suppliers**” in the following year. This is to enhance business operations based on Thailoil and Subsidiaries’ Human Rights principles, covering society, community, and the supply chain across Thailoil and Subsidiaries.

>> **Thailoil has a fair remuneration and welfare policy** which is comparable to peers, aligned with labor law, appropriate with knowledge, capacity and responsibility of each executive and employee, and related to the performance of each employee. That is why Thailoil annually reviews the policy to ensure that its remuneration remains in the industry’s top quartile. To make sure that **employees’ remuneration is aligned with short-term**

and long-term corporate performance, Thailoil considers salary adjustment for the management and employees once a year as a factor of the Key Performance Indicator (KPIs). This includes current performance (short-term) and performance based on long-term strategies to lay the foundation for future business growth. Thanks to this evaluation, the remuneration of management and employees is in line with both short-term and long-term corporate performance. Furthermore, Thailoil defines variable bonus payment linked to yearly performance and employee performance (for Department Managers upward) to motivate them to achieve annual corporate goals.

To keep motivating employees to work and gear the organization toward long-term goals, Thailoil sets remuneration policies, such as annual-wage increase guidelines. There is also a **provident fund** to secure their living once their employment ends or they are retired. Thailoil increases its contribution rate in proportion with the employees' years of service.

Moreover, Thailoil also provides medical benefits for employees and their families, housing allowances, various allowances, accidental insurances, special service-year tokens, club memberships and leisure services, Thailoil Savings Cooperative, and Thailoil Consumers Cooperative.

- >> To support its growth, Thailoil is committed to enhancing the abilities of its employees for supporting the growth of new and international businesses. Thailoil promotes employees attendance at in-house, local, and overseas training. In 2017, Thailoil and Subsidiaries' employees spent an average of 49.11 training hours per person. Moreover, Thailoil also provides academic scholarships for its employees to pursue Master Degrees abroad

and provides educational support for its employees to study the English language (after working hours or on weekends) to support the expansion toward internationalization and the ASEAN Economic Community.

Thailoil has been developing executives to be prepared for internal rotation, starting from Section Managers, Division Managers, to Department Managers. It also comes up with succession plans by comprehensively evaluating the readiness of successors at the level of division manager and higher. This plan is defined to serve business expansion, restructure Thailoil, and replace retired employees. Thailoil translates evaluation results into individual development plans to ensure that the successors are ready to take up the positions and create continued growth for the organization. Moreover, Thailoil reviews these succession plans yearly.

Competitors

Thailoil complies with the rules of fair competition and treats business competitors fairly for mutually fair returns. It refrains from dishonestly or improperly seeking confidential information of business competitors and refrains from defaming business competitors through slander.

Community, Society, and Environment

Thailoil establishes **policies on the management of quality, security, safety, occupational health, environment, energy, and social responsibility** to bolster quality of lives for the community, the society, and the environment. Operating with transparency and ethics, Thailoil uses these policies as guidelines in its operation to achieve vision, excellence in operation, and raise stakeholders' satisfaction. The details of these policies can be found in the "Quality, Security, Safety & Occupational Health and Environment Management" section on page 56.

For Corporate Social Responsibility (CSR), Thailoil is determined to drive sustainable business growth in parallel with environmental care and concern for community and social impact. It also fosters good relationship with neighboring and remote communities and improves their quality of life. Thailoil, therefore, implements its social responsibility under four frameworks: education, energy and natural resources, environmental conservation, and quality of life.

(The detail of Thailoil and Subsidiaries' CSR implementation activities was disclosed in Sustainability Report 2017)

Government Authorities and Associated Organizations

Thailoil assesses its compliance with related laws, including monitoring the enactment of new ones. In fostering relationship, Thailoil has been cooperating and sharing business information and experiences with government agencies and organizations that request them for the benefit of the country and public good.

Policies and Practices of Non-Infringement of Intellectual Properties or Copyrights

Thailoil must run its business in compliance with all laws and regulations of each host company. Thailoil's employees must maintain commercial secrets and formulae, product process, and sensitive business procedures by ensuring their safest storage and preventing leaks. They are also required to respect others' intellectual property rights while refraining from exploiting these for personal gains without the owners' prior approval or without giving them due compensation as shown in "Code of Conduct: Intellectual Properties". Thailoil also has the "Code of Conduct: Application of Information and Communication Technology", which strictly prohibits the installation and the use of illegal computer software in the workplace.

Anti-Corruption Practices

Thailoil is committed to basing business on fairness, integrity, transparency, responsibility to society and all stakeholders. The Board is aware that corruption is a major obstacle to business achievement and is also a problem to national economic and social development. In 2013, the Board established an explicit "Anti-Corruption Policy": "The Board, executives, and employees must not corrupt or accept corruption of all forms in any circumstances, covering the business of Thailoil in every country and in every relevant agency. Thailoil defines guidelines, operating measures, and roles and duties of responsible persons, as well as regular monitoring and reviewing the implementation of the Anti-Corruption Policy, in compliance with changes in businesses, rules, regulations, and relevant laws." Apart from the policy, Thailoil provides definitions, roles and responsibilities, implementation, and measures of the Anti-Corruption Policy. The Board, executives, all employees within Thailoil and Subsidiaries are required to comply with this policy. In 2017, Thailoil studied and reviewed rules, notices and guidelines on good corporate governance. Without any significant change, the Anti-Corruption Policy remains relevant and consistent.

In addition to the Anti-Corruption Policy, Thailoil has business codes relating on anti-corruption matters such as conflicts of interest, and giving or acceptance of presents, assets, or other benefits etc. These codes and the Anti-Corruption Policy can be found in the CG and CoC Manual. All employees of Thailoil and Subsidiaries are required to observe the principles in the CG and CoC Manual and conduct their businesses under the highest standard. The CG and CoC Manual is downloadable from Thailoil's website.

Thaioil is obliged to adopt the Anti-Corruption Policies, its implementation and measures, and to perform its business under the following framework:

>> Clarified the code of conduct in relevant to **“Guidelines for Giving or Acceptance of Presents, Assets, or Other Benefits”** to create clear understanding and to promote awareness by emphasizing on the importance of the proper decision making and actions. Thaioil also established **“GIFTS, ASSETS OR OTHER BENEFITS MANAGEMENT PROCEDURE”** as standardized process for gift or tokens of any kind when engage in any activities as defined in this Code.

>> **Promote the Anti-Corruption Policy and practice them both inside and outside Thaioil.** Thaioil has communicated the policy to the Board, executives and employees via employees' orientation, training, CG e-learning, e-newsletters, and articles in the internal publication (Akanee). In 2017, Thaioil promoted CG e-learning, whose contents covered anti-corruption practices and which educated the employees through edutainment-approach. Thaioil also invited its employees to participate in the anti-corruption activities such as **“The Anti-Corruption Day 2017,”** an event hosted by the National of Anti-Corruption Commission (NACC). Upon the coming of festive seasons, Thaioil encouraged the awareness for **“No-Gift Policy”** among employees via internal and external communication channels such as e-news, Thaioil's website, and signage at different locations in Bangkok and Sriracha offices to promote business transparency and comply with the CG principles and CoC.

For external communication, Thaioil publishes the policy via its website for public interest. In addition, Thaioil's announcements have been made to customers and business partners. This includes the conforming letter for their cooperation to refrain from offering gifts

to Thaioil and Subsidiaries' employees during the New Year Festival. Such practices are to avoid and prevent any actions that may lead to violations of the Anti-Corruption Policy in order to serve our customers and all business partners fairly and equally.

>> **Thaioil encourages its employees to join external workshops and seminars relating to anti-corruption** to cultivate knowledge and understanding on anti-corruption practices including:

- **“International Anti-Corruption Day”** under the theme, **“Zero Tolerance: Thai Citizens Do Not Bear with Corruption,”** an event organized by the government, in corporation with the National Anti-Corruption Commission (NACC), Office of Public Sector Anti-Corruption Commission (PACC), Anti-Corruption Organization of Thailand (ACT), and all anti-corruption networking partners.
- **“Anti-Corruption Day 2017”** organized by the Anti-Corruption Organization of Thailand (ACT)
- **CAC Conference 2017 “Bright Spots: Lighting the Way to a Free Society”** organized by the Thai Institute of Directors (IOD)

>> **The Risk Management Unit is in charge of managing risks for Thaioil and Subsidiaries.** A plan on managing risks, procedures, internal and external risk assessment and analysis, and mitigation plan for each risk were put in place to manage risks at an acceptable level. This plan covers the process of forming corporate strategies, investments, anti-corruption, as well as other business operations. For high corruption-risk activities, Thaioil has procedures to closely monitor such practices, as stated in the Anti-Corruption Policy and the CoC. These activities include political contribution, charitable contribution and sponsorship, and gifts, hospitality, and expenses.

>> **Put in place an internal control system to prevent corruption risks** such as the Corporate Authorization Procedures in considering the scope, duties, and responsibilities of each position as criteria in the authorization process, add flexibility to business operations, and exercise an appropriate internal control system. Thailoil also has a systematic monitoring and reporting system for its budget control. The Corporate Internal Systems Audit Unit is in charge of monitoring operations in various sections to ensure that the performance of each section is in accordance with this procedure.

>> Directly under the Audit Committee and independent from Thailoil and Subsidiaries' management, the Corporate Internal Systems Audit Unit is responsible for monitoring and evaluating the implementation of anti-corruption policy along with conduct work progress review of different units each year, covering key activities, for instance, commercial promotions, procurement, and financial reports. The Unit also reviews the operations to see if the employees follow the protocols, rules, and regulations. Furthermore, it provided recommendations and advice for improvements for greater effectiveness and better internal-control in terms of reducing opportunity for corruption.

>> In addition to various Anti-corruption activities, Thailoil also established the **Thailoil Group Suppliers Code of Conduct** Manual to promote common understanding between Thailoil and business partners, based on sustainability. One of the topics listed in this manual is the Anti-Corruption Policy. This year, business partners were invited to participate in the PTT Group CG Day 2017 activities to promote Thailoil's CG and anti-corruption practices as well as setting guidelines for business partners' development.

Thailoil is also committed to countering corruption in conjunction with external agencies. Thailoil has participated in the following activities:

>> In 2010, Thailoil joined the Private Sector Collective Action Coalition against Corruption (CAC). The CAC was initiated by the IOD, Thai Chamber of Commerce, Joint Foreign Chambers of Commerce in Thailand, Thai Listed Companies Association, Thai Bankers Association, and Federation of Thai Industries. The project was also supported by the government and the National Anti-Corruption Commission (NACC).

>> In 2012, Thailoil acquired the membership of the United Nations Global Compact (UNGC), which enabled it to apply the ten UNGC principles, internationally recognized in the promotion of good governance on human rights, labour, environment, and anti-corruption in its business operation.

>> In 2014, Thailoil developed a self-assessment form for anti-corruption measures, which accompanies supporting evidence related to business policy, measures and procedures, and its internal control system. All documents were submitted to the CAC panel as part of Thailoil's application for CAC membership. Thailoil was recognized as a **"Certified Company"** on April 4, 2014, a proof of its commitment to transparent business through continual upgrading of its work process, which promotes good image and confidence among stakeholders.

>> In 2015, Thailoil became a member of Partnership against Corruption for Thailand (PACT Network), which was initiated by Thaipat institute.

>> On September 11, 2016, Thailoil's executives and staff representative joined the "National Anti-Corruption Day 2016", organized by the Anti-Corruption Organization of Thailand (ACT) along with participants from the government and the Private sectors at Sanam Luang.

>> In 2017, Thailoil **received re-certification** from the Collective Action Coalition against Corruption (CAC) and recognized as “Certified Company” since March 9.

3.4 Disclosure and Transparency

Disclosure of Information

Thailoil values the disclosure of information on material matters, key information includes financial and non-financial information to SEC, SET, and shareholders presented in an accurate, complete, simplified, timely, and transparent manner through readily accessible channels in both Thai and English through SEC and SET's Community Portal and Thailoil's website.

The following is a list of channels that the Company releases disclosures in Thai and English:

- >> SEC and SET's Community Portal systems
- >> Annual Registration Statement (Form 56-1) and Annual Report (Form 56-2)
- >> Thailoil's website at www.thailoilgroup.com
- >> Public channels such as newspapers, magazines, press conferences, interviews, and press releases.

Investor Relations

Thailoil takes most seriously relations with investors, shareholders, and analysts, therefore, Thailoil set up the Investor Relations Unit as a focal point to proactively conducting investor relations activities with investors, shareholders, and analysts, by focusing on performing duties with utmost responsibility, integrity, and dedication on disclosure of correct, reliable, and adequate information in a fair, transparent, and comprehensive manner. Investor Relations Unit reports its performance to the Corporate Governance Committee for acknowledgment and recommendations at least once a year.

In 2017, Thailoil organized various activities in support of the shareholders, analysts, and investors as followed:

Meeting with Investors/Shareholders

Domestic Company Visit	4 times
Domestic Conference Call	4 times
Domestic Roadshow	7 times
International Company Visit	20 times
International Conference Call	9 times
International Roadshow	11 times
Opportunity Day organized by SET	6 times
	(Thai 4 times/ English 2 times)
Analyst Meeting	4 times
Information provided via telephone (per day)	5 times (approximately)

Meeting with Credit Rating Institutes

Annual Review (S&P's, Moody's, Fitch Ratings)	3 times (once a year for each institute)
Conference Call	12 times (4 times a year for each institute)

Information Disclosure

SET Portal	23 times
Monthly Presentation	12 publications
IR e-Newsletter	4 publications

Activities

Shareholders' Company Site-Visit	2 times
Investors' Company Site-Visit	7 times

Interested parties, shareholders, or investors can request this information from the Investor Relations Unit via the following channels:



**Thai Oil Public Company Limited
Investor Relations**

555/1 Energy Complex Building A, 11th floor
Vibhavadi Rangsit Road, Chatuchak, Chatuchak,
Bangkok 10900



ir@thaioilgroup.com



+66(0) -2797-2961 (Direct) or
+66(0) -2797-2999 or
+66(0) -2299-0000 ext. 7370-7374



+66(0) -2797-2977-8

Prevention of Conflicts of Interest

Thaioil includes “Code of Conduct: Conflicts of Interest” in the CG and CoC Manual. Directors, executives, and employees are to strictly follow this principle. All Thaioil and Subsidiaries’ employees must prepare conflicts of interest disclosure reports on the first day of work and annually or each time it is suspected that conflicts exist during the year in the Conflicts of Interest Disclosure Electronic System. This practice promotes employees’ operation in a transparent and accountable manner. Conflicts of Interest Disclosure Report 2017 showed two employees who may have conflicts of interest. Such cases involve shareholding of employees’ spouses in companies within PTT Group. After through investigation, these cases were concluded that those investments are not in conflict with the best interest of the Thaioil and Subsidiaries.

At Board meetings, Directors who have direct or potential conflicts of interest shall remove themselves from the

meeting. The Chairman may authorize such Directors to stay to provide information and allow other Directors to ask questions. However, such Directors must abstain from voting on the agenda item. The Company Secretary or Secretaries to the Board and Board-Committees must record the relevance of Directors in the minutes of meetings for the Board or Board-Committees’ consideration each time this happens.

Vested Interests Disclosure by the Board

Thaioil set a policy for the Directors and high-level executives (Executive Vice President and higher including Vice Presidents in Finance and Accounting Department) to quarterly report changes in their vested interests to Thaioil and Subsidiaries and update their reports annually. Such information is to be kept within Thaioil to conform to the Capital Market Supervisory Board’s Announcement, Tor Jor 2/2009, regarding the report on vested interests of Directors, executives, and related parties.

Use of Inside/Confidential Information

The use of inside information is one of CG Principles (Equitable Treatment of Shareholders), which is crucial for all listed companies. Thaioil has taken preventive measures on the use of inside and confidential information. In order to prevent taking advantages of other shareholders and to promote equality among the shareholders, Thaioil has put in place measures and systems for controlling the confidentiality of inside information as follows:

>> Thaioil consistently notifies its Directors, executives, and employees about the policies relating to the use of inside information through various meetings such as Board meetings (via an agenda item to be informed by the Chairman), CG trainings, and articles in internal publications to ensure that the criteria and policies have been complied with.

- >> Thailoil establishes a **“Personal Non-Disclosure Agreement”** between Thailoil, its executives and employees, who are involved with ongoing projects and projects not to be disclosed information to the public and to be cautious when using such material information.
- >> Thailoil established the **“Code of Conduct: Maintaining Confidential Information and Use of Inside Information”** as detailed in the CG and CoC Manual. Thailoil's Directors, executives, and employees are to maintain the confidentiality of inside information and refrain from exploiting it for themselves, their families, or their associates. This includes information influencing the stock price, commercial secrets, formulae, and inventions. Thailoil has assigned roles and responsibilities to all superiors for the prevention of leaks of key information; thus instituted strict measures and processes for safeguarding the information within its departments to prevent publicity before its formal distribution.
- >> In compliance with the CG principles on buying or selling shares and accessibility of information, **Thailoil sends a written notification for the Directors and executives, requesting their cooperation not to buy, sell, or transfer shares at least one month prior to the submission of the financial report to SET each quarter.**
- >> Under section 59 of the Securities and Exchange Act, **Thailoil assigns the Directors and high-level executives (Executive Vice President and higher including Vice Presidents in Finance and Accounting Department) to report their shareholding information upon taking position and after share buying, selling, or transferring within three days to SEC.**

Moreover, the Board is also responsible for monitoring the use of inside information. To this end, **Directors must inform Board meetings their shareholding information,**

including that for the high-level executives, at each Board meeting. The shareholding information of the Directors and high-level executives at the end of previous and present year can be found in the Shareholding Report on page 98.

3.5 Board Responsibilities

The Board plays a significant role as a representative of the shareholders to ensure that Thailoil's business activities are ethical and legitimate. **The Board must be free of the executive** through a clearly defined **separation of roles and responsibilities**, and levels of approval authority of the Board, the Chairman, and the Chief Executive Officer and President (CEO/President). The roles and responsibilities of the Board, the Chairman, and the CEO/President can be found on page 102. The Board also plays significant roles in the following activities:

- **Corporate Governance and Business Code of Conduct**
The Board establishes the CG Policy, CoC, and the Anti-Corruption Policy for all Directors, executives, and employees to adhere to while operating businesses. This is to ensure that the businesses are operated under good ethical standards, transparency, and justification. Assigned by the Board, the Corporate Governance Committee is tasked to ensure that activities relating to CG matters comply with applicable laws, rules, and regulations. They are to also promote compliance with CG Policy, Anti-Corruption Policy, Sustainable Development, etc. The Corporate Governance Unit is the focal point for monitoring such activities.
- **Defining Business Strategies, Policies, and Directions**
The Board performs crucial roles in determining and reviewing Thailoil's vision, missions, business strategies, operations plans, and budget. It must adapt to a quickly evolving business environment. The Board must approve important aspects of Thailoil and Subsidiaries' operations

at least once a year. **The Board reviewed and approved Thail's vision, missions, and business strategies in the annual Strategic Thinking Session (STS) meeting.** The Board along with top executives jointly reviewed vision, missions, and short-term and long-term business strategies against business directions and future trends. Assigned by the Board, the executives are responsible for reporting progress once each quarter in Board Meetings. This will allow the Board to keep track of the progress and review appropriate actions in preparation of the evolving business environment.

• **Prevention of Conflicts of Interest**

The Board plays an important role in monitoring and resolving conflicts of interest that may occur among Thail's stakeholders. The Board sets guidelines regarding such transactions for maximum benefits of Thail and shareholders as a whole. Parties with vested interest should play no part in the decision-making process and must disclose information on conflicts of interest in a correct and complete manner. The details can be found in the "Prevention of Conflicts of Interest" section on page 137.

Board Composition

The Board appointed by the shareholders' votes at AGMs, the Board must be qualified, capable, accountable, and generally-accepted and must not have prohibited characteristics specified by the Public Limited Company Act. **Thail also sets a policy for the Board's diversity, which consists of diversity in genders, skills, professions, and specialization,** namely industrial, financial, business, management, marketing, strategic management, law, and security. **The Board must devote their time** to perform their duties and for the highest benefit of the Company. Moreover, there should be independent Directors at least one-third of all Directors and the number must be

at least three. The composition of the Board must have a proportional number of independent Directors for checks and balances of the Board and the executives. Presently, the number of Thail's independent Directors exceeds that required by law. Independent Directors must also be fully qualified by the requirements of the Capital Market Supervisory Board as shown in page 140.

Recognizing the value of efficient and effective Director's job performance, the Board established a policy on the number of listed companies that the Directors can take. To ensure that Directors can devote their time and effort to performing duties, **the Directors can serve no more than five listed companies.**

Thail's Board of Directors consists of 14 Directors including one executive Director and 13 non-executive Directors, seven of whom are Independent Directors. There is two female Independent Directors on the Board. The names and roles of the Board can be found in the Board section on page 96. There are four Board-Committees, namely, the Audit Committee, the Nomination and Remuneration Committee, the Corporate Governance Committee, and the Risk Management Committee. The names and roles of the Board-Committee members can be found in the "Board-Committees" on page 141. The number of meeting and Directors' meeting attendance can be found in the "Meeting Attendance" of the Board on page 104.

Board Approval Authority

The Board is authorized to approve Thail's various businesses under the scope given by law, Thail's regulations, and shareholders' resolutions. An approval framework has been clearly defined for the Board and the management on various matters, including human resources administration, finance, and accounting.

Nomination and Appointment of Directors

Nomination Criteria

In selecting and considering an appropriate Director Candidate, Thailoil invites minor shareholders and major shareholders to nominate a candidate, which must obtain approval from Thailoil's Board of Directors. Furthermore, the nominated candidate must have the following qualifications:

- >> The Directors must have **qualifications consistent with the Public Company Limited Act and Thailoil's regulations.**
- >> The Directors must be knowledgeable and possess diverse skills. As a tool in the consideration process, Thailoil establishes the **Board Skill Matrix according to the Board Diversity Policy to create a wide range of expertise in line with Thailoil's core strategies.**
- >> The nomination and appointment of Independent Directors must take into account the number of Independent Directors on the Board. There should be at least one-third Independent Directors of all Directors and the number must not be less than three. The composition of the Board must have a proportional number of Independent Directors for checks and balances of the Board and the management.
- >> Thailoil searches and selects qualified Directors through the **State Enterprise Policy Office's Directors Pool and the IOD Chartered Directors.**
- >> Thailoil considers potential conflicts of interest that the Directors may have with it.
- >> The Directors can devote sufficient time and effort to performing duties.

Appointment of New Directors

The Board has assigned the Nomination and Remuneration Committee to select qualified candidates to be elected

as Directors to replace those who have completed their terms or retired by rotation.

- **To appoint Directors to replace those who have completed their terms**, the Nomination and Remuneration Committee selects and proposes to the Board for consideration the names of qualified candidates in accordance with relevant laws and regulations, experience, and knowledge. After the Board's endorsement, the list of candidates is proposed to the AGM to approve the election by majority votes. In accordance with Thailoil's regulation, each shareholder has one vote per share. Shareholders may exercise all the votes they have to elect one or several persons as Director or Directors, but they cannot divide their votes to any person in any number. Thailoil also gives an opportunity to shareholders to vote for individual Directors to allow shareholders to choose the right person of their choice.
- **In case of vacancies due to reasons other than expiration of the term**, as a rule, the Nomination and Remuneration Committee considers the criteria and nominate qualified persons to fill the vacant posts and proposes them to the Board for consideration. With votes of no less than three-fourths of the remaining Directors, a selected Director will serve only for the remainder of the term of the replaced Director.
- **The Appointment of Director as Board-Committees' Member**, the Nomination and Remuneration Committee also considers qualified Director as a Board-Committee Member to fill vacancies, in accordance with the qualifications listed in the respective Board-Committee's Charters. The names of selected Directors are to be proposed to the Board for approval.

Independent Directors and Qualifications

At Thailoil, Independent Directors must be independent of major shareholders and Thailoil's management. To protect

the best interests of shareholders, Independent Directors must regularly attend Board Meetings and have sufficient access to Thailoil's financial and business information. Upon their appointment, Independent Directors shall report and disclose their independency in the annual report. Independent Directors must have all the qualifications required by the Capital Market Supervisory Board.

Thailoil has clearly defined Independent Directors' Qualifications, which is consistent and higher concentration than the requirement of the Capital Market Supervisory Board, for instance, "Holding shares not exceeding 0.5 percent of the total number of shares with voting rights of Thailoil, its parent company, subsidiary, affiliate, major shareholder or controlling person, including shares held by their related persons." Independent Directors' Qualifications can be found in the CG and CoC Manual in Thailoil's website. Additionally, Thailoil define Independent Directors' term of office, in which each Independent Director shall serve no more than six consecutive years from the date of the appointment (effective from the date when the Board approved this policy on August 23, 2012, onwards).

Board-Committees

The Board has appointed four Board-Committees, namely, the Audit Committee, the Nomination and Remuneration Committee, the Corporate Governance Committee, and the Risk Management Committee to scrutinize and supervise its operation over specific issues, in order to perform their duties efficiently and effectively. For maximum efficiency, the Board required each Board-Committee to frequently report their progress. Moreover, Thailoil established Board-Committees' qualifications, terms of office, roles and responsibility, and evaluation in each Board-Committees' Charter. The Charter is reviewed annually for relevancy and consistency.

The Board-Committees, as of December 31, 2017, are as follows:

1) The Audit Committee

The Board appointed the Audit Committee, which consists of fully qualified members against SEC and SET requirements. A minimum of three members must be Independent Directors, at least one of whom must be an accounting graduate with adequately qualified and experienced in reviewing the credibility of financial statements. The Committee reviews Thailoil's performance outcomes, financial reports, internal control system, and consider related-party transactions, including the appropriateness of accounting (external) auditors.

The Audit Committee, as of December 31, 2017, consisted of three Independent and Non-Management Directors:

Name	Position
1. Ms. Chularat Suteethorn	Chairman of the Audit Committee (Independent)
2. Ms. Suvimol Chrityakierne	Member of the Audit Committee (Independent), an Accounting-Graduate with qualified knowledge and experience in accounting and finance to review the reliability of the financial statements
3. Gen. Thanakarn Kerdnaimongkol	Member of the Audit Committee (Independent)

Ms. Prapin Thongnium, Vice President – Corporate Internal Systems Audit, serves as Secretary to the Audit Committee.

Roles and Responsibilities of the Audit Committee

1. Reviews the efficiency and effectiveness of the good corporate governance, risk management, and internal control processes.
2. Reviews the Company's financial reporting process to ensure its accuracy, credibility, and sufficient information disclosure by coordinating with the external auditors. The responsible executive is required to prepare quarterly and annually financial reports to comply with the Thai Financial Accounting Standards and to promote the development of accounting systems to be comparable to the International Financial Accounting Standards.
3. Reviews the Company's compliance with laws governing securities and stock exchange, or requirements of the Stock Exchange of Thailand, and other policies, rules, regulations, charters, and laws applicable to the Company's business.
4. Reviews the Connected Transactions or the transactions that may lead to conflicts of interests and consider the information disclosure to ensure that they are in compliance with the laws and the Stock Exchange of Thailand's regulations.
5. Considers to select, nominate, re-elect, and terminate the Company's external auditors and to propose the auditors' remuneration to the Board of Directors before tabling to the shareholder's meeting for approval respectively. The Audit Committee, also, is to meet with the external auditor without executives at least once a year.
6. Reviews and provides opinion on internal audit plan and system to meet internationally accepted methods and standards.
7. Considers the independence of the Internal Systems Audit Section including the adequacy of the budget and workforce of the Internal Systems Audit Section, and considers to approve the appointment and relocation of, and evaluates the annual performance of the Head of the Internal Systems Audit Section.
8. The Audit Committee may seek independent opinions from professional advisors or specialists in other fields when needed under the Company's expense with the approval from the Board of Directors. The employment of advisors or specialists must comply with the Company's regulations.
9. Chairman or members of the Audit Committee shall attend the shareholders' annual general meeting in order to clarify issues associated with the Audit Committee or appointment of the external auditors.
10. Approves the disclosure of quarterly financial statements to the Stock Exchange of Thailand.
11. Reports the operating results of the Internal Audit to the Board of Directors annually. Such report must include the Audit Committee's opinion on internal audit, opinions on financial reports, adequacy of internal control systems, and other applicable topics to the Board of Directors as deemed appropriate.
12. Approves the Audit Committee Charter before presenting to the Board of Directors for approval. The Committee shall review its charter at least once a year.
13. Prepares the Audit Committee's report signed by the Chairman of the Audit Committee. The report is to be disclosed in the Company's annual report in accordance with the requirement of the Stock Exchange of

Thailand, and shall consist of at least the following information:

- 1) Opinion(s) on the accuracy and credibility of the Company's financial report;
 - 2) Opinion(s) on the adequacy of the Company's internal control system;
 - 3) Opinion(s) on the compliance with the law on the Securities and Exchange Commission, the Stock Exchange of Thailand's regulations, or laws applicable to the Company's business;
 - 4) Opinion(s) on the suitability of the external auditors;
 - 5) Opinion(s) on the transactions that may lead to conflicts of interests;
 - 6) The number of the Audit Committee's meetings and the attendance of such meetings of each committee member;
 - 7) Opinion(s) or overview comment gained from the Audit Committee's its performance or duties in accordance with the Committee Charter; and
 - 8) Other reports which should be known to the Sareholders and general investors under the roles and responsibilities as assigned by the Company's Board of Directors.
14. After the Audit Committee receives from the auditors the information on any suspicious circumstances that the Director, manager or any person responsible for the Company's operation commits an offence under the Securities and Exchange Act, the Audit Committee is required to report the preliminary inspection to the Company's Board of Directors prior to reporting the Securities and Exchange Commission and the Company's auditors within 30 days from the date of the auditor's notification is received.

15. For the Audit Committee's duty, if it is found or suspected that there is any transaction or action that may materially affect the Company's financial condition and operating results, the Committee shall promptly report it to the Board of Directors for rectification in a timely manner.
- >> A transaction which causes a conflict of interest;
 - >> Any fraud, irregularity, or material defect in the internal control system;
 - >> An infringement of laws or the Stock Exchange of Thailand's regulations, and any laws applicable relating to the Company's business.

If the Audit Committee reports to the Board of Directors on suspicious actions and discusses with the Board and executives on the rectification of such issue, when it is due time, as agree by all involved. If the Audit Committee finds that the Board or executives fail to make corrective actions without a justifiable reason, any member of the Audit Committee may report such transaction or action directly to the Securities and Exchange Commission or the Stock Exchange of Thailand.

16. Performs other duties as assigned by the Company's Board of Directors, with the approval of the Audit Committee.

In 2017, the Audit Committee performed its duties under the aforementioned roles. The summary of activities is shown in the "Audit Committee Report" on page 10.

2) The Nomination and Remuneration Committee

Appointed by the Board, the Nomination and Remuneration Committee consists of at least three Directors, most of whom must be independent Directors and must not be Chairman of the Board nor the CEO/President. All of the members are fully qualified as Directors in accordance with the Nomination and Remuneration Committee Charter.

As of December 31, 2017, the Nomination and Remuneration Committee consisted of three Directors as follows:

Name	Position
1. ACM Suttipong Inseeyong	Chairman of the Nomination and Remuneration Committee (Independent)
2. Ms. Chularat Suteethorn	Member of the Nomination and Remuneration Committee (Independent)
3. Mr. Sarun Rungkasiri	Member of the Nomination and Remuneration Committee

Mr. Viroj Meenaphant, Assistant Executive Vice President - Corporate Governance, serves as Secretary to the Nomination and Remuneration Committee.

Roles and Responsibilities of the Nomination and Remuneration Committee

1. Nomination

- 1.1 Considers the Board of Directors' composition and qualifications of both the Board and individual Director to suit the size, type, and complexity of the business focusing on education, knowledge, expertise, skills, experience, and specialization that associate with the Company's; business as well as their independency in accordance to the Company's criteria.
- 1.2 Considers the qualifications of the Chief Executive Officer and President to suit the Company's business management in order to achieve the Company's objectives, covering education, experience, knowledge, and expertise; as well as take the essential and relevant business environments such as economic and industry trends and business competitiveness into consideration.
- 1.3 Defines nomination process and criteria in accordance with the composition and qualifications stated in 1.1

and 1.2 in compliance with good corporate governance principles.

- 1.4 Supervises to ensure that the Company arranges orientation programs and provide welcoming package that is beneficial to the newly appointed Director(s) to perform the roles and responsibilities.
- 1.5 Develops and review the succession plan for Chief Executive Officer and President as continuous preparation plan for readiness and successor to ensure the Company's continuity of business management and operation.
- 1.6 Encourages the Company to provide opportunity for minor shareholders to propose candidate to be nominated as the Company's Director.
- 1.7 Selects qualified Director(s) to take position in the Board-Committees and table the name(s) to the Board for consideration and approval in the case of vacancy.

2. Remuneration

- 2.1 Reviews and proposes remuneration form and criteria to suit the responsibilities of the Board of Directors; taking into consideration the Company's overall performance to motivate and retain Directors with competency, quality, and potentiality. The Board of Directors is to consider such matter prior to presenting it to the shareholders in the Annual General Meeting of Shareholders for approval.
- 2.2 Conducts the performance evaluation and consider to adjust the appropriate remuneration rate for the Company's Chief Executive Officer and President before proposing to the Board of Directors for approval.
3. Reviews the Nomination and Remuneration Committee Charter regularly.

4. Responsible for other tasks assigned by the Board of Directors.

In 2017, the Nomination and Remuneration Committee performed its duties under the aforementioned roles. The summary of activities is shown in the “Nomination and Remuneration Committee Report” on page 16.

3) The Corporate Governance Committee

Appointed by the Board, the Corporate Governance Committee consists of at least three Non-Executive Directors, most of whom must be Independent Directors. All of the members are fully qualified as Directors in accordance with the Corporate Governance Committee Charter.

As of December 31, 2017, the Corporate Governance Committee consisted of three Directors as followed:

Name	Position
1. Pol.Gen. Aek Angsanant	Chairman of the Corporate Governance Committee (Independent)
2. Gen. Thanakarn Kerdnaimongkol	Member of the Corporate Governance Committee (Independent)
3. Mr. Yongyut Jantararotai	Member of the Corporate Governance Committee

Ms. Panumas Chuchartchaikulkarn, Vice President - Corporate Compliance and Company Secretary, serves as Secretary to the Corporate Governance Committee.

Roles and Responsibilities of the Corporate Governance Committee

1. Defines corporate governance policies, practices, and related operations including sustainability management and corporate social responsibility aspects to conform

with principles, standards, and requirements as stipulated by the Stock Exchange of Thailand, the Securities and Exchange Commission, and other recognized institutions domestically and internationally. The aim is to promote corporate strategies and goals, as well as to regularly review such policies and practices.

2. Defines guidelines, as well as supervise and monitor process, to ensure that the Company's operations are in compliance with established policies and practices in order to continuously develop and enhance corporate governance of the Company.
3. Promotes corporate governance culture among all executives and employees for clear understanding and actual implementation within Thai Oil Group.
4. Promotes and provides advice for the Company on participating in the corporate governance-related assessment or rating to continuously develop and enhance the Company's corporate governance standard.
5. Considers and approve the Board's performance evaluation form, including approving the overall evaluation results and give consent before proposing to the Board.
6. Reviews the Corporate Governance Committee Charter regularly.
7. Responsible for other tasks assigned by the Board of Directors.

In 2017, the Corporate Governance Committee performed its duties under the aforementioned roles. The summary of activities is shown in the “Corporate Governance Committee Report” on page 13.

4) The Risk Management Committee

Appointed by the Board, the Risk Management Committee consists of a minimum of three Directors, with the

CEO/President serving as one of the members. All of the members are fully qualified as Directors in accordance with the Risk Management Committee Charter.

As of December 31, 2017, the Risk Management Committee consisted of four Directors as followed:

Name	Position
1. Mr. Sarun Rungkasiri	Chairman of the Risk Management Committee
2. Mr. Noppadol Pinsupa	Member of the Risk Management Committee
3. Ms. Nitima Thepvanangkul	Member of the Risk Management Committee
4. Mr. Atikom Terbsiri	Member of the Risk Management Committee/ Chief Executive Officer and President

Mr. Somboon Chuaykoblaph, Corporate Strategic Risk Manager, serves as Secretary to the Risk Management Committee

Roles and Responsibilities of the Risk Management Committee

1. Defines and reviews risk management framework, Risk Management Committee Charter, risk management policies and process including suitably and effectively suggest the guidelines to risk management relating to the Company's business to correspond with business strategies, business plans, and volatile circumstances.
2. Continuously and effectively promotes and develops risk management and risk management tools in all levels across the organization, as well as encourage the development of risk management culture in the organization.
3. Supervises, monitors, and reviews key risk management plan and report including give necessary advice to ensure effective risk management at an acceptable level corresponding with risk management policy.
4. Report significant risk management performance to the Board of Directors; in case there are factors or events that might have significant impact on the Company, the Committee shall notify the Board of Directors in a timely manner.
5. Responsible for other tasks assigned by the Board of Directors.

In 2017, the Risk Management Committee performed duties under the aforementioned roles. The summary of activities is shown in the "Risk Management Committee Report" on page 18.

Board Meetings

Annually, Board meetings are scheduled in advance so that Directors can schedule themselves to attend. Meeting invitations, Draft of Minutes of Previous Meeting, and Current Meeting Meeting Documents are delivered to Directors at least seven days prior to meeting date, with exception to urgent matters. In Board Meetings, top executives are invited to attend Board Meetings to provide additional relevant information and allow the Board to get to know them, which will be useful for their review of succession plans.

In 2017, Thailoil managed a total of 15 Board Meetings, one Non-Executive Directors meeting in the absence of the executives, and two Independent Directors meetings. Thailoil encourages the Directors to independently discuss, recommend, and openly express their opinions during

these meetings. The details on Board's meeting attendance can be found on page 104.

In Board meetings, the Board has set up a policy that **requires no less than two-thirds of the total Board in attendance to make a quorum** unless where there is an urgent need to conduct a meeting which may otherwise jeopardize Thailoil's operation, or in the event of an urgent call for a meeting or any other reason where the Board deems appropriate. In these meetings, the Chairman encourages Directors to independently and openly express their opinions. At the end of the meeting, the Company Secretary must compose minutes of the meeting for the Board's approval in the following meeting. The meeting report consists of minutes of the meeting, Board's comments, and clear and complete resolutions for future reference.

Directors' Remuneration

It is Thailoil's policy to compensate Directors reasonably to motivate and retain quality Directors, or at levels comparable to industrial practices. Compensation is linked to each Director's performance and responsibility as well as Thailoil's performance and benefits to the shareholders. Directors tasked with greater responsibilities are paid more accordingly, and Chairman of the Board and Board-Committees may likewise receive higher compensation than Directors. The Nomination and Remuneration Committee sets the remuneration principles and payment method, and present it to the Board and the AGM for approval, respectively. The 2017 AGM reviewed compensation for the Board and Board-Committees is detailed in Director Remuneration on page 111 and individual Directors' compensation can be found in "the 2016 Remuneration of Directors" on page 112.

Directors' Development

Orientation for New Directors

Thailoil encouraged the CEO/President and senior executives to personally provide information on the nature of Thailoil and Subsidiaries' businesses along with essential data that are beneficial to the performance of the Directors. Thailoil also prepared a welcoming package for new Directors to provide essential information including Board's meeting schedule, business overview, business structures, and strategic plans. Others include Thailoil's CG and CoC Manual, Board-Committee Charters, Independent Director Handbook, etc.

Performance Development for the Board

Thailoil has promoted Directors' training conducted by the Thai Institute of Directors (IOD) and other courses and seminars as part of continuous development in support of the duties of the Board. Moreover, external experts in various fields were also invited to Board meetings to share their knowledge and experience with the Directors. Thailoil also holds a Board meeting at the Refinery at least once a year to visit refinery operations and participate in community relations activities. The details of courses attended by the Board can be found on page 151.

Board's Performance Assessment

The annual performance assessment is done in three steps, namely:

- 1) Individual Director Assessment (Self-Assessment)
- 2) Board and Board-Committees Assessment and
- 3) Peer Assessment

Board's Performance Assessment Process

The Board assigns the Corporate Governance Committee to annually endorse all three Board's performance

assessment forms to ensure that they are complete and align with prevailing circumstances. After the Committee's approval, the assessments were handed out to all Directors. The Directors have to complete the assessment form and return it to Thailoil for analysis.

After the analysis, Thailoil must present the results and comments of the Directors to the Corporate Governance Committee and the Board, respectively, to form the basis for improving Board performance in the future. The CEO/President also participates in explaining his expectations for support from the Board.

Board's Performance Assessment Criteria

Thailoil's appraisal form covers additional significant criteria as follows:

- 1) Board Policy
- 2) Board Composition and Qualifications
- 3) Board Meeting
- 4) Practices, Roles, Duties and Responsibilities of the Board, which consist of preparedness of the Board, risk management and internal control, handling of conflicts of interest, financial control and monitoring, selection process, compensation process, and performance appraisal.

The criteria for the evaluation represent the percentage in each item as follows:

Over 85%	=	Excellent
Over 75%	=	Very Good
Over 65%	=	Good
Over 50%	=	Satisfactory
Under 50%	=	Poor

The 2017 Performance Assessment of the Board can be summarized as followed:

Performance Assessment of the Board	2017 (%)	Rating
Form 1: Individual Director Assessment (Self-Assessment)	98	Excellent
Form 2: Board and Board-Committees Assessment	99	Excellent
- Corporate Governance Committee Assessment	99	Excellent
- Audit Committee Assessment	100	Excellent
- Nomination and Remuneration Committee Assessment	100	Excellent
- Risk Management Committee Assessment	99	Excellent
Form 3: Peer Assessment	99	Excellent
The Company randomly selected assessors for each Directors		

The overall result of the 2017 Board Assessment indicates an average rating of "excellent" at the score of 98%.

Nomination, Appointment, Position-Holding Policy, and Succession Plan for the CEO/President

For the nomination of qualified persons to fill the vacant position of CEO/President (the highest level of executives), the Board appoints the Nomination and Remuneration Committee to consider the qualifications and experience of qualified persons that will prove beneficial to Thailoil as well as their potential conflicts of interest and submit them to the Board for consideration and approval.

To bolster shareholders' and investors' confidence that Thailoil and Subsidiaries' businesses will continue its excellence in a timely manner, Thailoil also has a succession

plan for this position. A qualified person must meet the succession criteria and readiness for the position in the future. The succession plan is regularly reviewed.

The Board allows the CEO/President to serve as Director of subsidiary companies to ensure a unity, mutually supporting direction among Thailoil and Subsidiaries for maximum efficiency and effectiveness. It also defines **guidelines for Thailoil's executives and employees that are invited to serve in other companies, agencies, or entities** in Thailoil's CG and CoC Manual. It stated that, if the CEO/President is to be appointed as a member of a committee, he or she is to seek endorsement from the Board before assuming the position. If the matter applies to executives or employees, the matter is to be raised to the Assistant Managing Directors Meeting (AMM) for acknowledgment or endorsement.

CEO/President's Performance Assessment and Remuneration

Thailoil executed CEO/President's Performance Assessment each year. The Nomination and Remuneration Committee, in charge of the annual performance assessment of the CEO/President, must forward the assessment outcome to the Board for endorsement. The performance assessment for the CEO/President has three parts as follows (each part has different weight percentage):

- Part 1 - Corporate Key Performance Indicator (KPI) Achievements
- Part 2 - Leadership Competency
- Part 3 - Efficiency on Budget and Project Management

The performance appraisal outcome, influencing the salary raise for the CEO/President, is presented to the Board for further approval.

Compensation Policy for the CEO/President

Thailoil defines the **Compensation Policy for the CEO/President** by linking the CEO/President's salary to his or her performance. **The Nomination and Remuneration Committee appraises the CEO/President's annual performance** against the fair goals previously set and agreed with him or her. The Committee then recommends its findings to the Board for endorsement, and the Chairman then informs the CEO/President about the decision. The Compensation Policy also links the CEO/President's performance to overall short-term performance, operating performance, and long-term strategic objectives. This practice laid a foundation for future business growth to a motivational-level and comparable to organizations within the same industry, under clear-cut and transparent rules.

4. Supervision of Subsidiaries' Operations

Thailoil defined the Thailoil Group Affiliates Management (TAM) Policy with explicit roles and responsibilities of assigned-representatives to manage all subsidiaries, in order to ensure that they conform to the strategic directions, which would in turn lead to the achievement of long-term goals and sustainable growth. In the supervision of Thailoil's operations, Thailoil has appointed the CEO/President along with other senior executives to serve as members of the boards in the subsidiaries where Thailoil holds all the shares. The TAM Policy includes Subsidiaries' management, duties and responsibilities of assigned-representatives, etc. **The Corporate Governance and Anti-Corruption Policies represent part of TAM Policy, in which Thailoil and Subsidiaries need to follow, based on its management guidelines.**

Connected Transactions or Acquisition or Disposal of Assets of Thailoil and Subsidiaries

Thailoil establishes its Connected Transaction Policy in

compliance with the rules and regulations of the SEC and accounting standards. **The Audit Committee then provides opinions on the suitability of connected transactions.** If the Audit Committee lacks expertise to consider such matter, Thailoil will secure the opinions of a qualified person. Afterward, these opinions will be proposed to the Board or AGM for case-by-case approval.

In case Thailoil or its subsidiaries* involves in a connected transaction or an activity in which substantial assets of Thailoil are acquired or disposed of, according to the principles of SET, Thailoil must take action stipulated by SET. This requires approval from the shareholders to enter a connected transaction or to acquire or dispose of substantial assets of Thailoil with a majority vote of no less than three-fourths of all votes of the shareholders or proxies attending the meeting and eligible to vote without counting the votes of shareholders involved in the conflicts of interest.

(*Companies in which Thailoil, directly or indirectly, has a shareholding of more than 50 percent of the registered paid-up capital)

In summary, in 2017, Thailoil complied with all elements of the corporate governance policy for listed companies as required by SET, with exception for the following point. First is **the Cumulative Voting**. According to Thailoil's Regulation, Section 5, Item 17, states one share carries one vote, and each shareholder may choose to exercise all of his or her votes for one or more Directors, but may not divide his or her votes for any preferred candidate. Another point is **the Number of Directors**, where the Board should consist of 5-12 Directors. As of December 31, 2017, Thailoil's Board consisted of 14 Directors. This follows Thailoil Regulation, Section 5, Item 16, which indicates that the Board is to contain no less than five and no more than 15 Directors to enable the Board to command a proper size for its complexity. The Board should be made up of competent Directors with extensive credibility, while they should be diverse in background, including industrial, finance and accounting, business, management, strategic, legal, and good governance, among others.



Thai Institute of Directors Association (IOD) Courses attended by Directors

Director	Position	Director Certification Program (DCP)	Director Accreditation Program (DAP)	Audit Committee Program (ACP)	Role of the Compensation Committee (RCC)	Role of the Nomination and Governance Committee (RNG)	Role of the Chairman Program (RCP)	Financial Statements for Directors (FSD)	Others
1 Professor Dr. Thosaporn Sirsumphand	Independent Director and Chairman of the Board	DCP 80/2006							FND 30/2006 DCPU 4/2015
2 Ms. Chulanat Suteethorn	Independent Director, Chairman of the Audit Committee, and Member of the Nomination and Remuneration Committee	DCP 72/2006	DAP 40/2005	ACP 39/2012	RCC 20/2015	RNG 3/2012	RCP 28/2012	FSD 10/2010	FND 28/2006 FGP 4/2012 ACEP 10/2014 AACP 15/2014 DCPU 4/2015 ELP 7/2017 BNCP 1/2017
3 Mrs. Suwimol Chrityakierne	Independent Director and Member of the Audit Committee	DCP 92/2007		ACP 36/2011					AACP 27/2017 ELP 10/2017
4 Gen. Thanakam Kerdhaimongkol	Independent Director, Member of the Audit Committee, and Member of the Corporate Governance Committee	DCP 227/2016							BMD 4/2017
5 ACM Suttipong Inseeyong	Independent Director and Chairman of the Nomination and Remuneration Committee		DAP 114/2015						
6 Mr. Sarun Rungkasiri	Director, Chairman of the Risk Management Committee, and Member of the Nomination and Remuneration Committee	DCP 61/2005							CSP 8/2004 FND 19/2005
7 Mrs. Nilima Thepvarangkul	Director and Member of the Risk Management Committee	DCP 126/2009							RMP 3/2014 ACPG 18/2015 ELP 3/2016
8 Mr. Noppadol Phisupa	Director and Member of the Risk Management Committee	DCP 146/2011						FSD 12/2011	
9 Pol. Gen. Ask Angsanant	Independent Director and Chairman of the Corporate Governance Committee		DAP 111/2008						BMT 4/2017
10 Mr. Yongyut Jantarotai	Director and Member of the Corporate Governance Committee	DCP 237/2017						FSD 31/2016	CGE 5/2015
11 Mr. Chen Namchaisiri	Independent Director	DCP 138/2010	DAP 11/2004						Exam 30/2011
12 Mrs. Sriwan Eamrungraj	Director	DCP 160/2012							M & A 1/2011
13 Mr. Suchalee Sumamal	Director		DAP 142/2017						
14 Mr. Atikom Terbsiri	Director, Member of the Risk Management Committee, Chief Executive Officer and President, and Secretary to the Board	DCP 125/2009					RCP 41/2017		RCL 4/2016
Directors who completed their terms and resigned during the year 2017									
1 Mr. Kurujit Nakornthap	Director and Chairman of the Board (Completed his term in the 2017 Annual General Meeting of Shareholders)		DAP 64/2007	ACP 32/2010	RCC 12/2011				
2 Mr. Siri Jirapongphan	Independent Director and Member of the Audit Committee (Resigned on November 17, 2017)	DCP 77/2006							
3 Ms. Nantika Thangsuphanich	Director (Resigned on December 1, 2017)								

Training Course in year 2017

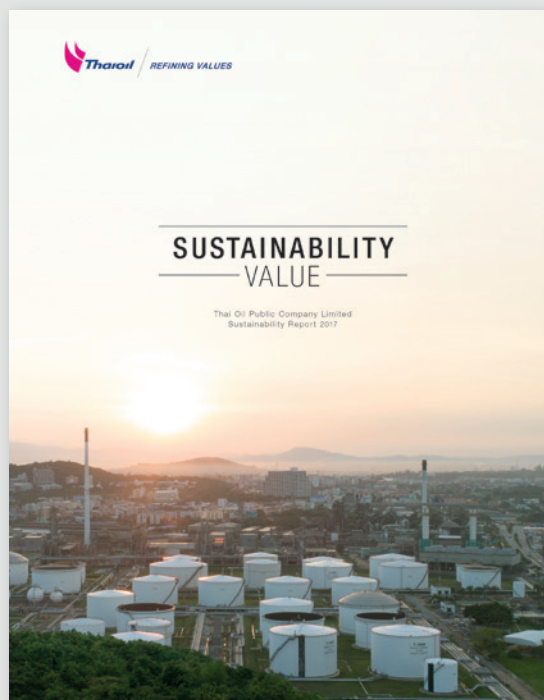
No.	Name - Surname	Position	Training Course in year 2017
1	Prof. Dr. Thosaporn Sirisumphand	Independent Director and Chairman of the Board	>> Chairman Forum: "The Role of Chairman in Leading Strategic Risk Oversight"
2	Ms. Chularat Suteethorn	Independent Director, Chairman of the Audit Committee, and Member of the Nomination and Remuneration Committee	>> Ethical Leadership Program (ELP 7/2017) >> Board Nomination & Compensation Program (BNCP 1/2017) >> Seminar "PTT Group AC Forum 2017: Infinite AC Challenge" >> "Resource Revolution: Another Chapter in the 4 th Industrial Revolution" >> Seminar: "Key Audit Matters" >> Training in Development Assistance, Canada >> Training course on Administrative Court and its procedured matter, The Administrative Court >> Training Course on Good Governance for Directors and Executives of State-Owned Enterprises and Organization Class 11, King Prajadhipok's Institute, State Enterprise Policy Office and Office of the Public Sector Development Commission
3	Mrs. Suvimol Chrityakierne	Independent Director and Member of the Audit Committee	>> Advanced Audit Committee Program (AACP 27/2017) >> Ethical Leadership Program (ELP 10/2017) >> Seminar "PTT Group AC Forum 2017: Infinite AC Challenge" >> "Resource Revolution: Another Chapter in the 4 th Industrial Revolution" >> Seminar: "Key Audit Matters"
4	Gen. Thanakarn Kerdnaimongkol	Independent Director, Member of the Audit Committee, and Member of the Corporate Governance Committee	>> Board That Make a Difference (BMD 4/2017)

No.	Name - Surname	Position	Training Course in year 2017
5	Mr. Noppadol Pinsupa	Director and Member of the Risk Management Committee	>> National Defence Course Class 60, National Defence College
6	Pol. Gen. Aek Angsanant	Independent Director and Chairman of the Corporate Governance Committee	>> Board Matters & Trends (BMT 4/2017)
7	Mr. Yongyut Jantararotai	Director and Member of the Corporate Governance Committee	>> Director Certification Program (DCP 237/2017)
8	Mrs. Sriwan Eamrungraj	Director	>> Capital Market Academy Leader Program Class 25, Capital Market Academy
9	Mr. Suchalee Sumamal	Director	>> Director Accreditation Program (DAP 142/2017)
10	Mr. Atikom Terbsiri	Director, Member of the Risk Management Committee, Chief Executive Officer and President, and Secretary to the Board	>> Role of the Chairman Program (RCP 41/2017)
11	Mr. Siri Jirapongphan*	Independent Director and Member of the Audit Committee	>> Seminar "PTT Group AC Forum 2017: Infinite AC Challenge" >> Academic Seminar: Energy Symposium 2017 "Energy 4.0"

Remarks :

* Mr. Siri Jirapongphan resigned from directorship on November 17, 2017.

THAIOIL AND SUBSIDIARIES' SOCIAL RESPONSIBILITY



The performance of Thaioil and Subsidiaries concerning social and environmental responsibility was disclosed in the 2017 Sustainability Report.

In preparing the 2017 Sustainability Report, Thaioil conducted materiality assessment under Global Reporting Initiative Standard (GRI Standard) and additional indicators for Oil and Gas Sector Disclosure. Furthermore, the report partly adheres to the Integrated Reporting <IR> Framework, and presents the progress of the implemented 10 principles of United Nations Global Compact (UNGC) as well as the UN's Sustainable Development Goals (SDGs). The materiality assessment process and environmental and safety performance in the Sustainability Report 2017 are verified through independent third party assurance.

Materiality Assessment of Thaioil and Subsidiaries

01 Identification

Considered the 2017 business key points through SWOT analysis and reviewed 2016 material aspects by taking into account additional elements of international practices, including GRI, Dow Jones Sustainability Indices (DJSI), SDGs, Global Mega Trends, and stakeholders' expectations.

02 Prioritization

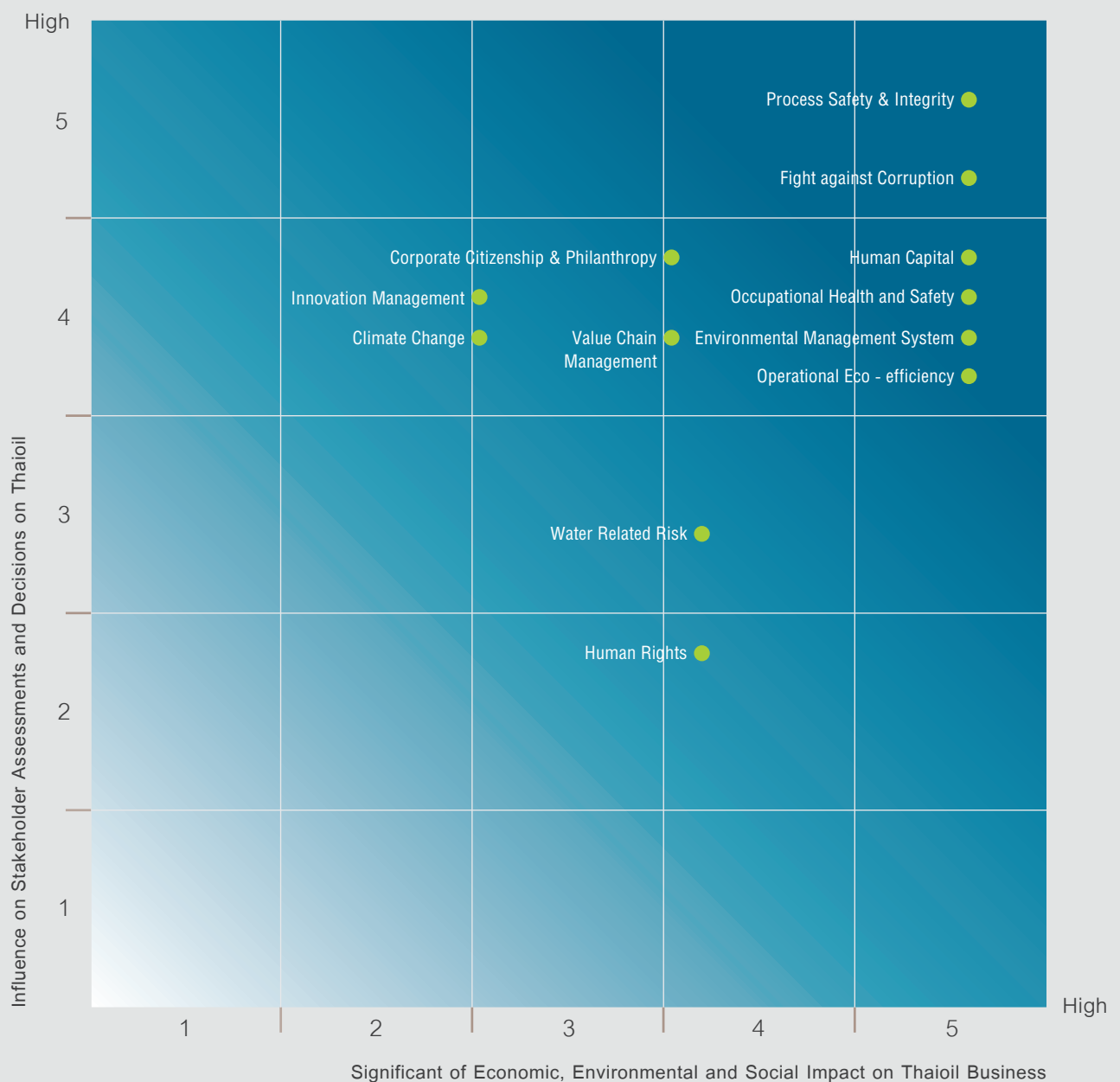
With relevant units, reviewed the ranking of 2017 sustainability material aspects with priority given to two aspects: 1) significant impacts on and opportunities for Thaioil and Subsidiaries' businesses, and 2) issues affecting stakeholders.

03 Validation

Verified the completeness and appropriateness of material aspects with different priority by sustainability management units before tabling the findings to the Assistant Managing Director Meeting, chaired by CEO/President, for approval and confirmation of significant sustainability aspects under the scope of impacts on both inside and outside organization.

The validation process on materiality, the stakeholder engagement and data on safety and environmental performance were audited by an independent third party to ensure accuracy, clarity, and completeness.

MATERIALITY MATRIX 2017



CORPORATE INFORMATION

Thai Oil Public Company Limited

Monogram	TOP
Registration Number	0107547000711
Business	<p>Thaioil is Thailand's largest refinery and supplier of petroleum products. Founded in 1961, we operate one of the most efficient refineries in Asia Pacific with the current capacity of 275,000 barrels per day.</p> <p>Thaioil operates under the Operational Excellence principle, operating as an integrated group of businesses in oil refinery, petrochemicals and lube base oil with supporting businesses, e.g. power generation, solvents, logistics and renewable energy generation, LAB : an intermediate in the production of surfactants, marine and pipeline transportation and storage services of crude, petroleum and petrochemical products, business in the area of International Head Quarter and Treasury Center, as well as recruitment services for Thaioil and Subsidiaries. Thaioil leads the Thai refinery industry through a well planned and integrated production process, yielding optimum efficiency. Our product quality are high, rated in the top quartile of refineries in Asia Pacific at lower production costs, giving Thaioil a recognized competitive advantage.</p>
Registered Capital	<p>THB 20,400,278,730</p> <p>Comprising 2,040,027,873 fully paid-up common shares of 10 Baht per share</p>
Number of Employees	701 persons (as of December 31, 2017)
Address	<p>Bangkok Office 555/1 Energy Complex Building A, 11th Floor, Vibhavadi Rangsit Road, Chatuchak, Chatuchak, Bangkok 10900, Thailand Telephone : +66(0) -2797-2999, +66(0) -2797-2900, +66(0) -2299-0000 Fax : +66(0) -2797-2970</p> <p>Sriracha Office and Refinery 42/1 Moo 1, Sukhumvit Road Km.124, Tungsukla, Sriracha, Chonburi 20230, Thailand Telephone : +66(0) -3840-8500, +66(0) -3835-9000 Fax : +66(0) -3835-1554, +66(0) -3835-1444</p>
Website	www.thaioilgroup.com
Investor Relations	<p>Telephone : +66(0) -2797-2961</p> <p>e - mail : ir@thaioilgroup.com</p>

General Information of the Subsidiaries

Company Name and Address	Registration Number	Business	Registered Capital in Baht	Type of Shares	Number of Shares (Issued)	Value of Share (Baht per share)	Shareholding (%)
Lube Base Oil Business							
Thai Lube Base Public Company Limited 555/1 Energy Complex Building A, 11 th Floor, Vibhavadi Rangsit Road, Chatuchak Chatuchak, Bangkok 10900, Thailand Tel : +66(0) -2299-0000, +66(0) -2797-2999 Fax : +66(0) -2797-2970	0107539000090	Lube base oil manufacturer and distributor	1,757,890,730	Common	175,789,073	10	100
Petrochemical Business							
Thai Paraxylene Company Limited 105/12 Moo 2 Sukhumvit Road, Tungskula, Sriracha, Chonburi 20230, Thailand Tel : +66(0) -3835-1317-9, +66(0) -3835-1878 Fax : +66(0) -3835-1320	0105539103288	Upstream petrochemical manufacturer and distributor	2,572,414,160	Common	257,241,416	10	100
Labix Company Limited 555/1 Energy Complex Building A, 11 th Floor, Vibhavadi Rangsit Road, Chatuchak, Chatuchak, Bangkok 10900, Thailand Tel : +66(0) -2299-0000, +66(0) -2797-2999 Fax : +66(0) -2797-2974	0105556110246	LAB (an intermediate in the production of surfactants such as detergents) manufacturer and distributor	4,654,965,000	Common	465,496,500	10	75 (Shareholding through Thai Paraxylene Co., Ltd.)
Thaioil Solvent Company Limited 555/1 Energy Complex Building A, 11 th Floor, Vibhavadi Rangsit Road, Chatuchak, Chatuchak, Bangkok 10900, Thailand Tel : +66(0) -2299-0000, +66(0) -2797-2999 Fax : +66(0) -2797-2970	0105551116050	Investment in solvent and petrochemical manufacturing business	1,250,000,000	Common	125,000,000	10	100

Company Name and Address	Registration Number	Business	Registered Capital in Baht	Type of Shares	Number of Shares (Issued)	Value of Share (Baht per share)	Shareholding (%)
TOP Solvent Company Limited 555/1 Energy Complex Building A, 11 th Floor, Vibhavadi Rangsit Road, Chatuchak, Chatuchak, Bangkok 10900, Thailand Tel : +66(0) -2299-0000, +66(0) -2797-2999 Fax : +66(0) -2797-2983	0105551116491	Solvent and petrochemical product distributor	1,200,000,000	Common	120,000,000	10	100 (Shareholding through Thaitoil Solvent Co., Ltd.)
Sak Chaisidhi Company Limited 555/1 Energy Complex Building A, 11 th Floor, Vibhavadi Rangsit Road, Chatuchak, Chatuchak, Bangkok 10900, Thailand Tel : +66(0) -2299-0003, +66(0) -2797-2993 Fax : +66(0) -2797-2983	0105527011880	Hydrocarbon solvent manufacturer and distributor	180,000,000	Common	1,800,000	100	80.52 (Shareholding through TOP Solvent Co., Ltd.)
TOP Solvent (Vietnam) Limited Liability Company Go Dau Industrial Zones, Long Thanh District, Dong Nai Province, Vietnam Tel : +84-83827-9030-4 Fax : +84-83827-9035	472043000745 (Registered in Vietnam)	Solvent and petrochemical products distributor in Vietnam	373,520,000,000 VND	Common	-	-	100 (Shareholding through TOP Solvent Co., Ltd.)
Power Generation Business Thaitoil Power Company Limited 555/1 Energy Complex Building A, 11 th Floor, Vibhavadi Rangsit Road, Chatuchak, Chatuchak, Bangkok 10900, Thailand Tel : +66(0) -2299-0000, +66(0) -2797-2999 Fax : +66(0) -2797-2970	0105539103296	Power and steam generator and distributor	2,810,000,000	Common	281,000,000	10	73.99

Company Name and Address	Registration Number	Business	Registered Capital in Baht	Type of Shares	Number of Shares (Issued)	Value of Share (Baht per share)	Shareholding (%)
Global Power Synergy Public Company Limited 555/2 Energy Complex Building B, 5 th Floor, Vibhavadi Rangsit Road, Chatuchak Chatuchak, Bangkok 10900, Thailand Tel : +66(0) -2140-4600 Fax : +66(0) -2140-4601	0107557000411	Operate power generation business, including invest and develop future projects in power business	14,983,008,000	Common	1,498,300,800	10	8.91 and 20.79 (Shareholding through Thailoil Power Co., Ltd.)
TOP SPP Company Limited 555/1 Energy Complex Building A, 11 th Floor, Vibhavadi Rangsit Road, Chatuchak Chatuchak, Bangkok 10900, Thailand Tel : +66(0) -2299-0000, +66(0) -2797-2999 Fax : +66(0) -2797-2974	0105556198933	Power and steam generator and distributor	3,500,000,000	Common	350,000,000	10	100
Transportation Business Thailoil Marine Company Limited 223/97 Country Complex Building A, 22 nd Floor, Sanphawut Road, Bangna, Bangkok 10260, Thailand Tel : +66(0) -2361-7500 Fax : +66(0) -2361-7498-9	0105541047578	Provide marine transportation of petroleum and petrochemical products	970,000,000	Common	97,000,000	10	100
Thailoil Marine International Private Limited 391A Orchard Road #12-01104, #12-05 & 12-10, Ngee Ann City Tower A, Singapore 238873 Tel : +65-6734-6540 Fax : +65-6734-3397, +65-6734-5801	201021606H (Registered in Singapore)	Investment in marine transportation of crude oil and petroleum products	9,000,000 USD	Common	9,000,000	1 USD per share	100 (Shareholding through Thailoil Marine Co., Ltd.)

Company Name and Address	Registration Number	Business	Registered Capital in Baht	Type of Shares	Number of Shares (Issued)	Value of Share (Baht per share)	Shareholding (%)
TOP-NYK MarineOne Private Limited 1 Harbourfront Place #13-01, Harbourfront Tower One, Singapore 098633 Tel : +65-6290-8405 Fax : +65-6293-2080	201104774G (Registered in Singapore)	Marine transportation of crude oil and petroleum products	18,000,000 USD	Common	18,000,000	1 USD per share	50 (Shareholding through Thairoil Marine International Pte. Ltd.)
TOP Maritime Service Company Limited 223/97 Country Complex Building A, 22 nd Floor, Sanphawut Road, Bangna, Bangkok 10260, Thailand Tel : +66(0) -2361-7500 Fax : +66(0) -2361-7498-9	0115554017087	Marine transportation services for crew and supplies in the Gulf of Thailand	270,000,000	Common	2,700,000	100	55 (Shareholding through Thairoil Marine Co., Ltd.)
T.I.M. Ship Management Company Limited 223/18-20 Country Complex Building A, 8 th Floor, Sanphawut Road, Bangna, Bangkok 10260, Thailand Tel : +66(0) -2745-7711 Fax : +66(0) -2745-7713	0105551087343	Ship management and international-standard fleet development services as well as crew development consultation (technical operation and marine transportation quality)	3,000,000	Common	30,000	100	33.3 (Shareholding through Thairoil Marine Co., Ltd.)
TOP-NTL Private Limited 5 Temasek Boulevard #11-02 Suntec Tower Five, Singapore 038985 Tel : +65-6361-0383 Fax : +65-6361-0377	201202478W (Registered in Singapore)	Trustee Management	20,000 SGD	Common	20,000	1 SGD per share	50 (Shareholding through Thairoil Marine Co., Ltd.)

Company Name and Address	Registration Number	Business	Registered Capital in Baht	Type of Shares	Number of Shares (Issued)	Value of Share (Baht per share)	Shareholding (%)
TOP Nautical Star Company Limited 88 Soi Bangna-Trad 30, Bangna-Trad Road, Bangna, Bangna, Bangkok, 10260, Thailand Tel : +66(0) -2331-0080-5 Fax : +66(0) -2331-0086	0105556123275	Large vessels provider for storage and transportation of crude oil, feedstock, and petroleum products	150,000,000	Common	1,500,000	100	35 (Shareholding through Thaioil Marine Co., Ltd.) 30 (Shareholding through TOP-NTL Pte. Ltd.)
Thai Petroleum Pipeline Company Limited 2/8 Moo 11, Lumlukka Road, Ladsawai, Lumlukka, Pathumthani 12150, Thailand Tel : +66(0) -2034-9199 Fax : +66(0) -2533-2687	0105534002696	Pipeline transportation of petroleum products	8,479,000,000	Common	84,790,000	100	9.19
Other Business Thaioil Energy Services Company Limited 555/1 Energy Complex Building A, 11 th Floor, Vibhavadi Rangsit Road, Chatuchak, Chatuchak, Bangkok 10900, Thailand Tel : +66(0) -2299-0000, +66(0) -2797-2999 Fax : +66(0) -2797-2970	0105550078006	Recruiting management service	40,000,000	Common	4,000,000	10	100
Thaioil Ethanol Company Limited 555/1 Energy Complex Building A, 11 th Floor, Vibhavadi Rangsit Road, Chatuchak Chatuchak, Bangkok 10900, Thailand Tel : +66(0) -2299-0000, +66(0) -2797-2999 Fax : +66(0) -2797-2970	0105551121754	Investment in ethanol business and alternative energy	1,450,000,000	Common	145,000,000	10	100
Sapthip Company Limited 68 Soi Santipap, Sap Road, Sipraya, Bangrak, Bangkok 10500, Thailand Tel : +66(0) -2233-0444-5 Fax : +66(0) -2233-0441	0105539017543	Cassava-based ethanol manufacturer and distributor	800,000,000	Common	8,000,000	100	50 (Shareholding through Thaioil Ethanol Co., Ltd.)

Company Name and Address	Registration Number	Business	Registered Capital in Baht	Type of Shares	Number of Shares (Issued)	Value of Share (Baht per share)	Shareholding (%)
Ubun Bio Ethanol Company Limited 333 Moo 9, Nadee, Nayear, Ubunratchatani 34160, Thailand Tel : +66(0) -4525-2777 Fax : +66(0) -4525-2776	0345550000315	Cassava-based and molasses-based ethanol manufacturer and distributor	2,740,000,000	Common	2,740,000	1,000	21.28 (Shareholding through Thaiol Ethanol) Co., Ltd.)
PTT Digital Solutions Company Limited 555/1 Energy Complex Building A, 4 th - 5 th Floor, Vibhavadi Rangsit Road, Chatuchak, Chatuchak, Bangkok 10900, Thailand Tel : +66(0) -2140-2000 Fax : +66(0) -2140-2999	0105549076496	IT and communication services	150,000,000	Common	15,000,000	10	20
PTT Energy Solutions Company Limited Green Building, 888 Mapchalood-Leamson Road, Tambon Huai Pong, Mang District, Rayong 21150, Thailand Tel : +66(0) -3897-8300 Fax : +66(0) -3897-8333	0105554075621	Engineering technique consultation and other services	150,000,000	Common	1,500,000	100	20
Thaiol Treasury Center Company Limited 555/1 Energy Complex Building A, 11 th Floor, Vibhavadi Rangsit Road, Chatuchak, Chatuchak, Bangkok 10900, Thailand Tel : +66(0) -2299-0000, +66(0) -2797-2999 Fax : +66(0) -2797-2974	0105560167273	Conduct the business in the area of International Head Quarter (IHQ) and Treasury Center (TC) in order to increase financial efficiency of Thaiol and Subsidiaries	10,000,000	Common	1,000,000	10	100
Sarn Palung Social Enterprise Company Limited 555/1 Energy Complex Building A, 10 th Floor, Vibhavadi Rangsit Road, Chatuchak, Chatuchak, Bangkok 10900, Thailand Tel : +66(0) -2537-2984 Fax : +66(0) -2537-2978	0105560151628	Support execution of social enterprise of PTT Group	10,000,000	Common	2,500,000	10	15

Reference

Securities Registrar

Thailand Securities Depository Company Limited (TSD)
The Stock Exchange of Thailand Building,
93 Ratchadapisek Road, Dindaeng,
Bangkok 10400, Thailand
Tel : +66(0) -2009-9000,
+66(0) -2009-9999 (Call center)
Fax : +66(0) -2009-9991

Debenture Registrar and Principal Paying Agent

Thai Military Bank Public Company Limited
Securities Services and Fund Operations
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Other Services (Loss of Share Certificate, Change of Particulars in Securities Register, and Other Services)

Counter Service

The Stock Exchange of Thailand Building, 1st Floor,
93 Ratchadapisek Road, Dindaeng,
Bangkok 10400, Thailand
Tel : +66(0) -2009-9999 (Call Center)

or

Office of Registration Services

Thailand Securities Depository Company Limited (TSD)
The Stock Exchange of Thailand Building,
93 Ratchadapisek Road, Dindaeng,
Bangkok 10400, Thailand
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THAIOIL AND SUBSIDIARIES' BUSINESS STRUCTURE

Oil Refinery



Thai Oil Plc

Capacity:

275,000 barrels/day



Platformate

1.8 million tons/annum

Petrochemical & Lube Base Oil



Thai Paraxylene Co., Ltd.

Aromatics

Capacity:

Paraxylene

527,000 tons/annum

Mixed Xylene

52,000 tons/annum

Benzene

259,000 tons/annum

Total

838,000 tons/annum

100%

100%



Thai Lube Base Plc

Lube Base Oil

Capacity:

Lube Base Oil

267,015 tons/annum

Bitumen

350,000 tons/annum

TDAE

67,520 tons/annum

25% Mitsui & Co., Ltd.

75% Labix Co., Ltd.

LAB Producer and Distributor

Capacity: 120,000 tons/annum

COD: 2016

100% Thaioil Solvent Co., Ltd.

100%

TOP Solvent Co., Ltd.

Solvent Distributor in Thailand

80.5%

100%

Sak Chaisidhi Co., Ltd.

Solvent Manufacturer

Capacity:

141,000 tons/annum

TOP Solvent (Vietnam) LLC.

Solvent Distributor in Vietnam

Core Business

Value Enhancement

Thaioil is Thailand's largest refinery and supplier of petroleum products. Founded in 1961, we operate one of the most efficient refineries in Asia Pacific with the current capacity of 275,000 barrels per day.

Thaioil operates under the Operational Excellence principle, operating as an integrated group of businesses in oil refinery, petrochemicals and lube base oil with supporting businesses, e.g. power generation, solvents, logistics and renewable energy generation, LAB: an intermediate in the production of surfactants, marine and pipeline transportation and storage services of crude, petroleum and petrochemical products, business in the area of International Head Quarter and Treasury Center, as well as recruitment services for Thaioil and Subsidiaries. Thaioil leads the Thai refinery industry through a well-planned and integrated production process, yielding optimum efficiency. Our product quality are high, rated in the top quartile of refineries in Asia Pacific at lower production costs, giving Thaioil a recognized competitive advantage.

Power Generation



Thaioil Power Co., Ltd.

Sells Electricity/Steam to Thaioil and Subsidiaries

Small Power Producer (SPP)
3-on-1 Combined Cycle
Capacity:
Electricity: 118 megawatts
Steam: 216 tons/hour

100% TOP SPP Co., Ltd.

2 Small Power Producer (SPP)
Capacity:
Electricity: 239 megawatts
Steam: 498 tons/hour
COD: 2016

22.6% PTT Plc
22.7% PTT Global Chemical Plc
25% Free Float in SET

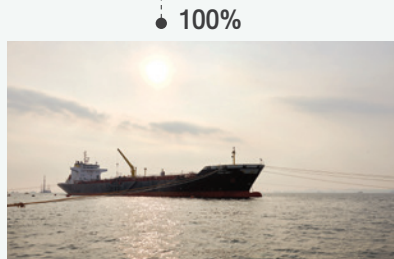
20.8%

Global Power Synergy Plc

Principal power plant of PTT Group
Capacity:
Electricity: 1,922 megawatts
Steam: 1,582 tons/hour
Industrial water: 2,080 cubic meters/hour
Chilled water: 12,000 refrigerator tons

Earning Stability

Transportation & Others



Thaioil Marine Co., Ltd.

5 Oil & Chemical Tankers

Capacity: 52,350 deadweight tonnage

3 Crude Tankers VLCCs

Capacity: 881,050 deadweight tonnage

14 Crew & Utility Boats

Capacity: 120 deadweight tonnage each

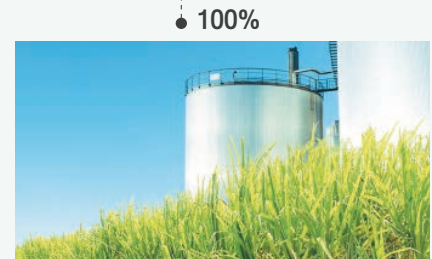
2 Large Vessels for Crude, Feedstock & Product Storage and Transportation Services
Capacity: 200,000 deadweight tonnage

Ship Management Services

40.4% PTT Plc
50.4% Others

9.2% Thai Petroleum Pipeline Co., Ltd.

Multi-product Pipeline
Capacity: 26,000 million litres/annum



Thaioil Ethanol Co., Ltd.

50%

Sapthip Co., Ltd.

Cassava Based Ethanol
Capacity: 200,000 litres/day

57.4% 21.3%

Others Bangkok Corporation Plc

21.3%

Ubong Bio Ethanol Co., Ltd.

Cassava and Molasses Based Ethanol
Capacity: 400,000 litres/day

Thaioil Energy

Services Co., Ltd.

Provides Recruitment
Service for Thaioil and Subsidiaries

40% PTT Plc

20% PTT Global Chemical Plc

20% IRPC Plc

PTT Energy

Solutions Co., Ltd.

Provides engineering
technique consulting services

80% PTT Group

PTT Digital Solutions

Co., Ltd.

IT and communication services

Sarn Palung Social Enterprise

Co., Ltd.

Supports execution of
social enterprise of PTT Group

Thaioil Treasury Center

Co., Ltd.

Increases financial efficiency of
Thaioil and Subsidiaries

Marketing/IT Support

REVENUE STRUCTURE

Thaioil's core earnings were derived from our oil refinery business. Other revenue contributors were the lube base oil refinery, petrochemical, power generation, marine transportation service, solvent, ethanol and other businesses.

(in million Baht)

			Ownership Interest		For the year ended December 31					
					2017		2016		2015	
			Operator ⁽⁴⁾	(%)	Amount	%	Amount	%	Amount	%
A. Net Sales										
1. Oil refinery	TOP	-	349,829	102	283,293	103	290,113	98		
2. Lube base oil refinery	TLB	100	18,662	5	13,536	5	18,944	6		
3. Petrochemical	TPX	100	57,881	17	48,384	17	40,635	13		
4. Power generation	TP/TOP SPP	74/100	10,929	4	9,131	3	5,075	1		
5. Marine transportation service	TM	100	801	-	878	-	1,219	-		
6. Solvent	TOS	100	9,182	3	7,630	3	7,828	3		
7. Ethanol	TET	100	1,620	-	1,539	1	1,536	1		
8. Other	TES	100	985	-	900	-	814	-		
Less: Eliminations			(112,501)	(33)	(90,552)	(33)	(72,595)	(24)		
Total			337,388	98	274,739	99	293,569	98		
B. Net Derivative Gain on Hedging ⁽¹⁾										
1. Oil refinery	TOP	-	-	-	-	-	1,489	1		
Total			-	-	-	-	1,489	1		
C. Net Foreign Exchange Gain ⁽²⁾										
1. Oil refinery	TOP	-	2,882	1	372	-	-	-		
2. Lube base oil refinery	TLB	100	-	-	10	-	-	-		
3. Petrochemical	TPX	100	333	-	58	-	-	-		
4. Power generation	TP/TOP SPP	74/100	1	-	5	-	-	-		
5. Marine transportation service	TM	100	(7)	-	(3)	-	-	-		
6. Solvent	TOS	100	(29)	-	6	-	-	-		
7. Ethanol	TET	100	1	-	(2)	-	-	-		
Total			3,181	1	446	-	-	-		

(in million Baht)

			Ownership Interest		For the year ended December 31					
					2017		2016		2015	
			Operator ⁽⁴⁾	(%)	Amount	%	Amount	%	Amount	%
D. Other Revenues ⁽³⁾										
1. Oil refinery	TOP	-	3,272	1	2,926	1	2,777	1		
2. Lube base oil refinery	TLB	100	93	-	82	-	115	-		
3. Petrochemical	TPX	100	235	-	196	-	218	-		
4. Power generation	TP/TOP SPP	74/100	21	-	10	-	8	-		
5. Marine transportation service	TM	100	32	-	28	-	22	-		
6. Solvent	TOS	100	14	-	54	-	30	-		
7. Ethanol	TET	100	6	-	8	-	6	-		
8. Other	TES	100	1	-	1	-	-	-		
Less: Eliminations			(2,484)	-	(2,186)	-	(1,678)	-		
Total			1,190	1	1,119	1	1,498	1		
Total revenues (A-D)			341,759	100	276,304	100	296,556	100		

Remarks:

⁽¹⁾ Oil refinery and Petrochemical have net derivative loss on hedging in 2017 and 2016.

⁽²⁾ Net foreign exchange loss in 2015.

⁽³⁾ Comprises received interests, export tax subsidy, revenues from services provided to subsidiary companies, land lease, single buoy mooring service fee, oil storage tank lease etc.

⁽⁴⁾ TOP is Thai Oil Plc

TLB is Thai Lube Base Plc

TPX is Thai Paraxylene Co., Ltd. having respective interests in Labix Co., Ltd.

TP is Thairoil Power Co., Ltd.

TOP SPP is TOP SPP Co., Ltd.

TM is Thairoil Marine Co., Ltd. having respective interests in Thairoil Marine International Pte. Ltd. and TOP Maritime Service Co., Ltd.

TOS is Thairoil Solvent Co., Ltd. having respective interests in TOP Solvent Co., Ltd., Sak Chaisidhi Co., Ltd. and

TOP Solvent (Vietnam) LLC.

TET is Thairoil Ethanol Co., Ltd. having respective interests in Sapthip Co., Ltd.

TES is Thairoil Energy Services Co., Ltd.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL POSITION AND OPERATING RESULTS

Consolidated Financial Results

		2017	2016	+/(−)
Gross Integrated Margin (GIM)				
: <u>excluding</u> stock gain/(loss) ⁽¹⁾	USD/barrel	9.1	7.5	1.6
: <u>including</u> stock gain/(loss) ⁽¹⁾	"	9.9	9.1	0.8
Sales revenue	Million Baht	337,388	274,739	62,649
Hedging Gain/(Loss)	"	(133)	(243)	110
EBITDA	"	36,925	32,675	4,250
Finance Costs	"	(3,285)	(3,461)	176
Foreign Exchange Gain/(Loss)	"	3,182	446	2,736
Income Tax Expenses/(Reversal)	"	(5,529)	(2,295)	(3,234)
Net Profit/(Loss) ⁽²⁾	"	24,856	21,222	3,634
Basic Earnings/(Loss) per Share	Baht	12.18	10.40	1.78
Stock Gain /(Loss)	Million Baht	3,343	6,138	(2,795)
Petroleum Inventory write-down to NRV/(Reversal)	"	73	1,041	(968)
Net Profit <u>excluding</u> stock gain/(loss) and inventory write-down to NRV ⁽³⁾	"	21,441	14,043	7,398

Remarks:

⁽¹⁾ Gross Integrated Margin (GIM) includes Thai Oil Plc (Thaioil), Thai Paraxylene Co., Ltd. (TPX), Labix Co., Ltd. (LABIX), and Thai Lube Base Plc (TLB).

⁽²⁾ Including dividends received of THB 158 million for the year 2017 and THB 247 million for the year 2016 from Thai Petroleum Pipeline Co., Ltd. (THAPPLINE).

⁽³⁾ Excluding pre-tax stock gain/(loss) and pre-tax petroleum inventory write-down to NRV/(a reversal of petroleum inventory write-down to NRV). Such items are included in the costs of sale of goods and services rendered in the financial statements.

In 2017, Thaioil and Subsidiaries maintained elevated levels of outputs. Thaioil Refinery boasted a 112% in utilization rate; aromatics business, 83%; LAB business, 100%; and lube base oil business, 88%. Thaioil and Subsidiaries had sales revenue of THB 337.388 billion, increased by THB 62.649 billion from last year due to increases in average product selling prices following crude oil price and higher integrated intake. Thaioil and Subsidiaries posted GIM excluding stock gain/(loss)

of 9.1 USD per barrel, improved by 1.6 USD per barrel due to higher product margins and declining crude premium. For Thai Lube Base Plc, its performance improved as a result of the market conditions of lube base oil and bitumen. Meanwhile, the performance of Thai Paraxylene Co., Ltd. was weaker than last year in line with weaker paraxylene markets despite the sharply recovering benzene market. In addition, Thaioil and Subsidiaries achieved benefit of THB 5.505 billion from Profitability

Improvement Project which consists of four main types of activities. They are supply and marketing management, hydrocarbon management, project, Transcendence Project, and Orchestra Project – all of which met their target, resulting in Thailoil and Subsidiaries' EBITDA of THB 36.925 billion, increased by THB 4.25 billion. According to appreciation in Thai Baht from the end of 2016, Thailoil and Subsidiaries had net foreign exchange gain of THB 3.182 billion, increased by THB 2.736 billion. Changes in the marine transportation business and a sluggish in exploration and production business caused falling chartering rate and some vessel to be under-utilized, causing Thailoil Marine Co., Ltd. to incur THB 547 million in allowance for impairment of assets. Still, the commercial commencement of Labix Co., Ltd. and TOP SPP Co., Ltd. since 2016 continuously provided contribution to Thailoil and Subsidiaries throughout the year 2017, as did the ethanol business, whose gross margin registered a soaring rise. Thailoil and Subsidiaries recorded THB 5.529 billion in income tax expense, increased by THB 3.234 billion in line with a rise in profit before tax. Also, Thailoil refinery took advantage of the BOI tax privileges from emission reduction and energy efficiency projects and a fully-utilized loss carry forward which ended in 2016. Thus, Thailoil and Subsidiaries earned net profit of THB 24.856 billion or THB 12.18 Baht per share, superior to THB 3.634 billion from last year.

Results by Company

Thai Oil Plc (Thailoil): For the year 2017, Thailoil refinery had a throughput of 112%, risen by 4% from 2016, and had sales revenue of THB 349.829 billion, increased by THB 66.536 billion, as a result of a 5% rise in total product sales volume and a significant improvement in average selling prices following crude oil price. In 2017, Thailoil refinery posted Gross Refining Margin (GRM) excluding stock gain/(loss) of 6.7 USD per barrel which was superior by 1.5 USD per barrel because of the

drop in crude premium and higher petroleum product spreads. Nonetheless, Thailoil refinery had stock gain and a reversal of write-down to NRV on petroleum inventory of THB 3.343 billion and THB 73 million, respectively plummeted by THB 2.795 billion and THB 968 million, respectively. Aggregating with net hedging loss of THB 128 million, Thailoil refinery posted EBITDA of THB 24.508 billion which improved by THB 3.368 billion. Moreover, Thailoil refinery had net foreign exchange gain of THB 2.882 billion, higher than last year by THB 2.510 billion, most of which came from an unrealized translation gain of USD-denominated debentures following Thai Baht appreciation. However, Thailoil refinery posted THB 4.253 billion in income tax expenses, increased by THB 3.032 billion due to fully-utilized loss carry forward and BOI tax privileges from emission reduction and energy efficiency projects in 2016. This resulted in Thailoil refinery to record net profit of THB 17.614 billion, improved by THB 3.586 billion from 2016 (including dividend income in 2017, Thailoil refinery had net profit of THB 28.74 billion).

Thai Paraxylene Co., Ltd (TPX): This year, TPX boasted an aromatics utilization rate of 83%, increased by 2% from last year, and higher aromatics selling prices following crude oil price, resulting in THB 43.608 billion of sales revenue, increased by THB 5.642 billion. However, paraxylene spread over ULG95 decreased owing to additional supply amid rising benzene spread over ULG95 following healthy global demand for benzene. TPX then had a slightly decrease in Product-to-Feed Margin to 99 USD per ton, causing the EBITDA to drop by THB 183 million to THB 4.75 billion. Moreover, TPX had net foreign exchange loss of THB 29 million, compared with net foreign exchange gain of THB 38 million in 2016. Its finance costs were THB 121 million, jumped by THB 66 million. Furthermore, TPX had income tax expense of THB 653 million, increased by THB 118 million, because TPX fully utilized its loss carry forward. Therefore, TPX reported net profit of THB 2.610 billion, decreased by THB 481 million from last year.

Labix Co., Ltd. (LABIX): In 2017, LABIX had sales revenue of THB 15.409 billion which was increased by THB 4.133 billion following higher Linear Alkyl Benzene (LAB) price and sales volume over last year since LABIX fully operated in 2017 after starting its commercial operations in Q1/2016. Nevertheless, due to the weakened demand in India in the withdrawal Rupee 500 and 1,000 banknotes, implementation of anti-dumping duty on LAB imported from Iran, Qatar, and China, and the announced in the Good and Services Tax (GST) reform this year, pressure was felt on its gross margin, squeezing LABIX's EBITDA to lose THB 39 million to THB 777 million. However, LABIX had net foreign exchange gain of THB 362 million, raised by THB 341 million from previous year, mainly due to an unrealized translation gain of USD-denominated loans. Offsetting with depreciation and finance costs, LABIX had net profit of THB 161 million which was better than 2016 by THB 166 million.

For the year 2017, the aromatics business group (including 75% equity in LABIX) had consolidated sales revenue of THB 57.881 billion, consolidated EBITDA of THB 5.528 billion and consolidated net profit of THB 2.730 billion.

Thai Lube Base Plc (TLB): TLB commanded a base oil utilization rate of 88% this year, increased by 7% from last year and had sales revenue of THB 18.662 billion, risen by THB 5.126 billion, as there were planned major turnarounds of lube base oil production and related units 31 days in Q3/2016 as well as increases in product prices following crude oil price in 2017. Meanwhile, lube base oil and bitumen spread over fuel oil price improved due to tightened supply, and TLB's ability to maintain the sales proportion of specialty products, which have good margin. Consequently, TLB reported Product-to-Feed Margin increased by 5 USD per ton to 112 USD per ton and recorded EBITDA of THB 2.694 billion, improved by THB 690 million from 2016, and reported net profit of THB 1.812 billion, risen by THB 551 million from last year.

Thaioil Power Co., Ltd. (TP): TP reported sales revenue from electricity and steam sales of THB 4.15 billion, dropped by THB 113 million following significant declines in natural gas price and Ft rate, coupled with the fall in electricity sales volume according to customers' demand and the rising production cost from higher fuel oil price. As a result, TP reported EBITDA of THB 838 million, decreased by THB 77 million. Once the finance costs and income tax expense are deducted, TP reported net profit of THB 501 million which was decreased by THB 54 million, excluding its profit share of the investment in Global Power Synergy Plc (GPSC).

TOP SPP Co., Ltd. (TOP SPP): TOP SPP had higher sales revenue from electricity and stream sales by THB 1.911 billion to THB 6.779 billion from pervious year as TOP SPP commercially operated its two Blocks in April and June 2016. In 2017, TOP SPP posted EBITDA of THB 1.994 billion, increased by THB 521 million and recorded net profit of THB 1.2 billion, improved by THB 306 million from last year.

On September 29, 2017, TOP SPP signed a facility agreement for refinancing an inter-company loan from Thaioil of THB 8.5 billion. This was the 19-year syndicated loan with collateral with four financial institutions, namely Bank of Ayudhya Plc, Kasikornbank Plc, Sumitomo Mitsui Banking Corporation, and Kiatnakin Bank Plc; TOP SPP expects to make the first drawdown in Q1/2018.

Thaioil and Subsidiaries share of profit from the investments in GPSC (without non-controlling interest) of THB 771 million, increased by THB 115 million from last year. Therefore, this year Thaioil and Subsidiaries realized net profit of THB 2.341 billion from the power generation business, increased by THB 380 million from previous year.

Thaioil Solvent Co., Ltd. (TOS): TOS is solvent manufacturing and distribution business. In 2017, TOS posted a utilization rate of 123%, improved by 14% from last year, and an

increase in solvent sales volume from TOS adjustment of strategies to increase its market shares. In addition, solvent average selling price per unit improved following higher crude oil price. As a result, its sales revenue totaled THB 9.182 billion increased by THB 1.552 billion from 2016. However, softened gross profit margin from higher competition caused TOS to report EBITDA of THB 690 million, dropped by THB 103 million from previous year. Offsetting with depreciation, finance costs and income tax expense, TOS reported net profit of THB 309 million, decreased by THB 67 million from last year.

Thaioil Marine Co., Ltd. (TM): In 2017, TM booked service revenue of THB 802 million, dropped by THB 76 million from last year, mainly caused by the sluggish demand in exploration and production industry, which caused some vessels to be under-utilized and received lowered chartering rates. As a result, TM reported EBITDA of THB 153 million, decreased by THB 111 million. Furthermore, TM had the impairment of assets of THB 547 million.

However, TM booked higher share of profit from the investment in TOP-NYK MarineOne Pte. Ltd. by THB 8 million and reported higher shares of profits by THB 30 million from the investments in joint venture of subsidiaries. Offsetting with depreciation, finance costs, and income tax expense, TM recognized consolidated net loss of THB 530 million compared with consolidated net profit of THB 57 million last year.

Thaioil Ethanol Co., Ltd. (TET): TET had consolidated sales revenue from Sapthip Co., Ltd. of THB 1.62 billion, risen by THB 82 million. It also had EBITDA of THB 468 million, boosted by THB 172 million from last year due particularly to higher gross profit margin following higher average ethanol selling price and lower feedstock cost. TET had share of profit of THB 66 million from the investment in Ubon Bio Ethanol Co., Ltd. which was increased by THB 45 million. As a result, TET recorded net profit of THB 263 million, increased by THB 225 million from last year.

Analysis of Consolidated Financial Position

Financial Position (Million Baht)	Dec 31, 2017	Dec 31, 2016	+/(−)
Total Assets	228,108	217,731	10,377
Total Liabilities	100,960	106,134	(5,174)
Total Equity	127,148	111,597	15,551

Total Assets

As of December 31, 2017, Thaioil and Subsidiaries had total assets of THB 228.108 billion increased by THB 10.377 billion from December 31, 2016, mainly because cash, cash equivalents and current investment rose by THB 7.166 billion due to more cash flows from operations for the year 2017. Thaioil and Subsidiaries paid dividends in April and September 2017 and repaid debentures in March 2017. In addition, trade account receivables rose by THB

2.792 billion following higher average product prices in December 2017 than December 2016. Furthermore, receivables from Oil Fuel Fund rose by THB 865 million following higher LPG subsidized rate than previous year. Meanwhile, inventories fell by THB 348 million since inventory level as of the end of December 2017 was lower than the end of December 2016. However, the non-current assets declined by THB 103 million because property, plant, and equipment had net decrease of THB 3.699 billion

mainly from assets depreciation, while investments in available-for-sale securities gained THB 2.859 billion mainly from investments in private funds. This year, Thailoil invested in two new companies as follows:

1. Sarn Palung Social Enterprise Co., Ltd. has registered share capital of THB 10 million, in which Thailoil holds 15% equity or THB 1.5 million, this company was established to support the execution of social enterprise activities of PTT Group. In 2017, there is initial 25% paid-up capital or THB 375,000.
2. Thailoil Treasury Center Co., Ltd. has registered share capital of THB 10 million, and Thailoil wholly owns this company. This company was established to conduct businesses of International Head Quarters (IHQ) and Treasury Centers (TC) in order to increase financial efficiency for Thailoil and Subsidiaries. The shares were fully paid in 2017.

Total Liabilities

As of December 31, 2017, Thailoil and Subsidiaries had total liabilities of THB 100.96 billion, decreased by THB 5.174 billion from December 31, 2016. This was mainly because their long-term borrowings and debentures (including current portions) fell THB 9.935 billion, as Thailoil repaid its due Baht-denominated debentures of THB 2 billion and due Baht-denominated with cross currency swap contract debentures of THB 2.932 billion in Q1/2017. Moreover, Thailoil's USD-denominated debentures went down THB 3.105 billion due to 3.15 Baht per USD appreciation in Thai Baht from the end of 2016. Meanwhile, Sak Chaisidhi Co., Ltd. (shares indirectly held through TOP Solvent Co., Ltd.) repaid its due Baht-denominated borrowings of THB 240 million. TP repaid its due Baht-denominated borrowings of THB 172 million. TM and TOP Maritime Service Co., Ltd. (shares indirectly held through TM) repaid their due Baht-denominated borrowings of THB 165 million. LABIX (shares indirectly held through TPX) repaid its due Baht-denominated

borrowings of THB 387 million and due Baht-denominated with cross currency swap contract borrowings of THB 606 million. However, trade accounts payable dropped by THB 924 million following lower average crude oil purchase in December 2017 than December 2016.

Thailoil and Subsidiaries had an increase in excise duty payable of THB 3.335 billion since the Excise Department has changed regulations for excise duty submission. Additionally, income tax payable went up by THB 2.324 billion due to full utilization of loss carry forward and BOI tax privileges from emission reduction and energy efficiency projects.

Total Equity

As of December 31, 2017, Thailoil and Subsidiaries had total equity of THB 127.148 billion, increased by THB 15.551 billion from December 31, 2016. This resulted from total comprehensive income for the year 2017 of THB 25.006 billion, deducted by dividends paid from Thailoil and Subsidiaries of THB 9.455 billion.

Analysis of Cash Flow and Financial Ratios

As of December 31, 2017, Thailoil and Subsidiaries had cash and cash equivalents of THB 15.623 billion and had current investments of THB 52.318 billion. Thailoil and Subsidiaries had cash flows provided by operating activities of THB 34.417 billion, and cash flows used in investing activities of THB 30.092 billion as a consequence of the purchases of property, plant and equipment of THB 3.679 billion. Thailoil spent THB 3.257 billion in main projects such as Thailoil Sriracha Building Project, TOP Crude Oil Tanks Project, Jetty Expansion Project, Lorry Loading Terminal Expansion Project which commercially operated in Q1/2017 to support domestic sale, and Front-End Engineering Design (FEED) under the Clean Fuel Project. The rest of THB 422 million was used by subsidiaries in several projects, including Sludge Digester Recirculation Project of Sapthip Co., Ltd., and New Office

Building Project of Sak Chaisidhi Co., Ltd.. Besides, Thailoil and Subsidiaries had purchase of current investments of THB 23.423 billion and net purchase of available-for-sale securities of THB 2.865 billion.

Cash flows used in financing activities was THB 19.226 billion. This was attributable to dividends paid of THB 9.455 billion, the redemption of debentures of THB 4.932 billion, finance costs paid of THB 3.364 billion and net repayment of long-term borrowings of THB 1.576 billion while there was cash receipt from short-term borrowings of THB 101 million.

As a result of these cash flow activities, Thailoil and Subsidiaries reported cash and cash equivalents decreased by THB 14.901 billion from December 31, 2016. In addition, Thailoil and Subsidiaries recorded loss from effect of exchange rate changes on cash and cash equivalents of THB 596 million. Therefore, Thailoil and Subsidiaries had cash and cash equivalents of THB 15.623 billion. Including current investments of THB 52.318 billion, Thailoil and Subsidiaries had cash and cash equivalents and current investments of THB 67.941 billion as of December 31, 2017.

Financial Ratios

		2017	2016	+/(-)
Profitability Ratios				
Quality of Earnings ratio	%	11	12	(1)
Gross Profit Margin ratio	"	12	13	(1)
Net Profit Margin ratio	"	7	8	(1)
Liquidity Ratios				
Current ratio	times	3.8	3.4	0.4
Quick ratio	"	2.7	2.4	0.3
Financial Policy Ratios				
Total Liability/Total Equity	times	0.8	1.0	(0.2)
Net Debt/Equity ratio	"	0.0	0.1	(0.1)
Long-term loan/Total Equity	"	0.5	0.7	(0.2)
Interest Coverage ratio	"	11.2	9.4	1.8
Long-term loan/Total Capitalization	%	34	40	(6)

Note:

Quality of Earnings ratio (%)	=	EBITDA/Sales Revenue
Gross Profit Margin ratio (%)	=	Gross Profit/Sales Revenue
Net Profit Margin ratio (%)	=	Net Profit/Total Revenue
Current ratio (times)	=	Current Assets/Current Liabilities
Quick ratio (times)	=	(Cash and Cash Equivalents + Current Investments + Account Receivables)/Current Liabilities
Total Liabilities/Total Equity (times)	=	Total Liabilities/Total Equity
Long-term loan/Total Equity (times)	=	Long-term loan/Total Equity
Long-term loan	=	Long-term borrowings from financial institutions + Debentures (includes current portion)
Interest Coverage ratio (times)	=	EBITDA/Interest Expenses (Finance Costs)
Long-term loan/Total Capitalization (%)	=	Long-term loan/Total Capitalization
Total Capitalization	=	Long-term loan + Total Equity
Net Debt/Equity ratio (times)	=	Net Debt/Total Equity
Net Debt	=	Interest-bearing debt - Cash and Cash Equivalents - Current Investments

CONNECTED TRANSACTIONS

For Fiscal Year 2017, Thailoil and/or Subsidiaries entered into significant business transactions with subsidiaries and related parties with common major shareholders and/or directors, as seen in the notes to the financial statements. Connected transactions were based on market prices or, in the absence of reference market prices, the prices agreed in previous contracts. The details of the relationships with these companies are as follows:

Company	Relationship with Thailoil as of December 31, 2017
PTT Plc (PTT)	>> Major shareholder, with 49.10% of Thailoil's shares
Thai Paraxylene Co., Ltd. (TPX)	>> Wholly owned by Thailoil >> Common director: Mr. Atikom Terbsiri >> Thailoil executive members on TPX's Board: Mr. Bandhit Thamprajamchit, Mr. Chatapong Wungtanagorn and Mr. Sarunyu Limwongse
Thai Lube Base Plc (TLB)	>> Wholly owned by Thailoil >> Common director: Mr. Atikom Terbsiri >> Thailoil executive members on TLB's Board: Mr. Bandhit Thamprajamchit, Mr. Chatapong Wungtanagorn, Ms. Rungtip Maneesarachun and Mr. Sarunyu Limwongse
Thailoil Power Co., Ltd. (TP)	>> 26.01% shares owned by PTT Plc >> 73.99% shares owned by Thailoil >> Common director: Mr. Atikom Terbsiri >> Thailoil executive members on TP's Board: Mr. Bandhit Thamprajamchit, Mr. Chawalit Tippawanich, Mr. Viroj Meenaphant and Mr. Charlee Balmongkol
TOP SPP Co., Ltd. (TOP SPP)	>> Wholly owned by Thailoil >> Common director: Mr. Atikom Terbsiri >> Thailoil executive members on TOP SPP's Board: Mr. Nikom Kongnok and Mr. Charlee Balmongkol
TOP Solvent Co., Ltd. (TS)	>> Wholly owned by Thailoil Solvent Co., Ltd. >> Common director: Mr. Atikom Terbsiri >> Thailoil executive members on TS's Board: Mr. Chatapong Wungtanagorn, Mr. Pongpun Amornvivat, Ms. Rungtip Maneesarachun, and Ms. Acharee Tiyaabhorn

Company	Relationship with Thailoil as of December 31, 2017
Sak Chaisidhi Co., Ltd. (SAKC)	<ul style="list-style-type: none"> >> 80.52% shares owned by TOP Solvent Co., Ltd. >> Thailoil executive members on SAKC's Board: Mr. Chatapong Wungtanagorn, Mr. Pongpun Amornvivat, Mr. Surachai Saengsamran, Mr. Jeerawat Pattanasomsit, Mr. Nikom Kongnok, Ms. Acharee Tiyaibhorn and Mr. Ampon Singsakda
TOP Solvent (Vietnam) LLC. (TSV)	<ul style="list-style-type: none"> >> Wholly owned by TOP Solvent Co., Ltd. >> Thailoil executive members on TSV's Board: Ms. Rungtip Maneesarachun, Ms. Sudarat Orrattanasakul and Ms. Acharee Tiyaibhorn
Sapthip Co., Ltd. (SAP)	<ul style="list-style-type: none"> >> 50% shares owned by Thailoil Ethanol Co., Ltd. >> Thailoil executive members on SAP's Board: Mr. Pongpun Amornvivat, Ms. Pattaralada Sa-NGasang, Mr. Surachai Saengsamran, and Mr. Saran Harinsuta
TOP Maritime Service Co., Ltd. (TMS)	<ul style="list-style-type: none"> >> 55% shares owned by Thailoil Marine Co., Ltd. >> Thailoil executive members on TMS's Board: Ms. Pattaralada Sa-NGasang, Mr. Viroj Meenaphant and Mr. Nitas Krongvanitchayakul
Labix Co., Ltd. (LABIX)	<ul style="list-style-type: none"> >> 75% shares owned by Thai Paraxylene Co., Ltd. >> Common director: Mr. Atikom Terbsiri >> Thailoil executive members on LABIX's Board: Ms. Pattaralada Sa-NGasang, Mr. Sarunyu Limwongse and Mr. Suchart Monyanont
Thai Petroleum Pipeline Co., Ltd. (THAPPLINE)	<ul style="list-style-type: none"> >> 40.40% shares owned by PTT Plc >> 9.19% shares owned by Thailoil >> Thailoil executive member on THAPPLINE's Board: Mr. Pongpun Amornvivat
PTT Digital Solutions Co., Ltd.*	<ul style="list-style-type: none"> >> 20% shares owned by PTT Plc >> 20% shares owned by Thailoil >> Thailoil executive members on PTT Digital Solutions' Board: Mr. Chawalit Tippawanich
PTT International Trading Pte. Ltd. (PTTT)	<ul style="list-style-type: none"> >> Wholly owned by PTT Plc
PTT Exploration and Production Plc (PTTEP)	<ul style="list-style-type: none"> >> 65.29% shares owned by PTT Plc
PTT Global Chemical Plc (PTTGC)	<ul style="list-style-type: none"> >> 48.89% shares owned by PTT Plc >> Common director: Mr. Sarun Rungkasiri

Company	Relationship with Thaioil as of December 31, 2017
IRPC Plc	>> 38.51% shares owned by PTT Plc
PTT Phenol Co., Ltd.	>> Wholly owned by PTT Global Chemical Plc
Global Green Chemicals Plc (GGC)	>> 72.29% shares owned by PTT Global Chemical Plc

Remarks: * Name changed from “PTT ICT Solutions Co., Ltd.” effective as from June 22, 2017

Connected Transactions between Thaioil and/or Subsidiaries with Major Shareholders

Connected Transactions between Thaioil and PTT Plc

Company	Transactions	Value in 2017 (Million Baht)
PTT Plc (PTT)	>> Revenues from the sale of oil products: Thaioil entered into a Product Offtake and Crude Supply Agreement (POCSA) with PTT, under which both parties agree on the sale and purchase of refined products at market prices and agreed to follow certain procedures to reach an agreed volume as well as other terms and conditions stipulated in the contract.	147,470
	>> Expenses on the purchase of oil and natural gas products: Thaioil entered into a POCSA with PTT. Both parties agreed on the sale and purchase of refined products at market prices and agreed to follow certain procedures to reach an agreed volume as well as other terms and conditions stipulated in the contract.	100,709
	>> Thaioil entered into a 10-year (2014-2023) contract and a 15-year (2007-2022) contract with PTT for the supply of natural gas to feed the refinery at an agreed volume based on market prices, considered normal business practice.	

Connected Transactions between Thailoil and PTT Plc

Company	Transactions	Value in 2017 (Million Baht)
Thai Lube Base Plc (TLB)	>> Revenues from occasional sales of lube base products to PTT, considered normal business practice.	3,260
	>> TLB entered into a five-year gas supply contract with PTT for an agreed volume based on market prices, considered normal business practice.	490
Thailoil Power Co., Ltd. (TP)	>> TP entered into a 25-year gas sales agreement (1998-2022) with PTT at an agreed volume based on market prices, considered normal business practice.	2,372
TOP SPP Co., Ltd. (TOP SPP)	>> TOP SPP entered into a 25-year gas sales agreement (2016-2041) with PTT at an agreed volume based on market prices, considered normal business practice.	4,095
Sapthip Co., Ltd. (SAP)	>> SAP entered into a 10-year ethanol sales agreement (2011-2021) with PTT at an agreed volume based on market prices, considered normal business practice.	620
Labix Co., Ltd. (LABIX)	>> LABIX entered into a 10-year gas sales agreement (2015-2025) with PTT at an agreed volume based on market prices, considered normal business practice.	588

Connected Transactions between Thailoil and its Subsidiaries (less than 100% shareholding) or Other Related Companies

Company	Transactions	Value in 2017 (Million Baht)
Thailoil Power Co., Ltd. (TP)	>> Thailoil entered into a 24-year contract, starting April 1, 1998, with TP to provide maintenance and other supporting services as well as supply of feedstock, parts, and reserved fuels to TP. The service charge is based on cost-plus pricing, considered normal business practice.	837
	>> Thailoil entered into a 24-year infrastructure sharing contract with TP, starting April 1, 1998. TP agreed to pay for the consumption at 2% of its monthly revenue.	
	>> Thailoil entered into a 25-year contract (1998-2022) with TP for the supply of electricity and steam at an agreed volume based on market prices.	1,659
Thai Petroleum Pipeline Co., Ltd. (THAPPLINE)	>> Revenue from THAPPLINE's dividends	158
PTT Digital Solutions Co., Ltd.	>> Expenses for ICT services as agreed in a five-year contract	160
Global Green Chemicals Plc (GGC)	>> Expenses for occasional purchases of petroleum products from GGC, considered normal business practice	1,098
PTT International Trading Pte. Ltd. (PTTT)	>> Revenue from sales of petroleum products to PTTT, considered normal business practice	280

Connected Transactions among Thairoil's Subsidiaries and Related Companies

Company	Related Company	Transactions	Value in 2017 (Million Baht)
Thaioil Power Co., Ltd. (TP)	Thai Paraxylene Co., Ltd. (TPX)	>> TP entered into a 25-year contract to supply TPX with electricity and steam at market prices. The contract will end in 2022.	1,101
	Thai Lube Base Plc (TLB)	>> TP entered into a 25-year contract to supply TLB with electricity and steam at market prices. The contract will end in 2022.	588
Thai Lube Base Plc (TLB)	IRPC Plc	>> Occasional purchases of by-products, considered normal business practice	327
Thai Paraxylene Co., Ltd. (TPX)	IRPC Plc	>> Occasional sales of aromatics, considered normal business practice	1,178
	PTT International Trading Pte. Ltd.	>> Occasional sales of aromatics, considered normal business practice	2,913
TOP Solvent Co., Ltd. (TS)	IRPC Plc	>> Occasional purchases of solvents, considered normal business practice	1,258
	PTT Global Chemical Plc	>> Occasional sales of solvents, considered normal business practice	109
	PTT Phenol Co., Ltd.	>> Occasional purchases of solvents, considered normal business practice	186
Sak Chaisidhi Co., Ltd. (SAKC)	IRPC Plc	>> SAKC entered into a feedstock purchases contract with IRPC at an agreed volume based on reference market prices. The one-year contracts ended in 2017.	314
	PTT Global Chemical Plc (PTTGC)	>> SAKC entered into a feedstock purchase contract with PTTGC at an agreed volume based on reference market prices. The contract will end upon a written notice from either party.	1,830
TOP Solvent (Vietnam) LLC. (TSV)	IRPC Plc	>> Occasional purchases of solvents, considered normal business practice	450
	PTT Phenol Co., Ltd.	>> Occasional purchases of solvents, considered normal business practice	150

BOARD OF DIRECTORS' RESPONSIBILITY FOR FINANCIAL REPORTING

The accompanying financial statements of Thai Oil Public Company Limited and the consolidated financial statements of Thai Oil Public Company Limited and its subsidiaries have been prepared in conformity with the requirements of the Public Company Act B.E. 2535 (1992), the Securities and Exchange Act B.E. 2535 (1992), the Announcement of the Department of Business Development (No. 2) dated October 11, 2016 issued in accordance with Section 11, Paragraph 3 of the Accounting Act B.E. 2543 (2000), and the Financial Reporting Standards prescribed by the Federation of Accounting Professions.

The Board of Directors is responsible for the financial statements which have been prepared to provide assurance

that the financial position, results of operations and cash flows are presented accurately, an effective internal control system has been established, accounting records have been properly and adequately maintained to safeguard assets and prevent fraud and other irregularities with material implications, suitable accounting policies have been selected in the preparation of the financial statements and consistently applied in accordance with Financial Reporting Standards, and key information has been adequately disclosed in the notes to the financial statements. The independent auditor has expressed opinion on the financial statements of Thai Oil Public Company Limited and the consolidated financial statements of Thai Oil Public Company Limited and its subsidiaries in the Auditor's Report.



(Professor Dr. Thosaporn Sirisumphand)
Chairman of the Board



(Atikom Terbsiri)
Chief Executive Officer and President

INDEPENDENT AUDITOR'S REPORT

To the Shareholders of Thai Oil Public Company Limited

Opinion

I have audited the consolidated and separate financial statements of Thai Oil Public Company Limited and its subsidiaries (the "Group") and of Thai Oil Public Company Limited (the "Company"), respectively, which comprise the consolidated and separate statements of financial position as at 31 December 2017, the consolidated and separate statements of income, comprehensive income, changes in equity and cash flows for the year then ended, and notes, comprising a summary of significant accounting policies and other explanatory information.

In my opinion, the accompanying consolidated and separate financial statements present fairly, in all material respects, the financial position of the Group and the Company, respectively, as at 31 December 2017 and their financial performance and cash flows for the year then ended in accordance with Thai Financial Reporting Standards (TFRSs).

Basis for Opinion

I conducted my audit in accordance with Thai Standards on Auditing (TSAs). My responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated and Separate Financial Statements section of my report. I am independent of the Group and the Company in accordance with the Code of Ethics for Professional Accountants issued by the Federation of Accounting Professions that is relevant to my audit of the consolidated and separate financial statements, and I have fulfilled my other ethical responsibilities in accordance with these requirements. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Key Audit Matters

Key audit matters are those matters that, in my professional judgment, were of most significance in my audit of the consolidated and separate financial statements of the current period. These matters were addressed in the context of my audit of the consolidated and separate financial statements as a whole, and in forming my opinion thereon, and I do not provide a separate opinion on these matters.

Impairment of goodwill

Refer to Note 3 and 15 to the financial statements.

The key audit matter

TOP Solvent (Vietnam) Limited Liability Company ("TSV"), an indirect subsidiary of the Company which operates in Vietnam, has a historical business combination which resulted significant goodwill balance amounting to Baht 601 million. Goodwill is subjected to an annual impairment test. No impairment charge has been recorded by management against this balance in the current financial year.

Due to the high level of the management's judgement involved in respect of the assumptions used to support goodwill value, and the significance of the carrying amounts involved, this is one of the key judgmental areas that my audit is concentrated on.

How the matter was addressed in the audit

My audit procedures in this area included, among others:

- understanding and evaluating the Group's forecasting and budgeting procedures and testing of the principles and accuracy of the calculation derived from forecast model and evaluating the reasonableness of key inputs in the calculations such as revenue growth, discount rate and working capital assumptions, by reference to the Board approved forecast models, data external to the Group and my own views;
- consulting KPMG valuation specialists in Vietnam when considering the reasonableness of the discount rate and growth rate;
- evaluating the accuracy of forecasts by comparing with the actual results; and
- evaluating the adequacy of disclosure in accordance with Thai Financial Reporting Standards.

Valuation of inventory

Refer to Note 3 and 9 to the financial statements.

The key audit matter

Inventory is required to be carried at the lower of its cost and net realisable value. Inventory is a significant balance and the group's main raw materials and finished goods are commodities which can be subject to price volatility which may lead to lower of cost comparing to net realisable value. Due to the high level of the management's judgement involved, this is one of the key judgmental areas that my audit is concentrated on.

How the matter was addressed in the audit

My audit procedures in this area included, among others:

- understanding and performing test of design and implementation as well as operating effectiveness of controls over inventory valuation process;
- assessing the appropriateness of the methodology used to calculate the provisions held against inventory at year end, considering the reasonableness of selling price used by reference to commodity price, and assessing the accuracy of the calculation; and
- evaluating the adequacy of disclosure in accordance with Thai Financial Reporting Standards.

Impairment of property, plant and equipment in the consolidated financial statements and loan to and investment in subsidiary in separate financial statements in marine transportation business

Refer to Note 3 4 10 and 14 to the financial statements.

The key audit matter

The Group has certain vessels and crew boats which are not fully used in operation due to the fact that the exploration business is in the downturn from prolonged falls in prevailing oil and gas price which resulted in low freight charge and demand in marine transportation business. This situation indicated that property, plant and equipment, loan to and investment in subsidiary in marine transportation business may be impaired.

As a result, for impairment assessment, the Group has assessed the recoverable amount based on the higher of the fair value less costs of disposal and value in use.

Due to a significant judgment involved in respect of the assumptions used to support valuation of property, plant and equipment, loan to and investment in subsidiary, and the significance of the carrying amount involved, this is one of the key judgmental areas that my audit is concentrated on.

How the matter was addressed in the audit

My audit procedures in this area included, among others:

- Understanding of impairment assessment, procedures to assess the recoverable amount and forecasting and budgeting process and testing of the principles and accuracy of the calculation derived from forecast model and evaluating the reasonableness of key inputs in the calculations such as freight and utilisation rate, discount rate and working capital assumptions, by reference to the Board approved forecast models, actual result, data external to the Group and my own views;
- challenging the source of information and weighted factors that management and independent appraiser used to evaluate the fair value of underlying assets using market approach for selling consideration purpose;
- assessing the competency of the independent appraiser engaged by the Group;
- consulting KPMG specialists when considering the appropriateness of assumption, the discounted rate and valuation methodologies used by the independent appraiser including the appraisal reports;
- evaluating the adequacy of disclosure in accordance with Thai Financial Reporting Standards.

Other Information

Management is responsible for the other information. The other information comprises the information included in the annual report, but does not include the consolidated and separate financial statements and my auditor's report thereon.

My opinion on the consolidated and separate financial statements does not cover the other information and I do not express any form of assurance conclusion thereon.

In connection with my audit of the consolidated and separate financial statements, my responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated and separate financial statements or my knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work I have performed, I conclude that there is a material misstatement of this other information, I am required to report that fact. I have nothing to report in this regard.

Responsibilities of Management and Those Charged with Governance for the Consolidated and Separate Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated and separate financial statements in accordance with TFRSs, and for such internal control as management determines is necessary to enable the preparation of consolidated and separate financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated and separate financial statements, management is responsible for assessing the Group's and the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of

accounting unless management either intends to liquidate the Group and the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's and the Company's financial reporting process.

Auditor's Responsibilities for the Audit of the Consolidated and Separate Financial Statements

My objectives are to obtain reasonable assurance about whether the consolidated and separate financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with TSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated and separate financial statements.

As part of an audit in accordance with TSAs, I exercise professional judgment and maintain professional skepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the consolidated and separate financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's and the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's and the Company's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the consolidated and separate financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Group and the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated and separate financial statements, including the disclosures, and whether the consolidated and separate financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. I am responsible for the direction, supervision and performance of the group audit. I remain solely responsible for my audit opinion.

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

I also provide those charged with governance with a statement that I have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on my independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, I determine those matters that were of most significance in the audit of the consolidated and separate financial statements of the current period and are therefore the key audit matters. I describe these matters in my auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, I determine that a matter should not be communicated in my report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.



Waiyawat Kosamarnchaiyakij

Certified Public Accountant
Registration No. 6333

KPMG Phoomchai Audit Ltd.

Bangkok

15 February 2018

STATEMENT OF FINANCIAL POSITION

Thai Oil Public Company Limited and its Subsidiaries

(in Baht)

		Consolidated financial statements		Separate financial statements	
		31 December		31 December	
Assets	Note	2017	2016	2017	2016
Current assets					
Cash and cash equivalents	5, 18	15,623,426,718	31,120,762,001	11,914,509,851	28,239,977,434
Current investments	6, 18	52,318,064,256	29,653,734,039	51,897,422,875	29,197,634,039
Trade accounts receivable	4, 7	22,327,840,296	19,535,642,239	24,241,795,223	20,842,637,445
Other receivables	4, 8	1,170,683,073	934,198,672	1,126,898,197	1,014,115,419
Short-term loans	4	90,000,000	90,000,000	15,650,500,000	12,583,500,000
Inventories	4, 9	32,840,901,647	33,188,883,131	28,094,465,957	28,995,995,574
Prepaid corporate income tax		59,703,747	99,075,367	-	52,772,768
Value added tax receivable		751,588,384	942,031,764	-	41,899,088
Receivable from Oil Fuel Fund		1,029,053,483	164,124,584	1,029,053,483	164,124,584
Other current asset		126,927	2,190,579	-	786,816
Total current assets		126,211,388,531	115,730,642,376	133,954,645,586	121,133,443,167
Non-current assets					
Investments held as available-for-sale	6	3,103,250,531	244,372,264	3,103,250,531	244,372,264
Investments in subsidiaries	10	-	-	14,555,419,002	14,545,419,002
Investments in joint ventures	12	541,978,290	505,359,648	-	-
Investments in associates	12	13,825,697,677	13,361,234,567	1,260,604,927	1,260,604,927
Other long-term investments	6	779,871,900	779,496,900	779,871,900	779,496,900
Investment properties	13	102,520,270	94,359,064	1,100,443,418	1,086,066,587
Property, plant and equipment	14	78,612,409,186	82,311,540,232	36,082,112,102	36,072,463,472
Goodwill	15	601,368,612	655,258,473	-	-
Other intangible assets	15	2,590,047,381	2,450,756,941	530,131,630	516,587,191
Deferred tax assets	16	507,431,217	440,702,577	481,089,961	433,160,060
Other non-current assets	17	1,232,329,261	1,157,489,075	958,875,127	1,073,959,885
Total non-current assets		101,896,904,325	102,000,569,741	58,851,798,598	56,012,130,288
Total assets		228,108,292,856	217,731,212,117	192,806,444,184	177,145,573,455

The accompanying notes are an integral part of these financial statements.

STATEMENT OF FINANCIAL POSITION

Thai Oil Public Company Limited and its Subsidiaries

(in Baht)

		Consolidated financial statements		Separate financial statements	
Liabilities and shareholders' equity	Note	31 December 2017	31 December 2016	31 December 2017	31 December 2016
Current liabilities					
Short-term borrowings	18	968,802,956	867,425,000	-	-
Trade accounts payable	4, 19	18,963,172,436	19,887,404,066	21,060,997,897	22,550,468,532
Other payables	4, 20	3,475,927,189	3,564,903,748	2,909,892,064	2,850,182,768
Short-term borrowings from related parties	4, 18	-	-	503,218,068	531,173,102
Current portion of long-term borrowing	18	1,592,435,944	2,206,025,140	-	-
Current portion of debentures	18	-	4,931,799,674	-	4,931,799,674
Excise duty payable		4,784,895,265	1,449,612,843	4,784,895,265	1,449,612,843
Income tax payable		3,562,808,719	1,238,657,600	2,886,929,511	698,501,935
Total current liabilities		33,348,042,509	34,145,828,071	32,145,932,805	33,011,738,854
Non-current liabilities					
Long-term borrowings	18	8,068,138,044	9,374,480,980	-	-
Debentures	18	55,838,586,219	58,921,228,965	55,838,586,219	58,921,228,965
Deferred tax liability	16	8,980,502	9,600,547	-	-
Provisions for employee benefits	21	3,510,907,406	3,296,501,237	3,161,123,920	3,003,033,386
Other non-current liabilities		185,392,041	386,268,299	494,853,398	459,241,187
Total non-current liabilities		67,612,004,212	71,988,080,028	59,494,563,537	62,383,503,538
Total liabilities		100,960,046,721	106,133,908,099	91,640,496,342	95,395,242,392

The accompanying notes are an integral part of these financial statements.

STATEMENT OF FINANCIAL POSITION

Thai Oil Public Company Limited and its Subsidiaries

(in Baht)

		Consolidated financial statements		Separate financial statements	
Liabilities and shareholders' equity	Note	31 December 2017	31 December 2016	31 December 2017	31 December 2016
Shareholders' equity					
Share capital	22				
Authorised share capital		20,400,278,730	20,400,278,730	20,400,278,730	20,400,278,730
Issued and paid share capital		20,400,278,730	20,400,278,730	20,400,278,730	20,400,278,730
Share premium					
Share premium on ordinary shares	23	2,456,261,491	2,456,261,491	2,456,261,491	2,456,261,491
Other surpluses (deficits)		203,040,571	203,040,571	-	-
Retained earnings					
Appropriated					
Legal reserve	23	2,040,027,873	2,040,027,873	2,040,027,873	2,040,027,873
Other reserves		244,500,000	244,500,000	244,500,000	244,500,000
Unappropriated		96,975,466,730	81,621,935,504	75,955,969,926	56,687,731,314
Other components of shareholders' equity		(96,098,367)	(109,468,979)	68,909,822	(78,468,345)
Equity attributable to					
owners of the Company		122,223,477,028	106,856,575,190	101,165,947,842	81,750,331,063
Non-controlling interests	11	4,924,769,107	4,740,728,828	-	-
Total shareholders' equity		127,148,246,135	111,597,304,018	101,165,947,842	81,750,331,063
Total liabilities and shareholders' equity		228,108,292,856	217,731,212,117	192,806,444,184	177,145,573,455

The accompanying notes are an integral part of these financial statements.

STATEMENT OF INCOME

Thai Oil Public Company Limited and its Subsidiaries

(in Baht)

	Note	Consolidated financial statements		Separate financial statements	
		For the year ended 31 December 2017	2016	For the year ended 31 December 2017	2016
Revenue from sale and rendering of services	4, 31	337,387,694,059	274,738,948,755	349,828,812,257	283,293,177,390
Cost of sale and rendering of services	4, 9	(305,385,582,808)	(247,261,172,102)	(328,442,071,503)	(265,517,766,964)
Gross profit		32,002,111,251	27,477,776,653	21,386,740,754	17,775,410,426
Dividend income	4	157,889,657	247,336,954	11,125,418,007	14,475,224,501
Net derivative loss on hedging		(133,218,287)	(243,242,172)	(127,593,664)	(244,566,022)
Net foreign exchange gain		3,181,552,556	446,107,240	2,881,989,819	372,391,866
Other income	4, 25	1,190,071,115	1,118,812,470	3,271,699,114	2,925,959,797
Selling expenses	4	(491,804,822)	(451,266,945)	(188,744,447)	(270,370,604)
Administrative expenses	4, 26	(2,969,440,802)	(2,182,087,017)	(2,493,162,306)	(2,176,040,397)
Share of profit of joint ventures and associates	12	1,196,663,512	929,669,665	-	-
Profit before finance costs and income tax expense		34,133,824,180	27,343,106,848	35,856,347,277	32,858,009,567
Finance costs	4, 29	(3,285,063,447)	(3,460,705,140)	(2,863,593,581)	(3,133,580,838)
Profit before income tax expense		30,848,760,733	23,882,401,708	32,992,753,696	29,724,428,729
Income tax expense	30	(5,529,487,003)	(2,295,464,004)	(4,253,115,118)	(1,221,333,598)
Profit for the year		25,319,273,730	21,586,937,704	28,739,638,578	28,503,095,131
Profit for the year attributable to:					
Owners of the Company		24,856,198,552	21,221,910,756	28,739,638,578	28,503,095,131
Non-controlling interests	11	463,075,178	365,026,948	-	-
Profit for the year		25,319,273,730	21,586,937,704	28,739,638,578	28,503,095,131
Basic earnings per share	32	12.18	10.40	14.09	13.97

The accompanying notes are an integral part of these financial statements.

STATEMENT OF COMPREHENSIVE INCOME

Thai Oil Public Company Limited and its Subsidiaries

(in Baht)

	Note	Consolidated financial statements		Separate financial statements	
		For the year ended 31 December		For the year ended 31 December	
		2017	2016	2017	2016
Profit for the year		25,319,273,730	21,586,937,704	28,739,638,578	28,503,095,131
Other comprehensive income (loss)					
Items that will be reclassified					
subsequently to profit or loss					
Net change in fair value of					
available-for-sale investments		147,378,167	10,950,198	147,378,167	10,950,198
Exchange differences on translating					
foreign operations		(120,752,573)	(21,032,170)	-	-
Share of other comprehensive income					
(loss) of associate		(16,205,521)	5,448,281	-	-
Total items that will be reclassified					
subsequently to profit or loss		10,420,073	(4,633,691)	147,378,167	10,950,198
Items that will not be reclassified					
to profit or loss					
Losses on remeasurements of					
defined benefit plans	21	(323,414,348)	-	(291,993,637)	-
Total items that will not be					
reclassified to profit or loss		(323,414,348)	-	(291,993,637)	-
Other comprehensive income (loss)					
for the year, net of income tax		(312,994,275)	(4,633,691)	(144,615,470)	10,950,198
Total comprehensive income for the year		25,006,279,455	21,582,304,013	28,595,023,108	28,514,045,329
Total comprehensive income attributable to:					
Owners of the Company		24,546,308,167	21,216,285,097	28,595,023,108	28,514,045,329
Non-controlling interests	11	459,971,288	366,018,916	-	-
Total comprehensive income for the year		25,006,279,455	21,582,304,013	28,595,023,108	28,514,045,329

The accompanying notes are an integral part of these financial statements.

STATEMENT OF CHANGES IN SHAREHOLDERS'EQUITY

Thai Oil Public Company Limited and its Subsidiaries

Consolidated financial statements													(in Baht)
	Other surpluses (deficits)			Retained earnings		Other components of shareholders' equity							
	Issued and paid share capital	Share Premium on ordinary shares	Surplus on business restructuring under common control	Deficit from the change in the ownership interests in subsidiary	Legal reserves	Other reserves	Unappropriated investments	Fair value changes in available-for-sale investments	Translating foreign operations	Share of other comprehensive income (loss) of associate	Equity attributable to owners of the Company	Non-controlling interests	Total shareholders' equity
Year ended 31 December 2016													
Balance at 1 January 2016	20,400,278,730	2,456,261,491	330,835,954	(127,795,383)	2,040,027,873	244,500,000	67,131,185,613	(89,418,543)	(17,357,393)	2,932,616	92,371,450,958	4,637,290,947	97,008,741,905
Dividend	-	-	-	-	-	-	(6,731,160,865)	-	-	-	(6,731,160,865)	(262,581,035)	(6,993,741,900)
Comprehensive income (loss) for the year	-	-	-	-	-	-	21,221,910,756	-	-	-	21,221,910,756	365,026,948	21,586,937,704
Profit for the year	-	-	-	-	-	-	-	-	-	-	-	-	-
Other comprehensive income (loss)	-	-	-	-	-	-	-	10,950,198	(21,032,170)	4,456,313	(5,625,659)	991,968	(4,633,691)
Total comprehensive income (loss) for the year	-	-	-	-	-	-	21,221,910,756	10,950,198	(21,032,170)	4,456,313	21,216,285,097	366,018,916	21,582,304,013
Balance at 31 December 2016	20,400,278,730	2,456,261,491	330,835,954	(127,795,383)	2,040,027,873	244,500,000	81,621,935,504	(78,468,345)	(38,389,563)	7,388,929	106,856,575,190	4,740,728,828	111,597,304,018
Year ended 31 December 2017													
Balance at 1 January 2017	20,400,278,730	2,456,261,491	330,835,954	(127,795,383)	2,040,027,873	244,500,000	81,621,935,504	(78,468,345)	(38,389,563)	7,388,929	106,856,575,190	4,740,728,828	111,597,304,018
Dividend	-	-	-	-	-	-	(9,179,406,329)	-	-	-	(9,179,406,329)	(275,931,009)	(9,455,337,338)
Comprehensive income (loss) for the year	-	-	-	-	-	-	24,856,198,552	-	-	-	24,856,198,552	463,075,178	25,319,273,730
Profit for the year	-	-	-	-	-	-	-	-	-	-	-	-	-
Other comprehensive income (loss)	-	-	-	-	-	-	(323,260,997)	147,378,167	(120,752,573)	(13,254,982)	(309,890,385)	(3,103,890)	(312,994,275)
Total comprehensive income (loss) for the year	-	-	-	-	-	-	24,532,937,555	147,378,167	(120,752,573)	(13,254,982)	24,546,308,167	459,971,288	25,006,279,455
Balance at 31 December 2017	20,400,278,730	2,456,261,491	330,835,954	(127,795,383)	2,040,027,873	244,500,000	96,975,466,730	68,909,822	(199,142,136)	(5,866,053)	122,223,477,028	4,924,769,107	127,148,246,135

The accompanying notes are an integral part of these financial statements.

STATEMENT OF CHANGES IN SHAREHOLDERS' EQUITY

Thai Oil Public Company Limited and its Subsidiaries

Separate financial statements										(in Baht)
	Note	Issued and paid share capital	Share Premium on ordinary shares	Retained earnings			Other components of shareholders' equity			
				Legal reserve	Other reserves	Unappropriated	Fair value changes in available-for-sale investments	Total		
Year ended 31 December 2016										
Balance at 1 January 2016		20,400,278,730	2,456,261,491	2,040,027,873	244,500,000	34,915,797,048	(89,418,543)	59,967,446,599		
Dividend	33	-	-	-	-	(6,731,160,865)	-	(6,731,160,865)		
Comprehensive income (loss) for the year										
Profit for the year		-	-	-	-	28,503,095,131	-	28,503,095,131		
Other comprehensive income (loss)		-	-	-	-	-	10,950,198	10,950,198		
Total comprehensive income (loss) for the year										
Balance at 31 December 2016		20,400,278,730	2,456,261,491	2,040,027,873	244,500,000	56,687,731,314	(78,468,345)	81,750,331,063		
Year ended 31 December 2017										
Balance at 1 January 2017		20,400,278,730	2,456,261,491	2,040,027,873	244,500,000	56,687,731,314	(78,468,345)	81,750,331,063		
Dividend	33	-	-	-	-	(9,179,406,329)	-	(9,179,406,329)		
Comprehensive income (loss) for the year										
Profit for the year		-	-	-	-	28,739,638,578	-	28,739,638,578		
Other comprehensive income (loss)		-	-	-	-	(291,993,637)	147,378,167	(144,615,470)		
Total comprehensive income (loss) for the year										
Balance at 31 December 2017		20,400,278,730	2,456,261,491	2,040,027,873	244,500,000	75,955,969,926	68,909,822	101,165,947,842		

The accompanying notes are an integral part of these financial statements.

Thai Oil Public Company Limited and its Subsidiaries

		Consolidated financial statements		Separate financial statements	
		For the year ended 31 December		For the year ended 31 December	
	Note	2017	2016	2017	2016
Cash flows from operating activities					
Profit for the year		25,319,273,730	21,586,937,704	28,739,638,578	28,503,095,131
Adjustments to reconcile profit (loss) to cash receipts (payments)					
Reversal of allowance for decline in value of inventories adjusted to net realisable value		(93,066,711)	(1,052,609,007)	(72,798,534)	(1,040,788,174)
Depreciation and amortisation	28	7,641,956,999	7,761,793,520	3,956,228,840	4,373,672,953
Finance costs	29	3,285,063,447	3,460,705,140	2,863,593,581	3,133,580,838
Unrealised gain on foreign exchange		(2,335,144,065)	(97,403,092)	(2,013,562,075)	(218,926,173)
Share of profit of joint ventures and associates	12	(1,196,663,512)	(929,669,665)	-	-
Dividend income	4	(157,889,657)	(247,336,954)	(11,125,418,007)	(14,475,224,501)
(Reversal of) impairment loss on property, plant and equipment	14	546,355,384	(1,405,620)	-	-
Bad debt		-	28,472,981	-	-
Loss on disposal of investment		33,223,606	-	71,850,322	-
(Gain) loss on disposal of property, plant and equipment		20,392,717	52,536,630	27,991	(1,078)
Realisation of deferred land lease and other income		(24,475,755)	(25,834,791)	(143,187,307)	(140,107,684)
Income tax expense	30	5,529,487,003	2,295,464,004	4,253,115,118	1,221,333,598
		38,568,513,186	32,831,650,850	26,529,488,507	21,356,634,910

The accompanying notes are an integral part of these financial statements.

STATEMENT OF CASH FLOWS

Thai Oil Public Company Limited and its Subsidiaries

(in Baht)

	Consolidated		Separate	
	financial statements		financial statements	
	For the year ended 31 December	For the year ended 31 December	For the year ended 31 December	For the year ended 31 December
Note	2017	2016	2017	2016
Changes in operating assets and liabilities				
Trade accounts receivable	(2,791,694,120)	(5,370,916,668)	(3,396,869,165)	(6,911,018,387)
Other receivables	(1,389,182,919)	971,492,580	(1,295,902,910)	786,385,785
Inventories	441,048,195	(13,237,297,570)	974,328,151	(11,897,584,487)
Value add tax receivable	190,443,380	40,513,080	41,899,088	198,847,666
Other non-current assets	(157,942,426)	145,829,924	42,690,633	(105,199,815)
Trade accounts payable	(927,669,858)	7,846,884,729	(1,498,321,028)	9,221,945,029
Other payable	671,588,852	92,916,646	357,425,364	187,512,485
Excise duty payable	3,335,282,422	417,532,937	3,335,282,422	417,532,937
Other non-current liabilities	(381,726,948)	141,562,292	(154,795,864)	128,074,355
Cash generated from operating activities	37,558,659,764	23,880,168,800	24,935,225,198	13,383,130,478
Income tax received (paid)	(3,141,476,623)	(698,536,565)	(1,986,846,267)	199,752,825
Net cash from operating activities	34,417,183,141	23,181,632,235	22,948,378,931	13,582,883,303

The accompanying notes are an integral part of these financial statements.

STATEMENT OF CASH FLOWS

Thai Oil Public Company Limited and its Subsidiaries

(in Baht)					
	Note	Consolidated financial statements		Separate financial statements	
		For the year ended 31 December		For the year ended 31 December	
		2017	2016	2017	2016
Cash flows from investing activities					
Dividends received		740,393,772	753,954,120	11,125,418,007	14,475,224,501
Purchase of current investments		(23,423,007,008)	(12,056,729,550)	(23,458,465,627)	(12,214,929,550)
Sale of investments held					
as available-for-sale		150,575,691	-	150,575,691	-
Purchase of investments held					
as available-for-sale		(3,016,015,165)	(27,660,014)	(3,016,015,165)	(27,660,014)
Proceeds from sales of					
investments in associates	12	50,625,000	-	-	-
Cash outflows on investments					
in subsidiary	10	-	-	(10,000,000)	-
Cash outflows on short-term					
loans to related parties	4	-	-	(7,220,500,000)	(5,723,500,000)
Cash inflows on short-term					
loans to related parties	4	-	-	4,153,500,000	2,549,000,000
Cash inflows on long-term loans to					
savings co-operative of employees		21,989,620	595,910	21,989,620	595,910
Cash outflows on other long-term investments		(375,000)	-	(375,000)	-
Sale of property, plant and equipment		1,936,392	597,728	15,700	18,000
Purchase of property, plant and equipment		(3,679,007,164)	(6,393,094,429)	(3,257,293,377)	(2,070,514,173)
Purchase of intangible assets		(920,624,370)	(625,814,122)	(96,526,356)	(193,971,674)
Exchange differences on					
translating foreign operations		(18,874,068)	(3,636,586)	-	-
Net cash used in investing activities		(30,092,382,300)	(18,351,786,943)	(21,607,676,507)	(3,205,737,000)

The accompanying notes are an integral part of these financial statements.

STATEMENT OF CASH FLOWS

Thai Oil Public Company Limited and its Subsidiaries

(in Baht)

		Consolidated financial statements		Separate financial statements	
		For the year ended 31 December 2017	2016	For the year ended 31 December 2017	2016
	Note				
Cash flows from financing activities					
Finance costs paid		(3,364,337,657)	(3,443,153,947)	(2,946,483,285)	(3,116,753,040)
Dividends paid		(9,455,337,338)	(6,993,741,900)	(9,179,406,329)	(6,731,160,865)
Proceeds from short-term borrowings		3,571,377,956	1,324,000,000	-	-
Repayment of short-term borrowings		(3,470,000,000)	(870,000,000)	-	-
Proceeds from short-term borrowings from related parties	4	-	800,000,000	-	800,000,000
Repayment of short-term borrowings from related parties	4	-	(800,000,000)	(27,955,034)	(6,108,437,636)
Proceeds from long-term borrowings		110,052,978	1,967,222,563	-	-
Repayment of long-term borrowings		(1,685,992,899)	(1,381,629,843)	-	-
Redemption of debenture		(4,931,799,674)	-	(4,931,799,674)	-
Net cash used in financing activities		(19,226,036,634)	(9,397,303,127)	(17,085,644,322)	(15,156,351,541)
Net decrease in cash and cash equivalents					
		(14,901,235,793)	(4,567,457,835)	(15,744,941,898)	(4,779,205,238)
Effect of exchange rate change on cash and cash equipments		(596,099,490)	(76,216,453)	(580,525,685)	(54,752,702)
Cash and cash equivalents as at 1 January		31,120,762,001	35,764,436,289	28,239,977,434	33,073,935,374
Cash and cash equivalents as at 31 December	5	15,623,426,718	31,120,762,001	11,914,509,851	28,239,977,434
Non-cash transactions					
Payable for purchase of property, plant and equipment		391,724,053	230,524,656	350,450,144	168,492,913
Payable for purchase of intangible assets		202,242,529	778,553,475	-	-
Payable on purchase of securities (Private funds)		49,839,374	304,017,736	49,839,374	304,017,736

The accompanying notes are an integral part of these financial statements.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Note	Contents	Note	Contents
1	General information	21	Provisions for employee benefits
2	Basis of preparation of the financial statements	22	Share capital
3	Significant accounting policies	23	Additional paid-in capital and reserves
4	Related parties	24	Segment information
5	Cash and cash equivalents	25	Other income
6	Other investments	26	Administrative expenses
7	Trade accounts receivable	27	Employee benefit expenses
8	Other receivables	28	Expenses by nature
9	Inventories	29	Finance costs
10	Investments in subsidiaries	30	Income tax expense
11	Non-controlling interests	31	Promotional privileges
12	Investments in joint ventures and associates	32	Basic earnings per share
13	Investment properties	33	Dividends
14	Property, plant and equipment	34	Financial instruments
15	Intangible assets	35	Commitments with non-related parties
16	Deferred tax	36	Contingent liabilities and contingent assets
17	Other non-current assets	37	Insurance policy
18	Interest-bearing liabilities	38	Event after the reporting period
19	Trade accounts payable	39	Reclassification of accounts
20	Other payables		

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

These notes form an integral part of the financial statements.

The financial statements issued for Thai statutory and regulatory reporting purposes are prepared in the Thai language. These English language financial statements have been prepared from the Thai language statutory financial statements, and were approved and authorized for issue by the Board of Directors on 15 February 2018.

1 General information

Thai Oil Public Company Limited, the “Company”, is incorporated in Thailand and has its registered offices and refinery plant as follows:

Head office : 555/1 Energy Complex Building A, 11th Floor, Vibhavadi Rangsit Road,
Kwang Chatuchak, Khet Chatuchak, Bangkok 10900, Thailand

Sriracha office and refinery plant : 42/1 Moo 1, Sukhumvit Road Km. 124, Tambol Tungsukla,
Amphur Sriracha, Choburi 20230, Thailand

The Company was listed on the Stock Exchange of Thailand on 26 October 2004.

The Company is an entity in the PTT Public Company Limited (“PTT”) group of companies. PTT is incorporated in Thailand and is the major shareholder and the parent of the Company and owned 49.1% of the Company’s issued and paid-up share capital as at 31 December 2017 (31 December 2016: 49.1%).

The principal businesses of the Company are oil refining and distributions. Details of the Company’s direct and indirect subsidiaries as at 31 December 2017 and 2016 were as follows:

Name of the entity	Type of business	Country of	Ownership interest	
		incorporation	(%) 2017	2016
Direct subsidiaries				
Thai Paraxylene Co., Ltd.	Paraxylene manufacturing and distribution	Thailand	99.99	99.99
Thai Lube Base Public Company Limited	Lube base oil refining and distribution	Thailand	99.99	99.99
Thaioil Marine Co., Ltd.	Providing marine transportation services for petroleum and liquid chemical products	Thailand	99.99	99.99

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Name of the entity	Type of business	Country of incorporation	Ownership interest (%)	
			2017	2016
Thaioil Energy Services Co., Ltd.	Providing human resource management	Thailand	99.99	99.99
Thaioil Solvent Co., Ltd.	Investment in solvent and chemical businesses	Thailand	99.99	99.99
Thaioil Ethanol Co., Ltd.	Investment in ethanol business and alternative energy products	Thailand	99.99	99.99
Thaioil Power Co., Ltd.	Power and steam generation and distribution	Thailand	73.99	73.99
TOP SPP Co., Ltd.	Power and steam generation and distribution	Thailand	99.99	99.99
Thaioil Treasury Center Co., Ltd.	Treasury center for the Group's business	Thailand	99.99	-
Indirect subsidiaries				
TOP Solvent Co., Ltd.	Distribution of solvent and chemical products	Thailand	99.99	99.99
Sak Chaisidhi Co., Ltd.	Solvent and chemical products manufacturing and distribution	Thailand	80.52	80.52
TOP Solvent (Vietnam) LLC.	Distribution of solvent and chemical products	Vietnam	100.00	100.00
Sapthip Co., Ltd.	Ethanol products manufacturing and distribution	Thailand	50.00	50.00
Thaioil Marine International Pte. Ltd.	Investment in marine transportation for crude oil and petroleum product business	Singapore	100.00	100.00
TOP Maritime Service Co., Ltd.	Providing marine transportation services for crew and utilities in Gulf of Thailand	Thailand	55.00	55.00
LABIX Co., Ltd.	Linear Alkyl Benzene manufacturing and distribution	Thailand	75.00	75.00

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

2 Basis of preparation of the financial statements

(a) Statement of compliance

The financial statements are prepared in accordance with Thai Financial Reporting Standards (TFRS), guidelines promulgated by the Federation of Accounting Professions ("FAP"), and applicable rules and regulations of the Thai Securities and Exchange Commission.

The FAP has issued new and revised TFRS effective for annual accounting periods beginning on or after 1 January 2017. The initial application of these new and revised TFRS has resulted in changes in certain of the Group's accounting policies. These changes have no material effect on the financial statements.

In addition to the above new and revised TFRS, the FAP has issued a number of other new and revised TFRS which are effective for annual financial periods beginning on or after 1 January 2018 and have not been adopted in the preparation of these financial statements. The Group has made a preliminary assessment of the potential initial impact on the consolidated and separate financial statements of these new and revised TFRS and expects that there will be no material impact on the financial statements in the period of initial application.

(b) Basis of measurement

The financial statements have been prepared on the historical cost basis except for the following items.

Items	Measurement bases
Available-for-sale investment	Fair value
Provisions for employee benefits	Present value of employee benefit obligations as explained in Note 21

(c) Functional and presentation currency

The financial statements are prepared and presented in Thai Baht, which is the Company's functional currency. All financial information presented in Thai Baht has been rounded in the notes to the financial statements to the nearest million unless otherwise stated.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(d) Use of judgements and estimates

The preparation of financial statements in conformity with TFRS requires management to make judgements, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised prospectively.

Assumptions and estimation uncertainties

Information about assumption and estimation uncertainties that have a significant risk of resulting in a material adjustments to the amounts recognised in the financial statements is included in the following notes:

Note 9	Allowance for decline in value of inventories adjusted to net realisable value
Note 4 10 and 15	Impairment test of loan to and investment in subsidiaries, goodwill and customer database - key assumptions underlying recoverable amounts
Note 14	Determining the fair value less costs of disposal of marine transportation services segment's assets on the basis of significant unobservable inputs
Note 21	Measurement of provisions for employee benefits - key actuarial assumption

Measurement of fair values

A number of the Group's accounting policies and disclosures require the measurement of fair values, for both financial and non-financial assets and liabilities.

The Group has an established control framework with respect to the measurement of fair values. This includes a valuation team that has overall responsibility for overseeing all significant fair value measurements, including Level 3 fair values, and reports directly to the CFO.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

The valuation team regularly reviews significant unobservable inputs and valuation adjustments. If third party information, such as broker quotes or pricing services, is used to measure fair values, then the valuation team assesses the evidence obtained from the third parties to support the conclusion that such valuations meet the requirements of TFRS, including the level in the fair value hierarchy in which such valuations should be classified.

Significant valuation issues are reported to the Group's Audit Committee.

When measuring the fair value of an asset or a liability, the Group uses observable market data as far as possible. Fair values are categorised into different levels in a fair value hierarchy based on the inputs used in the valuation techniques as follows:

- Level 1 : quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2 : inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices).
- Level 3 : inputs for the asset or liability that are not based on observable market data.

If the inputs used to measure the fair value of an asset or liability might be categorised in different levels of the fair value hierarchy, then the fair value measurement is categorised in its entirety in the same level of the fair value hierarchy as the lowest level input that is significant to the entire measurement.

The Group recognises transfers between levels of the fair value hierarchy at the end of the reporting period during which the change has occurred.

Further information about the assumptions made in measuring fair values is included in following notes:

Note 13 Investment properties

Note 34 Financial instruments

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

3 Significant accounting policies

The accounting policies set out below have been applied consistently to all periods presented in these financial statements.

(a) Basis of consolidation

The consolidated financial statements relate to the Company and its subsidiaries (together referred to as the “Group”) and the Group’s interests in joint ventures and associates.

Business combinations

The Group applies the acquisition method for all business combinations when control is transferred to the Group other than those with entities under common control.

The Group controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The acquisition date is the date on which control is transferred to the acquirer. Judgment is applied in determining the acquisition date and determining whether control is transferred from one party to another.

Goodwill is measured as the fair value of the consideration transferred including the recognised amount of any non-controlling interest in the acquiree, less the net recognised amount (generally fair value) of the identifiable assets acquired and liabilities assumed, all measured as of the acquisition date. Any gain on bargain purchase is recognised in profit or loss immediately.

Consideration transferred includes the fair values of the assets transferred, liabilities incurred by the Group to the previous owners of the acquiree, and equity interests issued by the Group. Consideration transferred also includes the fair value of any contingent consideration and share-based payment awards of the acquiree that are replaced mandatorily in the business combination. If a business combination results in the termination of pre-existing relationships between the Group and the acquiree, then the lower of the termination amount, as contained in the agreement, and the value of the off-market element is deducted from the consideration transferred and recognised in other expenses.

A contingent liability of the acquiree is assumed in a business combination only if such a liability represents a present obligation and arises from a past event, and its fair value can be measured reliably.

Transaction costs that the Group incurs in connection with a business combination, such as legal fees, and other professional and consulting fees are expensed as incurred.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

If the initial accounting for a business combination is incomplete by the end of the reporting period in which the combination occurs, the Group reports provisional amounts for the items for which the accounting is incomplete. Those provisional amounts are adjusted during the measurement period, or additional assets or liabilities are recognized, to reflect new information obtained about facts and circumstances that existed at the acquisition date that, if known, would have affected the amounts recognized at that date.

Acquisitions from entities under common control

Business combinations of entities or businesses under common control are accounted for using a method similar to the pooling of interest method and in accordance with the Guideline issued in 2009 by the FAP.

Subsidiaries

Subsidiaries are entities controlled by the Group. The Group controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date on which control commences until the date on which control ceases.

Non-controlling interests

At the acquisition date, the Group measures any non-controlling interest at its proportionate interest in the identifiable net assets of the acquiree.

Changes in the Group's interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions.

Loss of control

When the Group loses control over a subsidiary, it derecognises the assets and liabilities of the subsidiary, and any related non-controlling interests and other components of equity. Any resulting gain or loss is recognised in profit or loss. Any interest retained in the former subsidiary is measured at fair value when control is lost.

Interests in equity-accounted investees

The Group's interests in equity-accounted investees comprise interests in joint ventures and associates.

A joint venture is an arrangement in which the Group has joint control, whereby the Group has rights to the net assets of the arrangement, rather than rights to its assets and obligations for its liabilities. Associates are those entities in which the Group has significant influence, but not control or joint control, over the financial and operating policies.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Interests in joint ventures and associates are accounted for using the equity method. They are initially recognised at cost, which includes transaction costs. Subsequent to initial recognition, the consolidated financial statements include the Group's share of the profit or loss and other comprehensive income of equity-accounted investees, until the date on which joint control or significant influence ceases.

Transactions eliminated on consolidation

Intra-group balances and transactions, and any unrealised income or expenses arising from intra-group transactions, are eliminated in preparing the consolidated financial statements. Unrealised gains arising from transactions with joint ventures and associates are eliminated against the investment to the extent of the Group's interest in the investee. Unrealised losses are eliminated in the same way as unrealised gains, but only to the extent that there is no evidence of impairment.

(b) Foreign currencies

Foreign currency transactions

Transactions in foreign currencies are translated to the respective functional currencies of Group entities at exchange rates at the dates of the transactions.

Monetary assets and liabilities denominated in foreign currencies are translated to the functional currency at the exchange rate at the reporting date. Foreign exchange differences arising on translation are recognised in profit or loss.

Non-monetary assets and liabilities measured at cost in foreign currencies are translated to the functional currency at the exchange rates at the dates of the transactions.

Foreign operations

The assets and liabilities of foreign operations, including goodwill and fair value adjustments arising on acquisition, are translated to Thai Baht at the exchange rates at the reporting date.

The revenues and expenses of foreign operations are translated to Thai Baht at the average foreign exchange rates ruling during the periods.

Foreign exchange differences are recognised in other comprehensive income and accumulated in the translation reserve, except to extent that the translation difference is allocated to non-controlling interest.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

When a foreign operation is disposed of in its entirety or partially such that control, significant influence or joint control is lost, the cumulative amount in the translation reserve related to that foreign operation is reclassified to profit or loss as part of the gain or loss on disposal. If the Group disposes of part of its interest in a subsidiary but retains control, then the relevant proportion of the cumulative amount is reattributed to non-controlling interests. When the Group disposes of only part of a joint venture or associate while retaining joint control or significant influence, the relevant proportion of the cumulative amount is reclassified to profit or loss.

When the settlement of a monetary item receivable from or payable to a foreign operation is neither planned nor likely in the foreseeable future, exchange gains and losses arising from such a monetary item are considered to form part of a net investment in a foreign operation and are recognised in other comprehensive income, and presented in the foreign currency translation reserve in equity until disposal of the investment.

(c) Derivative financial instruments

Derivative financial instruments are used to manage exposure to foreign exchange, interest rate and commodity price risks arising from operational, financing and investment activities. Derivative financial instruments are not used for trading purposes. However, derivatives that do not qualify for hedge accounting are accounted for as trading instruments.

Hedge of future foreign currency transactions

Forward foreign exchange contracts protect the Group from fluctuations in exchange rates by establishing the rates at which foreign currency assets will be realised or foreign currency liabilities will be settled. Forward foreign exchange contracts are recognised in the financial statements on inception. The premium or discount on the establishment of each agreement is amortised over the contract period.

Cross currency swap and interest rate swap contracts

Cross currency swap and interest rate swap contracts hedging future fluctuations in exchange rates and interest rates. Foreign financial assets and liabilities hedged by cross currency swap contracts are translated into the functional currency at the foreign exchange rates determined in the contracts and revalued at the reporting date at the foreign exchange rate ruling on that date. Foreign exchange differences are recognised in profit or loss. The differences under interest rate swaps are recorded as adjustments to the interest expense relating to the financial obligations in profit or loss.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Hedge of crack spread and time spread

Differences between the fixed prices of contracts and the settlement prices are recognised in the profit or loss in the period in which the contracts mature.

(d) Cash and cash equivalents

Cash and cash equivalents in the statements of cash flows comprise cash balances, current and savings accounts, and highly liquid short-term investments. Bank overdrafts that are repayable on demand are a component of financing activities for the purpose of the statement of cash flows.

(e) Trade and other accounts receivable

Trade and other accounts receivable are stated at their invoice value less allowance for doubtful accounts.

The allowance for doubtful accounts is assessed primarily on analysis of payment histories and future expectations of customer payments. Bad debts are written off when incurred.

(f) Inventories

Inventories are measured at the lower of cost and net realisable value.

Cost of inventories is calculated using the weighted average cost principle, and comprises all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition. In the case of manufactured inventories and work in progress, cost includes an appropriate share of production overheads based on normal operating capacity.

Net realisable value is the estimated selling price in the ordinary course of business less the estimated costs to complete and to make the sale.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(g) Non-current assets classified as held for sale

Non-current assets that are expected to be recovered primarily through sale rather than through continuing use, are classified as held for sale. The assets are measured at the lower of their carrying value and fair value less cost to sell. Any impairment loss on a disposal group is first allocated to goodwill, and then to remaining assets and liabilities on a pro rata basis, except that no loss is allocated to inventories, financial assets, deferred tax assets and investment properties. Impairment losses on initial classification as held for sale and subsequent gains and losses on remeasurement are recognised in profit or loss. Gains are not recognised in excess of any cumulative impairment loss.

(h) Investments

Investments in subsidiaries, joint ventures and associates

Investments in subsidiaries, joint ventures and associates in the separate financial statements of the Company are accounted for using the cost method. Investments in joint ventures and associates in the consolidated financial statements are accounted for using the equity method.

Any changes in the equity interest in subsidiaries of the Group while control is retained are recorded in equity.

Investments in other debt and equity securities

Debt securities that the Group has the positive intent and ability to hold to maturity are classified as held-to-maturity investments. Held-to-maturity investments are stated at amortised cost, less any impairment losses. The difference between the acquisition cost and redemption value of such debt securities is amortised using the effective interest rate method over the period to maturity.

Debt securities and marketable equity securities, other than those securities held for intended to be held to maturity, are classified as investments in available-for-sale securities. Investments in available-for-sale securities are, subsequent to initial recognition, stated at fair value, therein, other than impairment losses and foreign currency differences on available-for-sale monetary items, are recognised directly in equity. Impairment losses and foreign exchange differences are recognised in profit or loss. When these investments are derecognised, the cumulative gain or loss previously recognised directly in equity is recognised in profit or loss. When these investments are interest-bearing, interest calculated using the effective interest method is recognised in profit or loss.

Equity securities which are not marketable are stated at cost less any impairment losses.

The fair value of financial instruments classified as available-for-sale is determined as the quoted bid price at the reporting date.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Disposal of investments

On disposal of an investment, the difference between net disposal proceeds and the carrying amount together with the associated cumulative gain or loss that was reported in equity is recognised in profit or loss.

If the Group disposes of part of its holding of a particular investment, the deemed cost of the part sold is determined using the weighted average method applied to the carrying value of the total holding of the investment.

(i) Investment properties

Investment properties are properties which are held to earn rental income, for capital appreciation or for both, but not for sale in the ordinary course of business, use in the production or supply of goods or services or for administrative purposes.

Investment properties are measured at cost less accumulated depreciation and impairment losses.

Cost includes expenditure that is directly attributable to the acquisition of the investment property. The cost of self-constructed investment property includes the cost of materials and direct labour, and other costs directly attributable to bringing the investment property to a working condition for its intended use and capitalised borrowing costs.

(j) Property, plant and equipment

The Group's owned assets

Property, plant and equipment are measured at cost less accumulated depreciation and impairment losses.

Cost includes expenditure that is directly attributable to the acquisition of the asset. The cost of self-constructed assets includes the cost of materials and direct labour, any other costs directly attributable to bringing the assets to a working condition for their intended use, the costs of dismantling and removing the items and restoring the site on which they are located, and capitalised borrowing costs. Cost also may include transfers from other comprehensive income of any gain or loss on qualifying cash flow hedges of foreign currency purchases of property, plant and equipment. Purchased software that is integral to the functionality of the related equipment is capitalised as part of that equipment.

When parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Any gains and losses on disposal of an item of property, plant and equipment are determined by comparing the proceeds from disposal with the carrying amount of property, plant and equipment, and are recognised in profit or loss.

Reclassification to investment property

When the use of a property changes from owner-occupied to investment property, its carrying amount at the date of reclassification becomes its cost for subsequent accounting.

Subsequent costs

The cost of replacing a part of an item of property, plant and equipment is recognised in the carrying amount of the item if it is probable that the future economic benefits embodied within the part will flow to the Group, and its cost can be measured reliably. The carrying amount of the replaced part is derecognised. The costs of the day-to-day servicing of property, plant and equipment are recognised in profit or loss as incurred.

Depreciation

Depreciation is calculated based on the depreciable amount, which is the cost of an asset, or other amount substituted for cost, less its residual value.

Depreciation is charged to the profit or loss on a straight line basis over the estimated useful lives of each component of an item of property, plant and equipment. The estimated useful lives are as follows:

Buildings	10 - 25 years
Leasehold improvements	5 - 20 years
Refinery plant and equipment (depreciated over the remaining estimated useful life starting from 1 October 1994)	20 - 35 years
Lube base oil refinery plants and equipment	16 - 20 years
Petrochemical plants	10 - 25 years
Power plants	20 - 25 years
Transmission facilities	25 years
Machinery, equipment and plant equipment	3 - 20 years
Oil and liquid chemical tankers and crew boats	10 - 25 years
Furniture, fixtures, office equipment and others	5 - 10 years
Vehicles	5 years

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

No depreciation is provided on freehold land and assets under construction.

Depreciation methods, useful lives and residual values are reviewed at each financial year-end and adjusted if appropriate.

(k) Intangible assets

Goodwill

Goodwill that arises upon the acquisition of subsidiaries is included in intangible assets. The measurement of goodwill at initial recognition is described in note 3 (a). Subsequent to initial recognition, goodwill is measured at cost less accumulated impairment losses. In respect of equity-accounted investees, the carrying amount of goodwill is included in the carrying amount of the investment, and an impairment loss on such an investment is not allocated to any asset, including goodwill, that forms part of the carrying amount of the equity-accounted investee.

Customer database

Customer database is stated at cost less accumulated impairment losses.

License fee, computer software and patent

License fee, computer software and patent that are acquired by the Group, which have finite useful lives, are stated at cost less accumulated amortisation and accumulated impairment losses.

Subsequent expenditure

Subsequent expenditure is capitalised only when it increases the future economic benefits embodied in the specific asset to which it relates. All other expenditure, including expenditure on internally generated goodwill and brands, is recognised in profit or loss as incurred.

Amortisation

Amortisation is calculated over the cost of the asset, or other amount substituted for cost, less its residual value.

Amortisation is recognised in profit or loss on a straight-line basis over the estimated useful lives of intangible assets, other than goodwill, from the date that they are available for use.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

The estimated useful lives are as follows:

License fee	10 - 25 years
Computer software	5 - 10 years
Patent	10 years

Amortisation methods, useful lives and residual values are reviewed at each financial year-end and adjusted if appropriate.

(I) Impairment

The carrying amounts of the Group's assets are reviewed at each reporting date to determine whether there is any indication of impairment. If any such indication exists, the assets' recoverable amounts are estimated. For goodwill and intangible assets that have indefinite useful lives or are not yet available for use, the recoverable amount is estimated each year at the same time.

An impairment loss is recognised if the carrying amount of an asset or its cash-generating unit exceeds its recoverable amount. The impairment loss is recognised in profit or loss.

When a decline in the fair value of an available-for-sale financial asset has been recognised directly in equity and there is objective evidence that the value of the asset is impaired, the cumulative loss that had been recognised directly in equity is recognised in profit or loss even though the financial asset has not been derecognised. The amount of the cumulative loss that is recognised in profit or loss is the difference between the acquisition cost and current fair value, less any impairment loss on that financial asset previously recognised in profit or loss.

Calculation of recoverable amount

The recoverable amount of the Group's investments in held-to-maturity securities carried at amortised cost is calculated as the present value of estimated future cash flows, discounted at the original effective interest rate.

The recoverable amount of available-for-sale assets is calculated by reference to the fair value.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

The recoverable amount of a non-financial asset is the greater of the asset's value in use and fair value less costs to sell. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. For an asset that does not generate cash inflows largely independent of those from other assets, the recoverable amount is determined for the cash-generating unit to which the asset belongs.

Reversals of impairment

An impairment loss in respect of a financial asset is reversed if the subsequent increase in recoverable amount can be related objectively to an event occurring after the impairment loss was recognised in profit or loss. For financial assets carried at amortised cost and available-for-sale financial assets that are debt securities, the reversal is recognised in profit or loss. For available-for-sale financial assets that are equity securities, the reversal is recognised in other comprehensive income.

An impairment loss in respect of goodwill is not reversed. Impairment losses recognised in prior periods in respect of other non-financial assets are assessed at each reporting date for any indications that the loss has decreased or no longer exists. An impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

(m) Interest-bearing liabilities

Interest-bearing liabilities are stated at cost.

(n) Trade and other accounts payable

Trade and other accounts payable are stated at cost.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(o) Employee benefits

Defined contribution plans

A defined contribution plan, provident fund, is a post-employment benefit plan under which an entity pays fixed contributions into a separate entity and will have no legal or constructive obligation to pay further amounts. Obligations for contributions to defined contribution pension plans are recognised as an employee benefit expense in profit or loss in the periods during which services are rendered by employees.

Defined benefit plans

A defined benefit plan is a post-employment benefit plan other than a defined contribution plan. The Group's net obligation in respect of defined benefit plans is calculated separately for each plan by estimating the amount of future benefit that employees have earned in the current and prior periods, discounting that amount.

The calculation of defined benefit obligations is performed annually by a qualified actuary using the projected unit credit method. When the calculation results in a potential asset for the Group, the recognised asset is limited to the present value of economic benefits available in the form of any future refunds from the plan or reductions in future contributions to the plan. To calculate the present value of economic benefits, consideration is given to any application minimum funding requirements.

Remeasurements of the net defined benefit liability, actuarial gain or loss are recognised immediately in other comprehensive income. The Group determines the interest expense on the net defined benefit liability for the period by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period, taking into account any changes in the net defined benefit liability during the period as a result of contributions and benefit payments. Net interest expense and other expenses related to defined benefit plans are recognised in profit or loss.

When the benefits of a plan are changed or when a plan is curtailed, the resulting change in benefit that relates to past service or the gain or loss on curtailment is recognised immediately in profit or loss. The Group recognises gains and losses on the settlement of a defined benefit plan when the settlement occurs.

Other long-term employee benefits

The Group's net obligation in respect of long-term employee benefits is the amount of future benefit that employees have earned in return for their service in the current and prior periods. That benefit is discounted to determine its present value. Remeasurements are recognised in profit or loss in the period in which they arise.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Termination benefits

Termination benefits are expensed at the earlier of when the Group can no longer withdraw the offer of those benefits and when the Group recognises costs for a restructuring. If benefits are not expected to be settled wholly within 12 months of the end of the reporting period, then they are discounted.

Short-term employee benefits

Short-term employee benefits are expensed as the related service is provided. A liability is recognised for the amount expected to be paid if the Group has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee and the obligation can be estimated reliably.

(p) Provisions

A provision is recognised if, as a result of a past event, the Group has a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. The unwinding of the discount is recognised as a finance cost.

(q) Revenue

Revenue excludes value added taxes or other sales taxes and is arrived at after deduction of trade discounts.

Sale of goods and services rendered

Revenue is recognised in profit or loss when the significant risks and rewards of ownership have been transferred to the buyer. No revenue is recognised if there is continuing management involvement with the goods or there are significant uncertainties regarding recovery of the consideration due, associated costs or the probable return of goods. Service income is recognised as services are provided.

Rental income

Rental income from investment property is recognised in profit or loss on a straight-line basis over the term of the lease. Lease incentives granted are recognised as an integral part of the total rental income. Contingent rentals are recognised as income in the accounting period in which they are earned.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Interest and dividend income

Interest income is recognised in the profit or loss as it accrues. Dividend income is recognised in the profit or loss on the date the Group's right to receive payments is established which in the case of quoted securities is usually the ex-dividend date.

(r) Expenses

Lease payments

Payments made under operating leases are recognised in profit or loss on a straight line basis over the term of the lease.

Repair and maintenance expenses

Expenditure on repair and maintenance is charged to profit or loss in the period in which the expenditure is incurred. Expenditure of a capital nature is added to the cost of the related plant and equipment.

Finance costs

Interest expenses and similar costs are charged to profit or loss for the period in which they are incurred, except to the extent that they are capitalised as being directly attributable to the acquisition, construction or production of an asset which necessarily takes a substantial year of time to be prepared for its intended use or sale.

(s) Income tax

Income tax expense on the profit or loss for the year comprises current and deferred tax.

Current tax is the expected tax payable or receivable on the taxable income or loss for the year, using tax rates enacted or substantively enacted at the reporting date, and any adjustment to tax payable in respect of previous years.

Deferred tax is recognised in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax is not recognised for the following temporary differences: the initial recognition of goodwill; the initial recognition of assets or liabilities in a transaction that is not a business combination and that affects neither accounting nor taxable profit or loss; and differences relating to investments in subsidiaries and jointly-controlled entities to the extent that it is probable that they will not reverse in the foreseeable future.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

The measurement of deferred tax reflects the tax consequences that would follow the manner in which the Group expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities.

Deferred tax is measured at the tax rates that are expected to be applied to the temporary differences when they reverse, using tax rates enacted or substantively enacted by the reporting date.

In determining the amount of current and deferred tax, the Group takes into account the impact of uncertain tax positions and whether additional taxes and interest may be due. The Group believes that its accruals for tax liabilities are adequate for all open tax years based on its assessment of many factors, including interpretations of tax law and prior experience. This assessment relies on estimates and assumptions and may involve a series of judgements about future events. New information may become available that causes the Group to change its judgement regarding the adequacy of existing tax liabilities; such changes to tax liabilities will impact tax expense in the period that such a determination is made.

Deferred tax assets and liabilities are offset if there is a legally enforceable right to offset current tax liabilities and assets, and they relate to income taxes levied by the same tax authority on the same taxable entity, or on different tax entities, but they intend to settle current tax liabilities and assets on a net basis or their tax assets and liabilities will be realised simultaneously.

A deferred tax asset is recognised to the extent that it is probable that future taxable profits will be available against which the temporary differences can be utilised. Deferred tax assets are reviewed at each reporting date and reduced to the extent that it is no longer probable that the related tax benefit will be realised.

(t) Earnings per share

The Group presents basic earnings per share (EPS) data for its ordinary shares. Basic EPS is calculated by dividing the profit or loss attributable to ordinary shareholders of the Company by the weighted average number of ordinary shares outstanding during the period, adjusted for own shares held.

(u) Segment Reporting

Segment results that are reported to the Group's chief operating decision maker include items directly attributable to a segment as well as those that can be allocated on a reasonable basis

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

4 Related parties

For the purposes of these financial statements, parties are considered to be related to the Group if the Group has the ability, directly or indirectly, to control or joint control the party or exercise significant influence over the party in making financial and operating decisions, or vice versa, or where the Group and the party are subject to common control or common significant influence. Related parties may be individuals or other entities.

Relationships with key management and other related parties were as follows:

Name of entities	Country of incorporation	Nature of relationships
PTT Public Company Limited	Thailand	Parent company
Thai Paraxylene Co., Ltd.	Thailand	Subsidiary and/or common directors
Thai Lube Base Public Company Limited	Thailand	Subsidiary and/or common directors
Thaioil Marine Co., Ltd.	Thailand	Subsidiary and/or common directors
Thaioil Energy Services Co., Ltd.	Thailand	Subsidiary and/or the Company's management as a director
Thaioil Solvent Co., Ltd.	Thailand	Subsidiary and/or common directors
Thaioil Ethanol Co., Ltd.	Thailand	Subsidiary and/or the Company's management as a director
Thaioil Power Co., Ltd.	Thailand	Subsidiary and/or common directors
TOP SPP Co., Ltd.	Thailand	Subsidiary and/or common directors
TOP Solvent Co., Ltd.	Thailand	Indirect subsidiary and/or common directors
Sak Chaisidhi Co., Ltd.	Thailand	Indirect subsidiary and/or the Company's management as a director
TOP Solvent (Vietnam) LLC.	Vietnam	Indirect subsidiary and/or the Company's management as a director
Sapthip Co., Ltd.	Thailand	Indirect subsidiary and/or the Company's management as a director
Thaioil Marine International Pte. Ltd.	Singapore	Indirect subsidiary and/or the Company's management as a director
TOP Maritime Service Co., Ltd.	Thailand	Indirect subsidiary and/or the Company's management as a director

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Name of entities	Country of incorporation	Nature of relationships
LABIX Co., Ltd.	Thailand	Indirect subsidiary and/or common directors
TOP-NTL Pte. Ltd.	Singapore	Joint venture of subsidiary
TOP-NTL Shipping Trust	Singapore	Joint venture of subsidiary
TOP Nautical Star Co., Ltd.	Thailand	Joint venture of subsidiary and/or the Company's management as a director
TOP-NYK MarineOne Pte. Ltd.	Singapore	Joint venture of indirect subsidiary and/or the Company's management as a director
PTT Digital Solutions Co., Ltd. ⁽¹⁾	Thailand	Associate and/or the Company's management as a director
PTT Energy Solutions Co., Ltd.	Thailand	Associate and/or the Company's management as a director
Global Power Synergy Public Company Limited	Thailand	Indirect associate and/or common directors
Maesod Clean Energy Co., Ltd. ⁽²⁾	Thailand	Indirect associate
Ubon Bio Ethanol Co., Ltd.	Thailand	Indirect associate and/or the Company's management as a director
T.I.M. Ship Management Co., Ltd.	Thailand	Indirect associate and/or the Company's management as a director
PTT International Trading Pte. Ltd.	Singapore	Subsidiary of the parent company
PTT Exploration and Production Public Company Limited	Thailand	Subsidiary of the parent company
Energy Complex Co., Ltd.	Thailand	Subsidiary of the parent company
IRPC Public Company Limited	Thailand	Subsidiary of the parent company
PTT Tank Terminal Co., Ltd.	Thailand	Subsidiary of the parent company
PTT Global Chemical Public Company Limited	Thailand	Subsidiary of the parent company and/or common directors
Thai ABS Co., Ltd.	Thailand	Indirect subsidiary of the parent company
PTT Maintenance and Engineering Co., Ltd.	Thailand	Indirect subsidiary of the parent company
PTT Phenol Co., Ltd.	Thailand	Indirect subsidiary of the parent company
Thai Styrenics Co., Ltd.	Thailand	Indirect subsidiary of the parent company

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Name of entities	Country of incorporation	Nature of relationships
Solution Creation Co.,Ltd.	Thailand	Indirect subsidiary of the parent company
Thai Tank Terminal Ltd.	Thailand	Indirect subsidiary of the parent company
Global Green Chemicals Public Company Limited	Thailand	Indirect subsidiary of the parent company
Vencorex (Thailand) Co., Ltd.	Thailand	Indirect subsidiary of the parent company
Thai Petroleum Pipeline Co., Ltd.	Thailand	Related company and/or the Company's management as a director
Sarn Palung Social Enterprise Co., Ltd. ⁽³⁾	Thailand	Related company and/or the Company's management as a director

⁽¹⁾ Change its name from "PTT ICT Solutions Co., Ltd.", effective from 22 June 2017 onwards.

⁽²⁾ On 16 February 2017, Thairoil Ethanol Co., Ltd., which is a subsidiary of the Company, has divested all its shareholding in Maesod Clean Energy Co., Ltd. as disclosed in note 12 Investments in joint ventures and associates.

⁽³⁾ On 7 September 2017, the Company invested in Sarn Palung Social Enterprise Co., Ltd. together with company in PTT Group, in which the Company owned 15%, has a share capital of 1 million ordinary shares with a par value of Baht 10 each, totalling Baht 10 million. The first call was 25% of par value, amounted to Baht 0.38 million.

The pricing policies for particular types of transactions are explained further below:

Transactions	Pricing policies
Revenue from sale and rendering of services, lease income, purchase of goods and assets	Market prices or, where no market price exists, at contractually agreed prices
Interest income and expense	Agreed rates stipulated in the agreements
Dividend income	Right to receive dividends
Other income and expenses	Contractually agreed prices
Directors' remuneration	Amounts approved by the Group's shareholders

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Significant transactions for the years ended 31 December 2017 and 2016 with related parties were as follows:

(in million Baht)

	Consolidated		Separate	
	financial statements		financial statements	
	2017	2016	2017	2016
Parent Company				
Revenue from sale and rendering of services	151,356	131,473	147,470	127,877
Purchase of crude oil and feedstock	108,358	106,713	100,709	100,076
Other income	13	25	13	24
Other expenses	130	45	129	42
Purchase of assets	-	207	-	-
Subsidiaries				
Revenue from sale and rendering of services	-	-	64,717	51,496
Purchase of crude oil and feedstock	-	-	44,165	36,570
Interest income	-	-	492	430
Dividend income	-	-	10,798	14,075
Land lease income	-	-	68	65
Other income	-	-	1,614	1,385
Interest expense	-	-	17	37
Other expenses	-	-	1,105	1,083
Purchase of assets	-	-	8	33
Joint ventures				
Revenue from sale and rendering of services	91	7	91	7
Other income	-	1	-	-
Other expenses	1,101	1,563	1,101	1,563

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Associates				
Revenue from sale and rendering of services	5	3	2	2
Purchase of crude oil and feedstock	619	383	619	382
Interest income	-	4	-	-
Dividend income	-	-	169	153
Land lease income	8	8	8	8
Other income	32	23	30	21
Other expenses	287	271	259	239
Purchase of assets	89	105	89	105
Other related parties				
Revenue from sale and rendering of services	4,677	3,570	285	93
Purchase of crude oil and feedstock	5,690	5,786	1,098	1,471
Dividend income	158	247	158	247
Other income	2	7	2	7
Other expenses	257	328	202	262
Directors' remuneration	77	62	69	54

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Balances as at 31 December 2017 and 2016 with related parties were as follows:

Trade accounts receivable - related parties

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Parent Company				
PTT Public Company Limited	10,416	8,095	10,188	7,884
Subsidiaries				
Thai Paraxylene Co., Ltd.	-	-	3,552	3,456
Thai Lube Base Public Company Limited	-	-	1,237	1,554
Thaioil Power Co., Ltd.	-	-	37	48
TOP SPP Co., Ltd.	-	-	45	35
Sak Chaisidhi Co., Ltd.	-	-	37	17
LABIX Co., Ltd.	-	-	1,841	1,025
Associates				
Global Power Synergy Public Company Limited	5	-	2	-
Other related parties				
PTT International Trading Pte. Ltd.	36	-	36	-
IRPC Public Company Limited	142	33	-	2
PTT Exploration and Production Public Company Limited	16	14	-	-
PTT Global Chemical Public Company Limited	11	13	-	-
Vencorex (Thailand) Co., Ltd.	2	-	-	-
	10,628	8,155	16,975	14,021
Less allowance for doubtful accounts	-	-	-	-
Net	10,628	8,155	16,975	14,021
Bad and doubtful debts expense for the year	-	-	-	-

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Other accounts receivable - related parties

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Parent Company				
PTT Public Company Limited	4	1	4	1
Subsidiaries				
Thai Paraxylene Co., Ltd.	-	-	40	43
Thai Lube Base Public Company Limited	-	-	6	53
Thaioil Marine Co., Ltd.	-	-	78	10
Thaioil Energy Services Co., Ltd.	-	-	14	8
Thaioil Solvent Co., Ltd.	-	-	6	1
Thaioil Ethanol Co., Ltd.	-	-	6	3
Thaioil Power Co., Ltd.	-	-	30	27
TOP SPP Co., Ltd.	-	-	76	85
TOP Solvent Co., Ltd.	-	-	13	4
Sak Chaisidhi Co., Ltd.	-	-	6	3
LABIX Co., Ltd.	-	-	40	33
Associates				
PTT Energy Solutions Co., Ltd.	-	1	-	1
Maesod Clean Energy Co., Ltd.	-	1	-	-
Global Power Synergy Public Company Limited	5	7	5	7
Ubon Bio Ethanol Co., Ltd.	43	-	-	-
T.I.M. Ship Management Co., Ltd.	5	4	-	-
Other related party				
PTT Maintenance and Engineering Co., Ltd.	-	1	-	1
Total	57	15	324	280

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Short-term loans to related parties

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Subsidiaries				
Thai Paraxylene Co., Ltd.	-	-	5,500	2,300
Thaioil Marine Co., Ltd.*	-	-	210	100
Thaioil Solvent Co., Ltd.	-	-	1,008	1,129
Thaioil Ethanol Co., Ltd.	-	-	433	492
TOP SPP Co., Ltd.	-	-	8,500	8,563
Associate				
Maesod Clean Energy Co., Ltd.	-	90	-	-
Total	-	90	15,651	12,584

* Please see Note 10 Impairment assessment for loan to and investment in a subsidiary

Interest rates during the years of 2017 and 2016 were charged at money market rate (MMR) but not exceeding the average minimum loan rates (MLR) of 5 financial institutions less margin.

Movements of short-term loans to related parties during the years ended 31 December 2017 and 2016 were as follows:

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
At 1 January	90	90	12,584	9,409
Increases	-	-	7,221	5,724
Decreases	(90)	-	(4,154)	(2,549)
At 31 December	-	90	15,651	12,584

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

In February 2017, a subsidiary has disposed shares in Maesod Clean Energy Company Limited, which is an indirect associate company to existing shareholders. Hence, in the consolidated financial statements for the year ended 2017, the Group has reclassified of Baht 90 million “Short-term loan to related company” to “Short-term loan to other company”, by other terms and conditions has remained with original loan agreement.

Trade accounts payable - related parties

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Parent Company				
PTT Public Company Limited	10,928	11,730	9,773	11,119
Subsidiaries				
Thai Paraxylene Co., Ltd.	-	-	2,270	2,290
Thai Lube Base Public Company Limited	-	-	252	245
Thaioil Marine Co., Ltd.	-	-	12	6
Thaioil Power Co., Ltd.	-	-	129	135
TOP SPP Co., Ltd.	-	-	228	392
Sak Chaisidhi Co., Ltd.	-	-	10	8
Sapthip Co., Ltd.	-	-	14	28
LABIX Co., Ltd.	-	-	1,099	891
Joint venture				
TOP-NTL Pte. Ltd.	-	21	-	21
Associates				
Maesod Clean Energy Co., Ltd.	-	3	-	3
Ubon Bio Ethanol Co., Ltd.	32	28	32	28
T.I.M. Ship Management Co., Ltd.	4	12	-	-

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Other related parties				
IRPC Public Company Limited	148	189	-	-
PTT Global Chemical Public Company Limited	178	151	-	-
PTT Phenol Co., Ltd.	31	21	-	-
Global Green Chemicals Public Company Limited	68	50	68	50
Total	11,389	12,205	13,887	15,216

Other accounts payable - related parties

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Parent Company				
PTT Public Company Limited	5	4	4	1
Subsidiaries				
Thaioil Marine Co., Ltd.	-	-	6	26
Thaioil Energy Services Co., Ltd.	-	-	60	66
Thaioil Solvent Co., Ltd.	-	-	-	1
TOP Solvent Co., Ltd.	-	-	2	-
LABIX Co., Ltd.	-	-	2	-
Associates				
PTT Digital Solutions Co., Ltd.	62	20	61	20
PTT Energy Solutions Co., Ltd.	26	-	26	-
Global Power Synergy Public Company Limited	-	3	-	-
T.I.M. Ship Management Co., Ltd.	5	4	-	-

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Other related parties				
PTT International Trading Pte. Ltd.	1	37	-	37
Energy Complex Co., Ltd.	1	1	1	1
IRPC Public Company Limited	8	8	8	8
Thai Tank Terminal Ltd.	2	1	-	-
Thai Petroleum Pipeline Co., Ltd.	2	8	2	8
Total	112	86	172	168

Short-term borrowings from related parties

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Subsidiaries				
Thai Paraxylene Co., Ltd.	-	-	226	68
Thai Lube Base Public Company Limited	-	-	261	443
Thaioil Marine Co., Ltd.	-	-	16	20
Total	-	-	503	531

Interest rates during the years of 2017 and 2016 were charged at money market rate (MMR) but not exceeding the average minimum loan rate (MLR) of 5 financial institutions less margin.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Movements of short-term borrowings from related parties during the years ended 31 December 2017 and 2016 were as follows:

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Parent Company				
At 1 January	-	-	-	-
Increase	-	800	-	800
Decrease	-	(800)	-	(800)
At 31 December	-	-	-	-
Subsidiaries				
At 1 January	-	-	531	5,840
Decrease	-	-	(28)	(5,309)
At 31 December	-	-	503	531

Significant agreements with related parties

As at 31 December 2017 the Group had the following significant agreements with related parties.

Raw Materials and Oil-Products Purchases and Sales Agreements

The Company has raw materials and oil products purchase and sale agreements with a subsidiary, whereby the purchase and sale volumes and prices of raw materials and oil products are specified in the agreements. These agreements are effective on the agreement date and shall be terminated by either party giving at least 6 months notice in writing to the other party.

Oil-Products Sale and Purchase Agreements

The Company has oil products purchase and sale agreements with a subsidiary, whereby the purchase and sale volumes and prices are specified in the agreements. These agreements are effective on the agreement date and shall be terminated if either party does not comply with the terms stipulated in the agreements.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

By-Product Sale and Purchase Agreement

The Company has a by-product purchase and sale agreement with a subsidiary, whereby the purchase and sale volumes and prices of the by-product are specified in the agreement. The agreement is for a period of 16 years expiring in September 2020, or until the termination by mutual consent.

Technology and Communication Service Agreement

The Company has a technology and communication service agreement with an associate, whereby the service fees are specified in the agreement. The agreement is for a period of 3 years expiring in December 2018 and is renewable for additional periods as mutual agreement until either party giving at least 180 days before contract end date notice in writing to other party.

Crack Spread Swap Agreements

The Company has crack spread swap agreements with a related company ("counterparty"). The Company or the counterparty has commitments to make payments for the differences between the fixed price and floating price for each period.

As at 31 December 2017, the Company had no oil volume under the agreements with the related company (31 December 2016: nil).

Product Offtake and Crude Oil Supply Agreement

The Company has a product off take and crude oil supply agreement with a related company, whereby (a) the Company will sell and the related company will purchase refined petroleum products produced by the refinery for 49.99% of 270,000 barrels per day; and (b) the related party will supply and the Company will purchase crude oil and/or feedstock for the refinery required to produce 49.99% of 270,000 barrels per day. The credit term for crude oil shall be mutually agreed.

Throughput Agreement

The Company has a throughput agreement with a related company, whereby the tariff fee is specified in the agreement. The agreement is for a period of 20 years expiring in 2014 or when a target is achieved and is renewable.

The Company has a throughput agreement with a related company, whereby the tariff fee is specified in the agreement. The agreement is for a period of 20 years from the service date and shall be renewed for periods of 5 years.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Natural Gas Supply Agreements

The Company and certain subsidiaries have natural gas supply agreements with a related company, whereby the related company agrees to supply the natural gas to the Company and the subsidiaries at quantities and prices as stipulated in the agreements. These agreements are effective for periods of 5 to 25 years expiring during 2018 and 2041.

Cost Reimbursement Agreements

A subsidiary and an associate have cost reimbursement agreements with the Company covering the reimbursement of construction costs of natural gas pipeline facilities and the use of the pipeline facilities, raw water pipeline and the use of land for the construction of a transmission line connecting the subsidiary and the associate to the Electricity Generating Authority of Thailand (EGAT). Under the terms of the agreements, the subsidiary and the associate agree to share the cost of investments with the Company on the basis and conditions stipulated in the agreements. These agreements are effective for a period of 25 years, or until the termination of the power purchase agreements entered into by the subsidiary and the associate with EGAT, whichever is sooner.

Power Purchase Agreements

Certain subsidiaries ("sellers") have power purchase agreements with the Company and certain subsidiaries for periods of 24 and 25 years expiring in 2023, 2027 and 2040, whereby the sellers will sell power energy to the Company and the subsidiaries at the agreed quantities and prices as stipulated in the agreements.

Steam Purchase Agreements

The Company and certain subsidiaries have entered into steam purchase agreements for periods of 20 and 25 years expiring in 2023, 2027 and 2040, whereby the agreed quantities and prices are specified in the agreements.

Services and Supplies Agreements

Certain subsidiaries and an associate have services and supplies agreements with the Company and a subsidiary, whereby the Company and a subsidiary provide the subsidiaries and the associate for the operating, repair and maintenance, management, controlling and administration, procurement, fuel transmission, waste water treatment and utilities, information technology, financial, accounting and human resource services. The subsidiaries and the associate agree to pay certain fees as stipulated in the agreements. These agreements are for periods of 5 years or 28 years or until the termination of the land lease agreement entered into by a subsidiary with the Company, whichever is sooner or until the termination of the power purchase agreement entered into by the associate with EGAT.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Land Lease Agreements

Certain subsidiaries and an associate have land lease agreements with the Company to lease/sublease certain parcels of land ending in September 2022, May 2041, and August 2043 with the rate as stipulated in the agreements, and the rate will be adjusted every 5 years.

The Company have land lease agreements with certain subsidiaries to lease certain parcels of land ending in September 2046 with the rate as stipulated in the agreements, and the rate will be adjusted every 5 years.

The Company has a land lease agreement with a related company to lease certain parcels of land ending in August 2026 with the rate as stipulated in the agreements. If the Company does not giving a cancelable notice within a month before contract end date, the contract shall be renewed for additional 15 years.

Raw Materials and Petrochemical Products Purchase and Sale Agreements

An indirect subsidiary has raw materials and petrochemical products purchase and sale agreements with related companies, whereby the purchase and sale volumes and prices of raw materials and petrochemical products are specified in the agreements. These agreements are for periods of 1 year to 15 years expiring during 2018.

Technical Service Agreements

An associate has a technical service agreement with the Company to provide a consultancy technical solutions service for energy-related and petrochemical businesses, whereby the service fees are specified in the agreements. This agreement expires in December 2019.

Time Charter and Affreightment Agreements

A subsidiary has time charter and affreightment agreements with the Company, subsidiary and another indirect subsidiary, whereby the freight rate is specified in the agreements. These agreements are for periods of 1 year and 5 years and 8 years expiring during 2017, 2020, and 2024.

Certain joint ventures have time charter agreements with the Company, whereby the freight rate is specified in the agreements. These agreements are for periods of 10 years expiring in 2021, 2022 and 2024.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Charter of Crew Boat Agreements

An indirect subsidiary has charter of crew boat agreement with a related company, whereby the service fees are specified in the agreements. These agreements are for period of 3 years expiring in 2018, 2019 and 2020.

Office Rental Agreements

The Company has office rental and service agreements with a related party, whereby the rental and service fees are specified in the agreements. These agreements are for the periods of 3 years expiring in November 2018 and are renewable for additional periods of 3 years.

Ethanol Products Purchase and Sale Agreements

An associate has ethanol products purchase and sale agreements with the Company, whereby the purchase and sale volumes and prices of the ethanol products are specified in the agreements. This agreement expired in December 2017. This agreement shall be automatically renewed for additional period of 1 year until either party giving notice in writing to the other party.

An indirect subsidiary has an ethanol products purchase and sale agreement with a related company, whereby the purchase and sale volumes and prices of the ethanol products are specified in the agreement. The agreement is for a period of 10 years expiring in June 2021 and shall be renewed by either party giving at least 6 months before contract end date notice in writing to the other party.

Service Agreements

A subsidiary has human resource service agreements with the Company, whereby the service fees are specified in the agreements. This agreement expires in December 2018.

The Company has a human resource service agreements with certain subsidiaries, whereby the service fees are specified in the agreement. These agreements expire in December 2018 and December 2019.

Crude Oil Storage Tank Service Agreement

A related company has a crude oil storage tank service agreement with the Company, whereby the service fees are specified in the agreement. These agreements are for a period of 2 years expiring in September 2018 and December 2019.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Sea berth and throughput Agreement

A related company has a sea berth and throughput agreement with the Company, whereby the tariff fee is specified in the agreement. The agreement is for a period of 20 years and is renewable for additional periods of 5 years.

Loan Agreement

The Company has uncommitted unsecured short term inter-company borrowing and lending agreements with a related company to manage liquidity. Each of the borrowing credit line and lending credit line is not exceeding Baht 2,000 million, bearing the interest rate reference by BIBOR or LIBOR, plus interest rate margin by taking into account on the short term borrowing interest rate, the return on short term investment and credit rating of the Company and the counterparty. These agreements are for a period of 1 year expiring in December 2018.

5 Cash and cash equivalents

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Cash on hand	37	55	2	2
Cash at banks - savings and current accounts	10,592	24,270	6,919	21,723
Cash at banks - savings account (Private Funds)	84	1,004	84	1,004
Cash at banks - fixed deposits (maturity period less than 3 months from the investment date)	2,294	5,791	2,294	5,511
Certificate of deposits (maturity period less than 3 months from the investment date)	2,616	-	2,616	-
Total	15,623	31,120	11,915	28,240

As at 31 December 2017, the Group's savings, current and fixed deposits (maturity period less than 3 months from the investment date) totalling Baht 54 million have been pledged as collateral for credit facilities as described in note 18 to the financial statements (2016: Baht 316 million).

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

6 Other investments

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Current investments				
Cash at bank - fixed deposits	43,140	28,953	42,719	28,497
Debt securities - available-for-sale securities (Private funds)	9,178	701	9,178	701
	52,318	29,654	51,897	29,198
Investments held as available-for-sale				
Equity securities - available-for-sale securities	363	147	363	147
Debt securities - available-for-sale securities (Private funds)	2,740	98	2,740	98
	3,103	245	3,103	245
Other long-term investments				
Other non-marketable securities	780	779	780	779
	780	779	780	779
Total	56,201	30,678	55,780	30,222

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Cash at bank - fixed deposits

As at 31 December 2017, the Group's fixed deposits totalling Baht 421 million have been pledged as collateral for credit facilities as described in note 18 to the financial statements (2016: Baht 456 million).

Equity securities - available-for-sale securities

In 2007 the Company entered into MFC Energy Open End Fund with certain companies so as to raise funds from financial institution investors who are interested in investing in energy or relating energy business. Later, in May 2014 the Fund was renamed to Core Flexible Fund and changed to its investment policy, which the Fund can invest in assets of other industry groups at register in the Stock Exchange. In consideration thereof, the Company has a commitment to purchase a holding in this Fund, comprising 40 million units at par value of Baht 10, amounting to Baht 400 million. During 2017, the Fund redeemed automatically from the Company for 16.50 million units or amounting to Baht 110.4 million. On 28 August 2017, the Fund matured and redeemed all remaining 5.99 million units, amounting to Baht 40.2 million. Hence, as at 31 December 2017 the Company had no investment unit left in this Fund (2016: 22.5 million units).

In 2017 the Company entered into CIMB-Principal Energy and Petrochemical Index Fund (CIMB - PRINCIPAL EPIF), to invest in equities issued by the energy and petrochemical companies listed in The Stock Exchange of Thailand. The Company purchased 28.85 million units or amounting to Baht 300 million which its fair value as at 31 December 2017 is Baht 364 million.

Debt securities - available-for-sale securities

During the year 2016 and 2017, the Company established private funds and engaged independent assets management companies. As at 31 December 2017, the value of private funds outstanding totalling Baht 12,002 million (including cash at banks - savings account as disclosed in note 5 to financial statements). Those private funds have invested in debt securities which are considered investment grade.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Other non-marketable securities

Type of Business	Consolidated/Separate financial statements					
	Ownership interest		Paid-up capital		Cost method	
	2017	2016	2017	2016	2017	2016
	(%)				(in million Baht)	
Related party						
Thai Petroleum Pipeline Co., Ltd.						
Oil transportation						
by pipeline	9.19	9.19	8,479	8,479	779	779
						158
						247
Sam Palung Social Enterprise						
Social enterprise	15.00	-	3	-	1	-
Co., Ltd. (Note 4)						
					780	779
						158
						247

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

7 Trade accounts receivable

(in million Baht)

	Note	Consolidated financial statements		Separate financial statements	
		2017	2016	2017	2016
Related parties	4	10,628	8,155	16,975	14,021
Other parties		11,700	11,381	7,267	6,822
Total		22,328	19,536	24,242	20,843
Less allowance for doubtful accounts		-	-	-	-
Net		22,328	19,536	24,242	20,843
Bad and doubtful debts expenses for the year		-	-	-	-

Aging analyses for trade accounts receivable are as follows:

(in million Baht)

	Note	Consolidated financial statements		Separate financial statements	
		2017	2016	2017	2016
Related parties					
Within credit terms		10,628	8,154	16,975	14,021
Overdue:					
Less than 3 months		-	1	-	-
		10,628	8,155	16,975	14,021
Less allowance for doubtful accounts		-	-	-	-
Net	4	10,628	8,155	16,975	14,021

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Other parties				
Within credit terms	11,699	11,373	7,267	6,822
Overdue:				
Less than 3 months	1	8	-	-
	11,700	11,381	7,267	6,822
Less allowance for doubtful accounts	-	-	-	-
Net	11,700	11,381	7,267	6,822
Total	22,328	19,536	24,242	20,843

The normal credit term granted by the Group ranges from 15 days to 90 days.

8 Other receivables

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Prepaid expenses	571	523	452	405
Other accounts receivable	362	151	469	395
Current portion of long-term loans				
to savings co-operative of employees	37	40	37	40
Other	201	220	169	174
Total	1,171	934	1,127	1,014

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

9 Inventories

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Crude oil and feedstock	12,016	11,595	10,796	10,379
Materials, spare parts and supplies	1,479	1,426	1,027	1,005
Finished and semi-finished oil products	8,820	8,832	5,812	6,281
Goods in transit				
Crude oil	10,533	11,428	10,458	11,404
Materials, spare parts and supplies	1	9	1	-
	32,849	33,290	28,094	29,069
Less allowance for decline in value of				
inventories adjusted to net realisable value	8	101	-	73
Net	32,841	33,189	28,094	28,996

As at 31 December 2017 the Company's inventories as stated above included a legal reserve amounting to Baht 10,829 million. (2016: 9,562 million).

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Inventories recognised as an expense				
in 'cost of sale of goods':				
– Cost	303,821	246,805	328,515	266,559
– Reversal of write-down to net realisable value	(93)	(1,053)	(73)	(1,041)
Net	303,728	245,752	328,442	265,518

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

10 Investments in subsidiaries

	(in million Baht)	
	Separate financial statements	
	2017	2016
At 1 January	14,545	14,545
Acquisition	10	-
At 31 December	14,555	14,545

At the meeting of the Board of the Director of the Company held on 29 September 2017, the Company's Board of Directors has resolved to establish Thailoil Treasury Center Co., Ltd. to conduct as treasury center for the Group's business. Thailoil Treasury Center Co., Ltd. is 99.99% owned by the Company. On 3 October 2017, Thailoil Treasury Center Co., Ltd. has been incorporated with the registered share capital of 1 million ordinary shares at par value of Baht 10 each, totalling Baht 10 million. All shares have been fully paid-up in December 2017.

Under the Sponsors Support Agreement with financial institutions, a subsidiary, as a shareholder in an indirect subsidiary, has some commitments as specified in the agreement such as maintain its shareholding, provide financial support in proportion of its shareholding in order to enter into a Credit Facilities Agreement.

Impairment assessment for loan to and investment in a subsidiary

The Company has assessed the recoverable amount of loan to and investment in Thailoil Marine Co., Ltd. by determine discounting future cash flows. The key assumptions used to determine recoverable amount included utilization and freight rate, operating cost, long-term growth rate derived from expectations of future outcomes taking into account past experience, adjusted for anticipated revenue growth and discount rate referred to weighted average cost of capital (WACC) at 7.9%. The recoverable amount was estimated to be higher than its carrying amount and no impairment was required to these financial statements. Increasing in discount rate higher than 4.7% could cause the carrying amount to exceed the recoverable amount.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Investments in subsidiaries as at 31 December 2017 and 2016, and dividend income from those investments for the years then ended were as follows:

Separate financial statements							
Ownership interest		Paid-up capital		Cost method		Dividend income	
2017	2016	2017	2016	2017	2016	2017	2016
(%)		(in million Baht)					
Subsidiaries							
	99.99	2,572	2,572	2,161	2,161	6,688	7,974
Thai Paraxylene Co., Ltd.	99.99	1,758	1,758	1,979	1,979	1,846	5,274
Thai Lube Base Public Company Limited	99.99	970	970	970	970	-	39
Thaioil Marine Co., Ltd.	99.99	40	40	40	40	60	60
Thaioil Energy Services Co., Ltd.	99.99	1,250	1,250	1,250	1,250	-	-
Thaioil Solvent Co., Ltd.	99.99	1,450	1,450	1,450	1,450	-	-
Thaioil Ethanol Co., Ltd.	73.99	2,810	2,810	3,195	3,195	769	728
Thaioil Power Co., Ltd.	99.99	3,500	3,500	3,500	3,500	1,435	-
TOP SPP Co., Ltd.	99.99	-	-	10	-	-	-
Thaioil Treasury Center Co., Ltd.	99.99	14,360	14,350	14,555	14,545	10,798	14,075
Total							

None of the Company's investment in subsidiaries are publicly listed and consequently do not have published price quotations.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

11 Non-controlling interests

The following table summarises the information relating to each of the Group's subsidiaries that has a material non-controlling interest, before any intra-group eliminations:

	(in million Baht)					
	Thaioil Power Co., Ltd.		LABIX Co., Ltd.		Other individually immaterial subsidiaries	
	31 December		31 December		31 December	
	2560	2559	2560	2559	2560	2559
Non-controlling interest percentage	26.01	26.01	25	25		
Current assets	927	910	2,628	2,767		
Non-current assets	10,304	10,221	12,008	12,391		
Current liabilities	(675)	(521)	(3,986)	(3,267)		
Non-current liabilities	-	(164)	(6,053)	(7,455)		
Net assets	10,556	10,446	4,597	4,436		
Carrying amount of non-controlling interest	2,746	2,717	1,149	1,109	914	4,925
					1,030	4,740

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(in million Baht)

	Thaioil Power Co., Ltd.		LABIX Co., Ltd.		Other individually immaterial subsidiaries		Total
	31 December	2559	31 December	2559	31 December	2559	
	2560		2560		2560		2559
Revenue from sale and rendering of services	4,150	4,264	15,409	11,276			
Profit (loss)	1,160	1,116	161	(5)			
Other comprehensive income (loss)	(11)	4	-	-			
Total comprehensive income (loss)	1,149	1,120	161	(5)			
Profit (loss) allocated to non-controlling interest	302	290	40	(1)	121	76	365
Total comprehensive income (loss) allocated to non-controlling interest	299	291	40	(1)	121	76	366
Cash flows from operating activities	890	843	1,516	180			
Cash flows from investing activities	339	314	(840)	(2,165)			
Cash flows from financing activities	(1,222)	(1,172)	(938)	2,218			
Net increase (decrease) in cash and cash equivalents	7	(15)	(262)	233			
Dividends paid to non-controlling interest	270	256	-	-			

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

12 Investments in joint ventures and associates

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
At 1 January	13,866	13,441	1,261	1,261
Share of net gain of investments - equity method	1,197	930	-	-
Disposal	(12)	-	-	-
Dividend income	(625)	(507)	-	-
Currency translation differences	(42)	(3)	-	-
Share of other comprehensive income (loss)				
of associate	(16)	5	-	-
At 31 December	14,368	13,866	1,261	1,261

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Investments in joint ventures and associates as at 31 December 2017 and 2016, and dividend income for the years then ended were as follows:

Consolidated financial statements												
	Ownership interest		Paid-up capital		Cost method		Equity method		Market price of listed securities		Dividend income	
	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
	(in million Baht)											
Joint ventures												
TOP-NTL Pte. Ltd.	50.00	50.00	1	1	-	-	11	10	-	-	-	-
TOP-NTL Shipping Trust	50.00	50.00	48	48	24	24	43	28	-	-	-	-
TOP Nautical Star Co., Ltd.	35.00	35.00	150	150	53	53	66	22	-	-	-	-
TOP-NYK MarineOne Pte. Ltd.	50.00	50.00	548	548	274	274	422	445	-	-	34	27
			747	747	351	351	542	505			34	27

Thai Oil Public Company Limited and its Subsidiaries

Consolidated financial statements												
	Ownership interest		Paid-up capital		Cost method		Equity method		Market price of listed securities		Dividend income	
	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
	(in million Baht)											
(%)												
Associates												
PTT Digital Solutions Co., Ltd.	20.00	20.00	150	150	30	30	319	272	-	-	16	13
PTT Energy Solutions Co., Ltd.	20.00	20.00	150	150	30	30	51	48	-	-	-	-
Global Power Synergy Public Company Limited	29.70	29.70	14,983	14,983	3,855	3,855	12,652	12,236	32,032	16,572	511	467
Maesod Clean Energy Co., Ltd.*	-	30.00	-	675	-	203	-	3	-	-	-	-
Ubong Bio Ethanol Co., Ltd.	21.28	21.28	2,740	2,740	769	769	804	802	-	-	64	-
T. I. M. Ship Management Co., Ltd.	33.33	33.33	3	3	1	1	-	-	-	-	-	-
			18,026	18,701	4,685	4,888	13,826	13,361			591	480
			18,773	19,448	5,036	5,239	14,368	13,866			625	507

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Consolidated financial statements																
	Ownership interest		Paid-up capital		Cost method		Equity method		Market price of listed securities		Dividend income					
	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016				
	(in million Baht)															
	(%)															
PTT Digital Solutions Co., Ltd.	20.00		20.00	150	150	30	30	-	-	16	13					
PTT Energy Solutions Co., Ltd.	20.00		20.00	150	150	30	30	-	-	-	-					
Global Power Synergy Public Company Limited	8.91		8.91	14,983	14,983	1,201	1,201	9,610	4,972	153	140					
Total			15,283	15,283	15,283	1,261	1,261			169	153					

* On 16 February 2017, Thailoil Ethanol Co., Ltd. which is a subsidiary of the Company has diverted all its shareholding, in total of 20.25 million shares or equivalents to 30%, in Maesod Clean Energy Co., Ltd. at Baht 2.50 per share, totalling Baht 50.63 million.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Joint ventures and Associates

The following table summarises the financial information of the joint ventures and associates as included in their own financial statements, adjusted for fair value adjustments at acquisition and differences in accounting policies. The table also reconciles the summarized financial information to the carrying amount of the Group's interest in these companies.

(in million Baht)

	Global Power Synergy Public Company Limited	
	2560	2559
Revenue	19,325	20,037
Net profit	3,340	2,872
Other comprehensive income (loss)	(55)	17
Total comprehensive income (loss)	3,285	2,889
Attributable to NCI	165	172
Attributable to investee's shareholders	3,120	2,717
Current assets	9,918	11,665
Non-current assets	50,050	46,363
Current liabilities	(4,087)	(4,195)
Non-current liabilities	(15,507)	(15,079)
Net assets	40,374	38,754
Attributable to NCI	1,827	1,604
Attributable to investee's shareholders	38,547	37,150
Group's interest in net assets of investee at 1 January	12,236	11,896
Total comprehensive income (loss) attributable to the Group	927	807
Dividends received during the year	(511)	(467)
Group's interest in net assets of investee at end of year	12,652	12,236
Carrying amount of interest in investee at 31 December	12,652	12,236

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Immaterial joint ventures and associates

The following is summarized financial information for the Group's interest in immaterial joint ventures and associates based on the amounts reported in the Group's consolidated financial statements:

(in million Baht)

	Immaterial Joint ventures		Immaterial Associates	
	2017	2016	2017	2016
Carrying amount of interests in immaterial joint ventures and associates	542	505	1,174	1,125
Group's share of:				
– Profit from continuing operations	113	80	141	48
– Other comprehensive income (loss)	(42)	(2)	-	-
– Total comprehensive income (loss)	71	78	141	48

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

13 Investment properties

(in million Baht)

	Note	Consolidated financial statements		Separate financial statements	
		2017	2016	2017	2016
Cost					
At 1 January		94	88	1,097	1,096
Reclassification from property, plant and equipment, net	14	9	6	14	1
At 31 December		103	94	1,111	1,097
Impairment losses					
At 1 January		-	-	(11)	(11)
At 31 December		-	-	(11)	(11)
Net book value					
At 1 January		94	88	1,086	1,085
At 31 December		103	94	1,100	1,086

Investment properties as at 31 December 2017 and 2016 were valued by a firm of independent professional valuers, at open market values on an existing use basis and income approach. The appraised value of the Group and the Company was Baht 273 million and Baht 1,764 million respectively (2016: Baht 247 million and Baht 1,730 million respectively).

Measurement of fair value

Fair value hierarchy

The fair value of investment property was determined by external, independent property valuers, having appropriate recognised professional qualifications and recent experience in the category of the property being valued. The independent valuers provide the fair value of the Group's investment property portfolio on a regular basis.

The fair value measurement for all investment property has been categorised as a Level 3 fair value based on the inputs to the valuation technique used.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Valuation technique and significant unobservable inputs

The following table shows the valuation technique used in measuring the fair value of investment property, as well as the significant unobservable inputs used.

Valuation technique	Significant Unobservable inputs	Inter-relationship between key unobservable inputs and fair value measurement
Discounted cash flows; The valuation model considers the present value of net cash flows to be generated from the property, taking into account expected rental growth rate. The expected net cash flows are discounted using risk-adjusted discount rates. Among other factors, the discount rate estimation considers the quality of its location (prime vs secondary), tenant credit quality and lease terms.	<ul style="list-style-type: none"> Contractually agreed lease income over the remaining period. Risk-adjusted discount rates (9%) 	The estimated fair value increase (decrease) if: <ul style="list-style-type: none"> Expected market rental growth were higher (lower); The risk-adjusted discount rate were lower (higher).
Market approach	The adjusted quoted price and the actual selling price of comparable investment properties	The estimated fair value increase (decrease) if land price were higher (lower).

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

14 Property, plant and equipment

Consolidated financial statements												(in million Baht)
	Land	Buildings	Leasehold improve- ments	Refinery plant and equipment	Petro- chemical plants	Power plants	Trans- mission facilities	Machinery, equipment and plant equipment	Oil and liquid chemical tankers and crew boats and others	Furniture, fixtures, office equipment	Construction in progress	Total
Cost												
At 1 January 2016	6,027	1,927	211	99,850	23,466	6,419	193	5,671	4,154	636	23	23,953 172,530
Additions	173	1	-	72	45	-	-	20	231	23	-	5,476 6,041
Transfers, net	-	46	-	2,864	11,172	10,941	-	472	158	169	-	(25,822) -
Reclassification to investment properties, net (Note 13)	(6)	-	-	-	-	-	-	-	-	-	-	- (6)
Disposals	-	(39)	-	(5)	-	-	-	(2)	-	(7)	-	(18) (71)
Translation differences												
on consolidation	-	-	-	-	-	-	-	(3)	-	-	-	- (3)
At 31 December 2016 and 1 January 2017	6,194	1,935	211	102,781	34,683	17,360	193	6,158	4,543	821	23	3,589 178,491
Additions	52	-	-	136	25	-	-	15	23	24	4	3,567 3,846
Transfers, net	-	78	-	1,754	175	28	-	68	-	68	-	(2,171) -
Reclassification to investment properties, net (Note 13)	(9)	-	-	-	-	-	-	-	-	-	-	- (9)
Disposals	-	-	-	-	(21)	-	-	(5)	-	(2)	(9)	- (37)
Translation differences												
on consolidation	-	(2)	-	-	-	-	-	(14)	-	-	-	- (16)
At 31 December 2017	6,237	2,011	211	104,671	34,862	17,388	193	6,222	4,566	911	18	4,985 182,275

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(in million Baht)

Consolidated financial statements												
	Land	Buildings	Leasehold improve- ments	Refinery plant and equipment	Petro- chemical plants	Power plants	Trans- mission facilities	Machinery, equipment and plant equipment	Oil and liquid chemical tankers and crew boats and others	Furniture, fixtures, office equipment	Construction in progress	Total
Depreciation												
At 1 January 2016	-	1,186	-	68,720	11,343	3,798	144	2,701	823	524	20	- 89,259
Depreciation charge for the year	-	84	8	3,922	1,708	575	6	346	201	77	1	- 6,928
Disposals	-	(4)	-	(5)	-	-	-	(2)	-	(6)	-	- (17)
Translation differences on consolidation	-	-	-	-	-	-	-	(2)	-	-	-	(2)
At 31 December 2016 and 1 January 2017	-	1,266	8	72,637	13,051	4,373	150	3,043	1,024	595	21	- 96,168
Depreciation charge for the year	-	73	8	3,699	1,822	729	6	341	209	71	-	- 6,958
Disposals	-	-	-	-	-	-	-	(5)	-	(2)	(7)	- (14)
Translation differences on consolidation	-	-	-	-	-	-	-	(7)	-	-	-	(7)
At 31 December 2017	-	1,339	16	76,336	14,873	5,102	156	3,372	1,233	664	14	- 103,105

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(in million Baht)

Consolidated financial statements												
	Land	Buildings	Leasehold improve- ments	Refinery plant and equipment	Petro- chemical plants	Power plants	Trans- mission facilities	Machinery, equipment and plant equipment	Oil and liquid chemical tankers and crew boats and others	Furniture, fixtures, office equipment and others	Vehicles in progress	Total
Impairment losses												
At 31 December 2016 and 1 January 2017	11	-	-	-	-	-	-	-	-	-	-	11
At 31 December 2017	11	-	-	-	-	-	-	-	547	-	-	558
Net book value												
At 1 January 2016	6,016	741	211	31,130	12,123	2,621	49	2,968	3,331	112	3	83,258
At 31 December 2016 and 1 January 2017	6,183	669	203	30,144	21,632	12,987	43	3,115	3,519	226	2	82,312
At 31 December 2017	6,226	672	195	28,335	19,989	12,286	37	2,850	2,786	247	4	78,612

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(in million Baht)

	Separate financial statements						
	Land	Buildings	Refinery plant and equipment	Machinery, equipment and plant equipment	Furniture, fixtures, office equipment and others	Vehicles in progress	Total
Cost							
At 1 January 2016	3,831	828	91,764	1,110	340	4	102,181
Additions	-	-	72	13	19	-	2,070
Transfers, net	-	16	2,747	112	140	-	(3,015)
Reclassification to investment properties, net (Note 13)	(1)	-	-	-	-	-	(1)
Disposals	-	-	(5)	-	(7)	-	(12)
At 31 December 2016 and							
1 January 2017	3,830	844	94,578	1,235	492	4	104,238
Additions	40	-	136	4	9	-	3,439
Transfers, net	-	-	1,739	19	56	-	(1,814)
Reclassification to investment properties, net (Note 13)	(14)	-	-	-	-	-	(14)
Disposals	-	-	-	(1)	-	-	(1)
At 31 December 2017	3,856	844	96,453	1,257	557	4	107,662

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(in million Baht)

	Separate financial statements						
	Land	Buildings	Refinery plant and equipment	Machinery, equipment and plant equipment	Furniture, fixtures, office equipment and others	Vehicles in progress	Construction in progress
Depreciation							
At 1 January 2016	-	683	62,635	901	295	4	-
Depreciation charge for the year	-	23	3,514	73	49	-	-
Disposals	-	-	(5)	-	(6)	-	-
At 31 December 2016 and 1 January 2017	-	706	66,144	974	338	4	-
Depreciation charge for the year	-	20	3,290	61	44	-	-
Disposals	-	-	-	(1)	-	-	-
At 31 December 2017	-	726	69,434	1,034	382	4	-
Net book value							
At 1 January 2016	3,831	145	29,129	209	45	-	4,304
At 31 December 2016 and 1 January 2017	3,830	138	28,434	261	154	-	3,255
At 31 December 2017	3,856	118	27,019	223	175	-	4,691
							36,082

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

The gross amounts of the Group's fully depreciated property, plant and equipment that were still in use as at 31 December 2017, amounted to Baht 49,402 million in the consolidated financial statements (2016: Baht 34,435 million) and amounted to Baht 41,010 million in the separate financial statements (2016: Baht 32,508 million).

Certain subsidiaries mortgaged their land, building, petrochemical plant, machines and crew boats as collateral for long-term borrowings as described in note 18 to the financial statements. The net book value of land, building, petrochemical plant, machines and crew boats as at 31 December 2017 amounted to Baht 11,672 million (2016: Baht 12,224 million).

Impairment assessment for vessels and crew boats

During 2017, certain subsidiaries have vessels and crew boats which are not fully used in operation due to the fact that the exploration business is in the downturn from prolonged falls in prevailing oil and gas price which resulted in low freight charge and demand in marine transportation business. This situation indicated that vessels and crew boats may be impaired. Management of subsidiaries and independent appraiser determined fair value of underlying assets using market approach. Fair value less costs of disposal was less than its carrying amount therefore subsidiaries recognised impairment loss amounting to Baht 547 million in 2017. Impairment loss recognised as an expenses in consolidated statement of income.

Measurement of fair value

Fair value hierarchy

The fair value of assets of subsidiaries which are not fully used in operation was determined by management of subsidiaries and external independent appraiser, having appropriate recognised professional qualifications and recent experience in the category of the asset being valued. The fair value measurement for assets which are not fully used in operation has been categorised as a Level 3 fair value based on the input to the valuation technique used by using market approach.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

15 Intangible assets

(in million Baht)

	Consolidated financial statements					
	License fee	Computer software	Customer database	Goodwill	Patent	Total
Cost						
At 1 January 2016	1,792	575	205	667	-	3,239
Additions	1,221	184	-	-	-	1,405
Translation differences on consolidation	-	-	-	(12)	-	(12)
At 31 December 2016 and 1 January 2017	3,013	759	205	655	-	4,632
Additions	261	96	-	-	1	358
Translation differences on consolidation	-	-	-	(54)	-	(54)
At 31 December 2017	3,274	855	205	601	1	4,936
Accumulated amortisation						
At 1 January 2016	1,077	256	-	-	-	1,333
Amortisation charge for the year	133	60	-	-	-	193
At 31 December 2016 and 1 January 2017	1,210	316	-	-	-	1,526
Amortisation charge for the year	154	65	-	-	-	219
At 31 December 2017	1,364	381	-	-	-	1,745
Net book value						
At 1 January 2016	715	319	205	667	-	1,906
At 31 December 2016 and 1 January 2017	1,803	443	205	655	-	3,106
At 31 December 2017	1,910	474	205	601	1	3,191

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Impairment testing for carrying amount of goodwill and other intangible assets within indefinite useful life

The recoverable amount was based on its value in use, determined by discounting future cash flows to be generated from the continuing use of assets.

Five years of cash flows were included in the discounted cash flow model. A long-term growth rate into perpetuity has been determined as the lower of the nominal gross domestic product (GDP) rates for the countries in which the asset operates and the long-term compound annual Earnings Before Interest, Taxes, Depreciation, and Amortisation (EBITDA) growth rate estimated by management.

Budgeted EBITDA was based on expectations of future outcomes taking into account past experience, adjusted for anticipated revenue growth. Revenue growth was projected taking into account the average growth levels experienced over the past five years and the estimated sales volume and price growth for the next five years. It was assumed that sales prices would grow at a constant margin above forecast inflation over the next five years, in line with information obtained from external brokers who publish a statistical analysis of long-term market trends.

Based on the impairment testing by the discounted cash flow method using the estimated post-tax rates referred to weighted average cost of capital (WACC) at the rates between 8.7% - 11.7%, the recoverable amount was estimated to be higher than its carrying amount and no impairment was required to these financial statements. Management has identified that a reasonably possible change in a key assumption could cause the carrying amount to exceed the recoverable amount. The following table shows the amount by which this assumption would need to change individually for the estimated recoverable amount to be equal the carrying amount.

	Goodwill	Customer database (%)
Change required for carrying amount to be equal the recoverable amount		
Discount rate increase	1.4	9.1
EBITDA growth rate decrease	4.7	17.2

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(in million Baht)

	Separate financial statements			
	License fee	Computer software	Patent	Total
Cost				
At 1 January 2016	827	430	-	1,257
Additions	11	183	-	194
At 31 December 2016 and 1 January 2017	838	613	-	1,451
Additions	-	95	1	96
At 31 December 2017	838	708	1	1,547
Accumulated amortisation				
At 1 January 2016	725	131	-	856
Amortisation charge for the year	25	53	-	78
At 31 December 2016 and 1 January 2017	750	184	-	934
Amortisation charge for the year	25	58	-	83
At 31 December 2017	775	242	-	1,017
Net book value				
At 1 January 2016	102	299	-	401
At 31 December 2016 and 1 January 2017	88	429	-	517
At 31 December 2017	63	466	1	530

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

16 Deferred tax

Deferred tax assets and liabilities as at 31 December 2017 and 2016 were as follows:

(in million Baht)

	Consolidated financial statements			
	Assets		Liabilities	
	2017	2016	2017	2016
Total	725	665	(227)	(234)
Set off of tax	(218)	(224)	218	224
Net deferred tax assets (liabilities)	507	441	(9)	(10)

(in million Baht)

	Separate financial statements			
	Assets		Liabilities	
	2017	2016	2017	2016
Total	695	653	(214)	(220)
Set off of tax	(214)	(220)	214	220
Net deferred tax assets (liabilities)	481	433	-	-

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Movements in total deferred tax assets and liabilities during the years 2017 and 2016 were as follows:

(in million Baht)

	Consolidated financial statements			
	(Charged) / credited to:			At 31 December 2017
	At 1 January 2017	Statement of income (Note 30)	Equity	
Deferred tax assets				
Employee benefits	658	(36)	81	703
Impairment losses on assets	2	-	-	2
Other	5	15	-	20
Total	665	(21)	81	725
Deferred tax liabilities				
Depreciation	(211)	7	-	(204)
Other	(23)	-	-	(23)
Total	(234)	7	-	(227)
Net	431	(14)	81	498

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(in million Baht)

	Consolidated financial statements			
	(Charged) / credited to:			At 31 December 2016
	At 1 January 2016	Statement of income (Note 30)	Equity	
Deferred tax assets				
Employee benefits	634	24	-	658
Impairment losses on assets	2	-	-	2
Loss carry forward	179	(179)	-	-
Other	5	-	-	5
Total	820	(155)	-	665
Deferred tax liabilities				
Depreciation	(232)	21	-	(211)
Other	(9)	(14)	-	(23)
Total	(241)	7	-	(234)
Net	579	(148)	-	431

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(in million Baht)

	Separate financial statements		
	(Charged) / credited to:		
	At 1 January 2017	Statement of income (Note 30)	Equity
			At 31 December 2017
Deferred tax assets			
Employee benefit	651	(31)	73
Impairment losses on assets	2	-	-
Total	653	(31)	73
Deferred tax liabilities			
Depreciation	(211)	7	-
Other	(9)	(1)	-
Total	(220)	6	-
Net	433	(25)	73

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(in million Baht)

	Separate financial statements			
		(Charged) / credited to:		
	At 1 January 2016	Statement of income (Note 30)	Equity	At 31 December 2016
Deferred tax assets				
Employee benefit	628	23	-	651
Impairment losses on assets	2	-	-	2
Loss carry forward	179	(179)	-	-
Total	809	(156)	-	653
Deferred tax liabilities				
Depreciation	(233)	22	-	(211)
Other	(6)	(3)	-	(9)
Total	(239)	19	-	(220)
Net	570	(137)	-	433

Certain subsidiaries have not recognised deferred tax asset arising from loss carry forward in the financial statements as at 31 December 2017 amounted to Baht 224 million, which expire during 2018 - 2023 (2016: Baht 149 million), because it is not probable that future taxable profit will be available against which the subsidiaries can utilise the benefits.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

17 Other non-current assets

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Long-term loans to savings co-operative of employees	583	605	583	605
Deferred natural gas pipeline facilities, raw material pipeline and the use of land, net	77	73	50	59
Deferred land lease arrangement and registration fees, net	221	236	242	254
Other deferred charges, net	310	161	22	104
Refundable deposits and other	41	82	62	52
Total	1,232	1,157	959	1,074

18 Interest-bearing liabilities

(in million Baht)

	Note	Consolidated financial statements		Separate financial statements	
		2017	2016	2017	2016
Current					
Short-term borrowings					
– Secured		595	630	-	-
– Unsecured		374	237	-	-
Short-term borrowings from related companies	4	-	-	503	531
Current portion of long-term borrowings					
– Secured		1,112	1,400	-	-
– Unsecured		480	806	-	-
Unsecured debentures		-	4,932	-	4,932
		2,561	8,005	503	5,463

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Non-current				
Long-term borrowings				
– Secured	6,235	7,396	-	-
– Unsecured	1,833	1,979	-	-
Unsecured debentures	55,839	58,921	55,839	58,921
	63,907	68,296	55,839	58,921
Total	66,468	76,301	56,342	64,384

The periods to maturity of interest-bearing liabilities as at 31 December 2017 and 2016 were as follows:

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Within one year	2,561	8,005	503	5,463
After one year but within five years	15,460	12,768	9,000	6,000
After five years	48,447	55,528	46,839	52,921
Total	66,468	76,301	56,342	64,384

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Secured interest-bearing liabilities as at 31 December 2017 and 2016 were secured on the following assets:

(in million Baht)

	Note	Consolidated financial statements		Separate financial statements	
		2017	2016	2017	2016
Cash at banks - current, savings and fixed deposits	5	54	316	-	-
Current investments in fixed deposits	6	421	456	-	-
Land, building, petrochemical plant, machines and crew boat - carrying value	14	11,672	12,224	-	-
Total		12,147	12,996	-	-

As at 31 December 2017 the Group and the Company had unutilised long-term credit facilities totalling Baht 5,069 million and Baht 5,000 million respectively (2016: Baht 5,383 million and Baht 5,000 million respectively).

Interest-bearing liabilities as at 31 December 2017 and 2016 were as follows:

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Short-term borrowings	969	867	-	-
Short-term borrowings from related companies	-	-	503	531
Long-term borrowings	9,660	11,581	-	-
Debentures	55,839	63,853	55,839	63,853
Total	66,468	76,301	56,342	64,384

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Long term borrowings

Details of principal features of the Group's long term borrowings as at 31 December 2017 and 2016 were as follows:

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Subsidiaries :				
1) Baht 600 million Loan Facility Agreement at interest MLR less a margin, payable in three-month installments commencing in November 2010	-	95	-	-
2) Baht 1,500 million Loan Facility Agreement at interest MLR less a margin, payable in semi-annual installments commencing in September 2012	737	787	-	-
3) Baht 324 million Loan Facility Agreement at interest MLR less a margin, payable in monthly installments commencing in April 2012	117	129	-	-
4) Baht 228 million Loan Facility Agreement at interest MLR less a margin, payable in monthly installments commencing in January 2013	95	102	-	-
5) Baht 365 million Loan Facility Agreement at interest MLR less a margin, payable in monthly installments commencing in June 2014	280	295	-	-
6) Baht 365 million Loan Facility Agreement at interest MLR less a margin, payable in monthly installments commencing in October 2014	292	307	-	-

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
7) Baht 300 million Loan Facility Agreement at interest MLR less a margin, payable in semi-annual installments commencing in September 2015	175	225	-	-
8) Baht 1,200 million Loan Facility Agreement at interest 6-month FDR plus a margin, payable in semi-annual installment June 2014	164	336	-	-
9) Baht 1,800 million Loan Facility Agreement at interest 6-month FDR plus a margin, payable in semi-annual installments commencing in June 2015	1,020	1,260	-	-
10) Baht 3,875 million Loan Facility Agreement at interest THBFIX plus a margin, payable in three-months installments commencing in June 2016	3,065	3,733	-	-
11) Baht 3,875 million Loan Facility Agreement at interest THBFIX plus a margin, payable in three-months installments commencing in June 2016	3,027	3,696	-	-
12) Baht 420 million Loan Facility Agreement at interest MLR less a margin, payable in monthly installments commencing in October 2016	400	416	-	-

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
13) Baht 141 million Loan Facility Agreement at interest 6-month FDR plus a margin, payable in semi-annual installment June 2017	72	23	-	-
14) Baht 217 million Loan Agreement at interest THBFIX plus a margin, payable in conditions as stipulated in the agreement.	216	177	-	-
Total	9,660	11,581	-	-

Debentures

Details of the Company's debentures as at 31 December 2017 and 2016 were as follows:

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Debentures	56,347	64,434	56,347	64,434
Less discount on debentures	(508)	(581)	(508)	(581)
Total	55,839	63,853	55,839	63,853

As at 31 December 2017 the Group had cross currency swap contracts with the local financial institutions for hedging foreign exchange and interest rate exposure of long-term debts for Baht currency totalling Baht 3,767 million (2016: Baht 6,848 million for the Group and Baht 2,500 million for the Company). All counterparties agree to pay the interest and the notional amount according to terms and conditions of the contracts.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

19 Trade accounts payable

(in million Baht)

	Note	Consolidated financial statements		Separate financial statements	
		2017	2016	2017	2016
Related parties	4	11,389	12,205	13,887	15,216
Other parties		7,574	7,682	7,174	7,334
Total		18,963	19,887	21,061	22,550

20 Other payables

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Payable for purchase of securities (Private funds)	50	304	50	304
Accrued operating expenses	327	592	67	75
Oil Fuel Fund payable	104	47	104	47
Other payables	1,491	1,189	1,289	1,049
Other	1,504	1,433	1,400	1,375
Total	3,476	3,565	2,910	2,850

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

21 Provisions for employee benefits

Movement in the present value of the defined benefit obligations:

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Provisions for employee benefits at 1 January	3,297	3,176	3,003	2,922
Recognised in profit or loss:				
Current service costs and interest	286	293	238	245
Actuarial gain recognised in the year	(66)	-	(40)	-
	220	293	198	245
Recognised in other comprehensive income:				
Actuarial loss recognised in the year	404	-	365	-
	404	-	365	-
Benefit paid	(410)	(172)	(405)	(164)
	(410)	(172)	(405)	(164)
Provisions for employee benefits at 31 December	3,511	3,297	3,161	3,003

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Actuarial (gains) losses recognised in other comprehensive income arising from:

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Demographic assumptions	13	-	(3)	-
Financial assumptions	(34)	-	(19)	-
Experience adjustment	425	-	387	-
Total	404	-	365	-

Principal actuarial assumptions as at 31 December 2017 and 2016:

(% per annum)

	Consolidated financial statements and Separate financial statements	
	2017	2016
Discount rate	Interest rate of long-term Thai Government Bond	Interest rate of long-term Thai Government Bond
Salary increases rate	5.0-10.0	4.0-10.0
Employee turnover	0.0-2.1	0.0-1.5

Assumptions regarding future mortality have been based on published statistics and mortality tables.

At 31 December 2017, the weighted-average duration of the defined benefit obligation was 19 years (2016: 19 years).

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Sensitivity analysis

Reasonably possible changes at the reporting date to one of the relevant actuarial assumptions, holding other assumptions constant, would have affected the defined benefit obligation by the amounts shown below.

(in million Baht)

31 December 2017	Consolidated financial statements		Separate financial statements	
	Increase	Decrease	Increase	Decrease
Discount rate (1% movement)	(299)	348	(253)	292
Salary growth (1% movement)	411	(361)	374	(330)

Although the analysis does not take account of the full distribution of cash flows expected under the plan, it does provide an approximation of the sensitivity of the assumptions shown.

22 Share capital

	Par value per share (in Baht)	2017		2016	
		Number of shares	Amount	Number of shares	Amount
			(million shares / million Baht)		
Authorised					
At 1 January					
- Ordinary shares	10	2,040	20,400	2,040	20,400
At 31 December					
- Ordinary share	10	2,040	20,400	2,040	20,400

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

	2017			2016	
	Par value	Number		Number	
	per share	of shares	Amount	of shares	Amount
	(in Baht)		(million shares / million Baht)		
Issued and paid-up					
At 1 January					
- Ordinary shares	10	2,040	20,400	2,040	20,400
At 31 December					
- Ordinary shares	10	2,040	20,400	2,040	20,400

23 Additional paid-in capital and reserves

Share premium

Section 51 of the Public Companies Act B.E. 2535 requires companies to set aside share subscription monies received in excess of the par value of the shares issued to a reserve account ("share premium"). Share premium is not available for dividend distribution.

Legal reserve

Section 116 of the Public Companies Act B.E. 2535 requires that a company shall allocate not less than 5% of its annual net profit, less any accumulated losses brought forward (if any), to a reserve account ("legal reserve"), until this account reaches an amount not less than 10% of the registered authorised capital. The legal reserve is not available for dividend distribution.

Fair value changes

The fair value changes account within equity comprises the cumulative net change in the fair value of available-for-sale financial assets until the investments are derecognised or impaired.

Exchange differences on translating foreign operations

The exchange differences on translating foreign operations account within equity comprises all foreign currency differences arising from the translation of the financial statements of foreign operations.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

24 Segment information

Segment information is presented in respect of the Group's business segments. The primary format, business segments, is based on the Group's management and the internal reporting structure provided to the chief operating decision maker.

Segment results, assets and liabilities include items directly attributable to a segment as well as those that can be allocated on a reasonable basis.

Reportable segments

The Group comprises the following main business segments

Segment 1	:	Oil refinery
Segment 2	:	Lube base oil refinery
Segment 3	:	Petrochemical
Segment 4	:	Power generation
Segment 5	:	Marine transportation services
Segment 6	:	Solvent
Segment 7	:	Ethanol
Segment 8	:	Other

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Information about reportable segments

	For the year ended 31 December 2017								(in million Baht)
	Oil refinery	Lube base oil refinery	Petro-chemical	Power generation	Marine transportation services	Solvent	Ethanol	Other	
Revenue from sale and rendering of services									
- External	285,137	15,044	22,082	4,561	473	9,046	1,045	-	337,388
- Inter-segment	64,692	3,618	35,799	6,368	328	136	575	985	(112,501)
Cost of sale and rendering of services	(328,442)	(16,310)	(54,238)	(8,772)	(776)	(8,184)	(1,212)	(898)	(305,386)
Gross profit	21,387	2,352	3,643	2,157	25	998	408	87	32,002
Dividend income	11,125	-	-	-	-	-	-	-	158
Net derivative loss on hedging	(128)	-	(5)	-	-	-	-	-	(133)
Net foreign exchange gain (loss)	2,882	-	333	1	(7)	(29)	1	-	3,181
Other income	3,272	93	235	21	32	14	6	1	1,190
Selling expenses	(189)	(95)	(217)	-	-	(257)	(19)	-	(492)
Administrative expenses	(2,493)	(84)	(148)	(70)	(664)	(254)	(18)	(23)	(2,969)
Share of gain of joint ventures and associates	-	-	-	943	113	-	75	-	1,197
Profit (loss) before finance costs and income tax expense	35,856	2,266	3,841	3,052	(501)	472	453	65	34,134

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

	For the year ended 31 December 2017										(in million Baht)
	Marine										
	Oil refinery	Lube base oil refinery	Petro-chemical	Power generation	Marine transportation services	Solvent	Ethanol	Other	Eliminations	Total	
Profit (loss) before finance costs and income tax expense	35,856	2,266	3,841	3,052	(501)	472	453	65	(11,370)	34,134	
Finance costs	(2,863)	(1)	(418)	(302)	(103)	(77)	(29)	-	508	(3,285)	
Profit (loss) before income tax expense	32,993	2,265	3,423	2,750	(604)	395	424	65	(10,862)	30,849	
Income tax expense	(4,253)	(453)	(653)	(107)	3	(57)	2	(12)	-	(5,530)	
Profit (loss) for the year	28,740	1,812	2,770	2,643	(601)	338	426	53	(10,862)	25,319	
Profit (loss) attributable to :											
Owners of the Company	28,740	1,812	2,730	2,643	(530)	309	263	53	(11,164)	24,856	
Non-controlling interests	-	-	40	-	(71)	29	163	-	302	463	
Profit (loss) for the year	28,740	1,812	2,770	2,643	(601)	338	426	53	(10,862)	25,319	

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

For the year ended 31 December 2016										(in million Baht)
	Marine								Total	
	Oil refinery	Lube base oil refinery	Petro-chemical	Power generation	transportation services	Solvent	Ethanol	Other		
Revenue from sale and rendering of services										
- External	231,814	11,123	19,414	3,327	505	7,540	1,016	-	274,739	
- Inter-segment	51,479	2,413	28,970	5,804	373	90	523	900	-	
Cost of sale and rendering of services	(265,518)	(11,870)	(44,416)	(7,308)	(745)	(6,573)	(1,298)	(793)	(247,261)	
Gross profit	17,775	1,666	3,968	1,823	133	1,057	241	107	27,478	
Dividend income	14,475	-	-	-	-	-	-	-	247	
Net derivative gain (loss) on hedging	(244)	-	1	-	-	-	-	-	(243)	
Net foreign exchange gain (loss)	372	10	58	5	(3)	6	(2)	-	446	
Other income	2,926	82	196	10	28	54	8	1	1,119	
Selling expenses	(270)	(81)	(170)	-	-	(236)	(21)	-	(451)	
Administrative expenses	(2,176)	(99)	(102)	(25)	(102)	(291)	(57)	(21)	(2,182)	
Share of gain (loss) of joint venture and associates	-	-	-	802	75	-	(18)	-	929	
Profit before finance costs and income tax expense	32,858	1,578	3,951	2,615	131	590	151	87	27,343	

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

	For the year ended 31 December 2016										(in million Baht)
	Marine										
	Oil refinery	Lube base oil refinery	Petro-chemical	Power generation	Marine transportation services	Solvent	Ethanol	Other	Eliminations	Total	
Profit before finance costs and income tax expense	32,858	1,578	3,951	2,615	131	590	151	87	(14,618)	27,343	
Finance costs	(3,134)	(1)	(330)	(229)	(101)	(110)	(43)	-	487	(3,461)	
Profit before income tax expense	29,724	1,577	3,621	2,386	30	480	108	87	(14,131)	23,882	
Income tax expense	(1,221)	(316)	(535)	(135)	(6)	(66)	-	(16)	-	(2,295)	
Profit for the year	28,503	1,261	3,086	2,251	24	414	108	71	(14,131)	21,587	
Profit (loss) attributable to :											
Owners of the Company	28,503	1,261	3,087	2,251	57	376	37	71	(14,421)	21,222	
Non-controlling interests	-	-	(1)	-	(33)	38	71	-	290	365	
Profit for the year	28,503	1,261	3,086	2,251	24	414	108	71	(14,131)	21,587	

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

As at 31 December 2017											(in million Baht)
	Marine										
	Oil refinery	Lube base oil refinery	Petro-chemical	Power generation	transportation services	Solvent	Ethanol	Other	Eliminations	Total	
Trade accounts receivable	24,242	1,272	4,848	1,268	84	1,479	113	60	(11,038)	22,328	
Inventories	28,094	2,083	1,631	102	40	703	214	-	(26)	32,841	
Other current assets	81,618	618	1,580	2,072	367	852	392	120	(16,577)	71,042	
Investments in subsidiaries	14,555	-	-	-	-	-	-	-	(14,555)	-	
Investments in joint ventures	-	-	-	-	542	-	-	-	-	542	
Investments in associates	1,261	-	-	8,814	-	-	804	-	2,947	13,826	
Property, plant and equipment	36,082	1,582	20,523	12,394	2,799	2,152	1,423	-	1,657	78,612	
Other non-current assets	6,954	463	1,906	159	6	1,415	3	372	(2,361)	8,917	
Total assets	192,806	6,018	30,488	24,809	3,838	6,601	2,949	552	(39,953)	228,108	
Trade accounts payable	21,061	1,331	5,558	1,200	131	795	19	-	(11,132)	18,963	
Current portion of long-term borrowings	-	-	1,030	164	142	216	40	-	-	1,592	
Other current liabilities	11,085	369	6,806	8,671	460	1,167	650	83	(16,498)	12,793	
Long-term borrowings	-	-	5,278	-	1,954	804	32	-	-	8,068	
Debentures	55,839	-	-	-	-	-	-	-	-	55,839	
Other non-current liabilities	3,656	41	108	15	21	59	9	357	(561)	3,705	
Total liabilities	91,641	1,741	18,780	10,050	2,708	3,041	750	440	(28,191)	100,960	

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

As at 31 December 2016											(in million Baht)
	Oil refinery	Lube base oil refinery	Petro-chemical	Power generation	Marine transportation services	Solvent	Ethanol	Other	Eliminations	Total	
Trade accounts receivable	20,843	970	4,986	1,425	103	1,484	130	66	(10,471)	19,536	
Inventories	28,996	1,956	1,474	63	51	504	172	-	(27)	33,189	
Other current assets	71,295	865	1,406	1,485	194	983	132	125	(13,479)	63,006	
Investments in subsidiaries	14,545	-	-	-	-	-	-	-	(14,545)	-	
Investments in joint ventures	-	-	-	-	505	-	-	-	-	505	
Investments in associates	1,260	-	-	8,524	-	-	805	-	2,772	13,361	
Property, plant and equipment	36,073	2,417	22,319	13,053	3,535	2,281	1,448	-	1,186	82,312	
Other non-current assets	4,133	51	1,768	80	5	1,322	1	305	(1,843)	5,822	
Total assets	177,145	6,259	31,953	24,630	4,393	6,574	2,688	496	(36,407)	217,731	
Trade accounts payable	22,550	1,688	4,644	661	70	734	16	-	(10,476)	19,887	
Current portion of long-term borrowings	-	-	993	172	565	360	116	-	-	2,206	
Current portion of debentures	4,932	-	-	-	-	-	-	-	-	4,932	
Other current liabilities	5,530	260	3,767	8,736	260	1,226	772	63	(13,493)	7,121	
Long-term borrowings	-	-	6,613	164	1,696	900	2	-	-	9,375	
Debentures	58,921	-	-	-	-	-	-	-	-	58,921	
Other non-current liabilities	3,462	-	311	12	17	56	8	296	(470)	3,692	
Total liabilities	95,395	1,948	16,328	9,745	2,608	3,276	914	359	(24,439)	106,134	

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Major customer

Revenue from one customer represents approximately Baht 151,356 million (2016: Baht 131,473 million) of the Group's revenue from sale of goods and rendering of service.

Geographical segments

In presenting information on the basis of geographical segments, segment revenue is based on the geographical location of customers. Segment assets are based on the geographical location of the assets.

Geographical information

(in million Baht)

	Revenues		Non-current assets	
	2017	2016	2017	2016
Thailand	296,837	242,953	101,145	101,261
Other countries	40,551	31,786	752	740
Total	337,388	274,739	101,897	102,001

25 Other income

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Interest income	915	853	1,369	1,244
Land lease income	18	19	87	83
Service income and other	257	247	1,816	1,599
Total	1,190	1,119	3,272	2,926

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

26 Administrative expenses

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Advisory and legal fees	99	187	91	182
Personnel expenses	1,007	946	836	806
Depreciation	65	75	37	36
Impairment losses on assets	547	-	-	-
Other	1,251	974	1,529	1,152
Total	2,969	2,182	2,493	2,176

27 Employee benefit expenses

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Management				
Salaries and wages	210	223	159	177
Contributions to provident fund	19	20	14	17
Retirement gratuity fund	10	13	10	13
Other	124	104	111	91
	363	360	294	298
Other employees				
Salaries and wages	2,462	2,223	1,454	1,343
Contributions to provident fund	137	132	101	98
Retirement gratuity fund	146	151	146	151
Other	360	433	290	348
	3,105	2,939	1,991	1,940
Total	3,468	3,299	2,285	2,238

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

The Group established a contributory registered provident fund to which the employees contribute monthly at rates ranging from 3% to 15% of their basic salaries and by the Group at rates ranging from 3% to 15% of the employees' basic salaries. Membership to the funds is on a voluntary basis. The provident funds are registered with the Ministry of Finance as juristic entities and are managed by licensed Fund Managers.

28 Expenses by nature

The statements of income include an analysis of expenses by function. Significant expenses by nature are detailed as follows:

	Consolidated		Separate	
	financial statements		financial statements	
	2017	2016	2017	2016
Changes in finished goods and work in progress	(55)	(3,838)	469	(3,073)
Purchase and raw materials used	222,268	176,919	257,399	205,901
Natural gas used	8,946	7,636	1,322	1,306
Employee benefits expense	3,468	3,299	2,285	2,238
Depreciation and amortisation	7,642	7,762	3,956	4,374
Excise tax	56,924	48,800	56,665	48,800

29 Finance costs

	Consolidated		Separate	
	financial statements		financial statements	
	2017	2016	2017	2016
Interest expense: financial institutions and other	3,265	3,529	2,846	3,086
Financial expenses	23	58	18	48
	3,288	3,587	2,864	3,134
Capitalised as cost of property plant and equipment under construction	(3)	(126)	-	-
Net	3,285	3,461	2,864	3,134

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

30 Income tax expense

(in million Baht)

		Consolidated financial statements		Separate financial statements	
	Note	2017	2016	2017	2016
Current tax expense					
Current year		5,518	2,141	4,228	1,084
Adjustment for prior years		(2)	6	-	-
Deferred tax expense	16				
Movements in temporary differences		14	148	25	137
Total		5,530	2,295	4,253	1,221

Reconciliation of effective tax rate

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Profit before income tax expense	30,849	23,882	32,993	29,724
Income tax using the Thai corporation tax rate	6,170	4,776	6,599	5,945
Income not subject to tax	(729)	(2,313)	(2,363)	(4,736)
Expenses not deductible for tax purposes	137	26	17	12
Utilisation of previously unrecognised tax losses	(46)	(200)	-	-
Under (over) provided in prior years	(2)	6	-	-
Total	5,530	2,295	4,253	1,221

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

The Group's consolidated effective tax rate in respect of continuing operations for the year ended 31 December 2017 and 2016 were 17.92% and 9.61% respectively. The effective tax rate is less than Thai corporation tax rate principally because:

- (a) a significant portion of the Company's profit was derived from promoted activities for which concessionary tax rates apply, and
- (b) unutilised tax losses brought forward from the previous year have been utilised during the year to set-off against the current year's tax charge.

Revenues, profit before finance costs and income tax expense, and income tax expense from operation in foreign countries of the Group for the year ended 31 December 2017 are as follow:

(in million Baht)

Country	Revenues ⁽¹⁾	Profit before finance costs and income tax expense	Income tax expense
Thailand	339,682	34,053	5,530
Vietnam	2,235	12	- ⁽²⁾
Singapore	-	69	- ⁽³⁾
Total	341,917	34,134	5,530

Notes:

- (1) Revenues subject to tax consist of revenue from sale of goods and rendering of services, dividend income, net derivative gain on hedging, net foreign exchange gain, and other income from interest received, land lease agreement, other services rendered, etc.
- (2) No income tax expense due to unutilised tax losses brought forward from the previous year.
- (3) No income tax expense due to tax exemption for specific business by the government of Singapore.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Income tax reduction

Revenue Code Amendment Act No. 42 B.E. 2559 dated 3 March 2016 grants a reduction of the corporate income tax rate to 20% of net taxable profit for accounting periods which begin on or after 1 January 2016.

31 Promotional privileges

By virtue of the provisions of the Industrial Investment Promotion Act of B.E. 2520, the Company and certain local subsidiaries have been granted privileges by the Board of Investment relating to oil refinery, power and steam generation, petroleum product production, chemical product production, ethanol product production, marine transportation, offshore crude oil unloading facilities and industrial zone. The privileges granted include:

- a) an exemption from payment of import duty and tax on machinery and equipment as approved by the Board of Investment,
- b) an exemption from payment of corporate income tax for promoted operations for periods of 7 to 8 years from the dates on which the income is first derived from such operations or 8 years from the date on which the income is received subsequent to when the privileges were granted, and
- c) a 50% reduction in the normal corporate income tax rate on the net profit derived from certain promotional operations for a period of five years, commencing from the expiry date in (b) above.

As promoted companies, the Company and its subsidiaries must comply with certain conditions and restrictions provided for in the promotional certificates.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Summary of revenue from promoted and non-promoted businesses:

(in million Baht)

	Consolidated financial statements					
	2017			2016		
	Promoted businesses	Non- promoted businesses	Total	Promoted businesses	Non- promoted businesses	Total
Export sales	15,830	25,082	40,912	20,026	11,922	31,948
Local sales	274,609	138,446	413,055	249,357	87,250	336,607
Eliminations			(116,579)			(93,816)
Total revenues			337,388			274,739

(in million Baht)

	Separate financial statements					
	2017			2016		
	Promoted businesses	Non- promoted businesses	Total	Promoted businesses	Non- promoted businesses	Total
Export sales	13,056	3,916	16,972	8,204	1,953	10,157
Local sales	252,235	80,622	332,857	217,571	55,565	273,136
Total revenues			349,829			283,293

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

32 Basic earnings per share

The calculations of basic earnings per share for the years ended 31 December 2017 and 2016 were based on the profit for the years attributable to owners of the Company and the weighted average number of ordinary shares outstanding during the years as follows:

	(million Baht/million shares)			
	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Profit for the year attributable to owner of the Company	24,856	21,222	28,740	28,503
Weighted average number of ordinary shares outstanding during the year	2,040	2,040	2,040	2,040
Basic earnings per share (in Baht)	12.18	10.40	14.09	13.97

33 Dividends

At the meeting of the Board of the Director of the Company held on 25 August 2017, the Company's Board of Directors approved the appropriation of 2017 interim dividends at Baht 1.50 per share, totalling Baht 3,060 million. The interim dividends were paid to the Company's shareholders in September 2017.

At the annual general meeting of the shareholders of the Company held on 7 April 2017, the Company's shareholders approved the appropriation of 2016 annual dividends at Baht 4.50 per share, totalling Baht 9,180 million. After a deduction of the interim dividends of Baht 1.50 per share which were already paid to the Company's shareholders in September 2016, the remaining dividends of Baht 3.00 per share, totalling Baht 6,120 million, were already paid to the Company's shareholders in April 2017.

At the meeting of the Board of the Director of the Company held on 26 August 2016, the Company's Board of Directors approved the appropriation of 2016 interim dividends at Baht 1.50 per share, totalling Baht 3,060 million. The interim dividends were paid to the Company's shareholders in September 2016.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

At the annual general meeting of the shareholders of the Company held on 7 April 2016, the Company's shareholders approved the appropriation of 2015 annual dividends at Baht 2.70 per share, totalling Baht 5,508 million. After a deduction of the interim dividends of Baht 0.90 per share which were already paid to the Company's shareholders in September 2015, the remaining dividends of Baht 1.80 per share, totalling Baht 3,672 million, were already paid to the Company's shareholders in April 2016.

34 Financial instruments

Financial risk management policies

The Group is exposed to normal business risks from changes in market interest rates and currency exchange rates and from non-performance of contractual obligations by counterparties. The Group does not hold or issue derivative financial instruments for speculative or trading purposes.

Risk management is integral to the whole business of the Group. The Group has a system of controls in place to create an acceptable balance between the cost of risks occurring and the cost of managing the risks. The management continually monitors the Group's risk management process to ensure that an appropriate balance between risk and control is achieved.

Capital management

The objectives of the Group's capital management are to safeguard the Group's ability to continue as a going concern in order to provide returns to the Group's shareholders and benefits to other stakeholders. The management sets strategies to support the Group's operations for more efficiency, and better performances and stronger financial status, including dividend and capital management policies to maintain the optimal capital structure and cost of capital.

Interest rate risk

Interest rate risk is the risk that future movements in market interest rates will affect the results of the Group's operations and its cash flows. Hence, the Group has hedging agreements with various investment-grade financial institutions to protect against the risk of rising interest rates.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

The effective interest rates of loans as at 31 December 2017 and 2016 and the periods in which those assets mature were as follows:

	Consolidated financial statements		
	Effective interest rate (% per annum)	Within 1 year	After 1 year (in million Baht)
2017			
Non-current			
Long-term loans to savings			
co-operative of employees	MLR less margin	37	583
Loans to employees	MMR less margin	-	6
Total		37	589
2016			
Non-current			
Long-term loans to savings			
co-operative of employees	MLR less margin	40	605
Loans to employees	MMR less margin	-	5
Total		40	610

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

	Separate financial statements			
	Effective interest rate (% per annum)	Within 1 year	After 1 year (in million Baht)	Total
2017				
Current				
Short-term loans to subsidiaries	MMR rate not exceeding the average MLR of 5 banks less margin	15,651	-	15,651
Non-current				
Long-term loans to savings co-operative of employees	MLR less margin	37	583	620
Total		15,688	583	16,271
2016				
Current				
Short-term loans to subsidiaries	MMR rate not exceeding the average MLR of 5 banks less margin	12,584	-	12,584
Non-current				
Long-term loans to savings co-operative of employees	MLR less margin	40	605	645
Total		12,624	605	13,229

The effective interest rates of borrowings from financial institutions and debentures as at 31 December 2017 and 2016 and the periods in which those liabilities mature were disclosed in note 18 to the financial statements.

Foreign currency risk

The Group is exposed to foreign currency risk relating to purchases of raw materials and long-term borrowings which are denominated in foreign currencies. However, the Group enters into short-term currency hedging contracts for short term foreign currency exposures when appropriate.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

As at 31 December 2017 and 2016 the Group was exposed to foreign currency risk in respect of financial assets and liabilities denominated in the following currencies:

(in million Baht)

	Consolidated		Separate	
	financial statements		financial statements	
	2017	2016	2017	2016
U.S. Dollars				
Cash and cash equivalents	5,657	16,848	5,243	16,648
Other investments	10,889	-	10,889	-
Trade accounts receivable	2,345	3,517	693	1,832
Other receivables	184	167	177	160
Interest-bearing liabilities	(35,920)	(42,884)	(32,339)	(38,353)
Trade accounts payable	(1,810)	(4,168)	(1,546)	(3,911)
Other payables	(355)	(38)	(95)	(12)
	(19,010)	(26,558)	(16,978)	(23,636)
Other currencies				
Cash and cash equivalents	70	109	-	-
Trade accounts receivable	276	248	-	-
Other receivables	10	18	-	-
Interest-bearing liabilities	(50)	-	-	-
Trade accounts payable	(14)	(15)	-	-
Other payables	(30)	(41)	(6)	(32)
	262	319	(6)	(32)
Gross exposure in statement of financial position	(18,748)	(26,239)	(16,984)	(23,668)
Currency forwards	233	4,786	-	4,002
Currency and interest rate swaps	3,581	7,463	-	2,932
Net exposure	(14,934)	(13,990)	(16,984)	(16,734)

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Credit risk

Credit risk is the potential financial loss resulting from the failure of a customer or counterparty to settle its financial and contractual obligations to the Group as and when they fall due. The Group has no significant credit risk with any single counterparty or group of counterparties since the Group maintains business with large customers in petroleum and power industries and requires full first class collateral for the rest.

Liquidity risk

The Group monitors its liquidity risk and maintains a level of cash and cash equivalents deemed adequate by management to finance the Group's operations and to mitigate the effects of fluctuations in cash flows.

Fair values of financial assets and liabilities

The fair value of current portion of financial assets and liabilities are taken to approximate the carrying value due to the relatively short-term maturity of these financial instruments.

The fair value of long-term loans and borrowings carrying a floating rate, which is considered to be market rate, are taken to approximate their fair values.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Other financial assets and liabilities not stated above had the fair and carrying value as at 31 December 2017 and 2016 as following:

(in million Baht)

		Consolidated financial statements			
		Fair value			
	Carrying amount	Level 1	Level 2	Level 3	Total
31 December 2017					
Financial assets/Financial liabilities measured at fair value					
Equity securities - available-for-sale securities	364	364	-	-	364
Debt securities - available-for-sale securities					
(Private funds)	11,918	-	11,918	-	11,918
Financial assets/Financial liabilities not measured at fair value					
Debentures	(55,839)	-	(60,546)	-	(60,546)
Forward exchange contracts	(16)	-	(12)	-	(12)
Crack spread swap and time spread swap	-	-	40	-	40
Cross currency and interest rate swap contracts	185	-	201	-	201
31 December 2016					
Financial assets/Financial liabilities measured at fair value					
Equity securities - available-for-sale securities	147	147	-	-	147
Debt securities - available-for-sale securities					
(Private funds)	799	-	799	-	799

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(in million Baht)

	Carrying amount	Consolidated financial statements			
		Fair value			Total
		Level 1	Level 2	Level 3	
Financial assets/Financial liabilities					
not measured at fair value					
Debentures	(63,853)	-	(66,500)	-	(66,500)
Forward exchange contracts	7	-	44	-	44
Crack spread swap and time spread swap	-	-	117	-	117
Cross currency and interest rate swap contracts	(615)	-	(605)	-	(605)

(in million Baht)

	Carrying amount	Separate financial statements			
		Fair value			Total
		Level 1	Level 2	Level 3	
31 December 2017					
Financial assets/Financial liabilities measured at fair value					
Equity securities - available-for-sale securities	364	364	-	-	364
Debt securities - available-for-sale securities (Private funds)	11,918	-	11,918	-	11,918
Financial assets/Financial liabilities not measured at fair value					
Debentures	(55,839)	-	(60,546)	-	(60,546)
Crack spread swap and time spread swap	-	-	37	-	37

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

(in million Baht)

		Separate financial statements			
	Carrying amount	Fair value			Total
		Level 1	Level 2	Level 3	
31 December 2016					
Financial assets/Financial liabilities					
measured at fair value					
Equity securities - available-for-sale securities	147	147	-	-	147
Debt securities - available-for-sale					
securities (Private funds)	799	-	799	-	799
Financial assets/Financial liabilities					
not measured at fair value					
Debentures	(63,853)	-	(66,500)	-	(66,500)
Forward exchange contracts	2	-	33	-	33
Crack spread swap and time spread swap	-	-	122	-	122
Cross currency and interest rate swap contracts	(432)	-	(422)	-	(422)

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Measurement of fair values

Valuation techniques

The following tables show the valuation techniques used in measuring Level 2 fair values.

Type	Valuation technique
Debt securities - available-for-sale securities (Private funds)	Thai Bond Market Association Government Bond Yield Curve as of the reporting date.
Debentures	A valuation technique incorporating observable market data which is adjusted with counterparty credit risk (excluding own credit risk) and other risks to reflect true economic value.
Forward exchange contracts/Crack spread swap and time spread swap/Cross currency and interest rate swap contracts	Market comparison technique: The fair values are based on broker quotes. Similar contracts are traded in an active market and the quotes reflect the actual transactions in similar instruments.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

35 Commitments with non-related parties

(in million Baht)

	Consolidated financial statements		Separate financial statements	
	2017	2016	2017	2016
Capital commitments				
Project construction agreements	6,013	2,319	5,823	2,117
Other agreement	21	69	-	-
Total	6,034	2,388	5,823	2,117
Non-cancellable operating lease commitments				
Within one year	250	229	231	210
After one year but within five years	880	963	852	923
After five years	140	307	-	160
Total	1,270	1,499	1,083	1,293
Other commitments				
Inventory management services agreements	-	248	-	-
Cross currency and interest rate swap contracts	3,581	7,463	-	2,932
Letters of guarantee issued by financial institutions	2,019	806	1,428	225
Crude oil purchase agreements	47,706	41,646	47,706	41,646
Total	53,306	50,163	49,134	44,803

Power Purchase Agreements

Two subsidiaries have power purchase agreements for a period of 25 years with the Electricity Generating Authority of Thailand ("EGAT") expiring in 2023 and 2041 whereby the subsidiaries will supply the electric energy to EGAT at the agreed quantity and price. As the contracted party with EGAT, the subsidiaries must comply with conditions and restrictions provided for in the agreement.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

Loan Agreement

On 29 September 2017, a subsidiary entered into term loan facility agreements with financial institutions in Thailand for a credit facility of Baht 8,500 million, to repay short-term borrowing from related parties. The borrowing bears the interest rate at THBFIX plus margin. Under the terms of the agreements, a subsidiary agree to maintain certain financial ratios and comply with conditions stipulated in the agreements.

As at 31 December 2017, the credit facility has not been utilised.

36 Contingent liabilities and contingent assets

As at 31 December 2017 the Company had the following contingent liabilities and contingent assets:

The Company has crack spread swap and time spread swap with foreign companies ("counterparties"). The Company has or the counterparties have commitments to make payments for the differences between the fixed price and floating price for each period.

As at 31 December 2017 the Company had oil volume under the agreements totalling 5.5 million barrels (2016: 1.9 million barrels).

37 Insurance policy

As at 31 December 2017 the Group has an All Risks and Loss of Profit Insurance Policy ("ALOP") from a syndicate of insurers and reinsurers for a total insured value of U.S. Dollars 9,699 million (2016: U.S. Dollars 9,078 million). Such policy is renewed on an annual basis. Certain subsidiaries have assigned their rights to proceeds from insurance claims under the ALOP to the lenders under certain borrowings agreements.

38 Event after the reporting period

At the meeting of the Board of Directors of the Company held on 15 February 2018, the Company's Board of Directors approved the submission for approval at the annual general meeting of the shareholders of the Company the appropriation of 2017 annual dividends at Baht 5.25 per share, totalling Baht 10,710 million. After a deduction of the interim dividends of Baht 1.50 per share which were paid to the Company's shareholders in September 2017, the remaining dividends of Baht 3.75 per share, totalling Baht 7,650 million, are scheduled for payment on 27 April 2018. This dividend is subject to the approval of the Company's shareholders at the annual general meeting to be held on 11 April 2018.

NOTES TO THE FINANCIAL STATEMENTS

Thai Oil Public Company Limited and its Subsidiaries

39 Reclassification of accounts

Certain accounts in the statement of financial position as at 31 December 2016, which are included in the 2017 financial statements for comparative purposes, have been reclassified to conform to the presentation in the 2017 financial statements as follows:

(in million Baht)

	2016					
	Consolidated financial statements			Separate financial statements		
	Before reclass.	Reclass.	After reclass.	Before reclass.	Reclass.	After reclass.
Statement of financial position						
as at 31 December 2016						
Investments held as available-for-sale	-	244	244	-	244	244
Other long-term investment	1,024	(244)	780	1,024	(244)	780
Goodwill	-	655	655	-	-	-
Other intangible assets	3,106	(655)	2,451	516	-	516
Other surpluses (deficits)	-	203	203	-	-	-
Surplus on business restructuring						
under common control	331	(331)	-	-	-	-
Other components of shareholders' equity	(237)	128	(109)	(78)	-	(78)
		-			-	

The reclassifications have been made in order to comply with the classification set out in the Pronouncement of the Department of Business Development "Determination of items in the financial statements B.E. 2559" dated 11 October 2016 which is effective for accounting periods starting on or after 1 January 2017.

AUDIT FEES OF THE AUDITORS 2017

1. Audit Fee

Thaioil, subsidiaries and Thaioil Group Registered Provident Fund paid for the audit fees to the auditors' company for the latest account period amounting to Baht 7,713,000 (Seven million seven hundred and thirteen thousand baht only).

2. Non-Audit Fee

Thaioil and subsidiaries paid for non-audit fees for monitoring the performance compliance with the condition of the BOI Promotion Certificate and preparing The Updated Offering Memorandum of the Global Medium Term Notes Program to the auditor's company for the latest account period amounting to Baht 4,370,000 (Four million three hundred and seventy thousand baht only).



Professionalism

Ownership and
Commitment

Social
Responsibility

Integrity

Teamwork and
Collaboration

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Vision Focus

Excellence
Striving



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