



Annual Report 2018 (Financial Report)
PTT Public Company Limited

BALANCE AND
SUSTAINABILITY





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Report of Board of Directors' Responsibilities for the Financial Reporting

To Shareholders,

The Board of Directors is responsible for the consolidated financial statements of PTT Public Company Limited and its subsidiaries and the separate financial statements of PTT Public Company Limited. The aforementioned financial statements are prepared in accordance with Thai Financial Reporting Standards. The financial statements are prepared under appropriated accounting policies and applied consistently by using careful judgment and the best estimation. Important information is adequately and transparently disclosed in the notes to financial statements for the company's shareholders and investors.

The Board of Directors provides good corporate governance and maintains the risk management system and internal controls to ensure that accounting records are accurate, reliable, free from material misstatement, timely and adequate to protect the company's assets as well as to prevent fraud and significant irregular operations.

The Board of Directors has appointed an Audit Committee comprising independent directors to be responsible for reviewing the reliability and correctness of financial reports as well as evaluating the effectiveness of internal control system and internal audit. The audit committee's comments on these issues are presented in the audit committee report included in this annual report.

The Board of Directors considers that the internal control system and the internal audit of the company provide credibility and reliability to the consolidated financial statements of PTT Public Company Limited and its subsidiaries and the separate financial statements of PTT Public Company Limited for the year ended December 31, 2018. The Board of Directors also believes that the financial position, financial results and cash flows, audited by the independent auditors (The Office of Auditor General of Thailand), are fairly presented in all material respects with Thai Financial Reporting Standards. The auditors' opinion is presented in the auditors' report as part of this annual report.



Mr. Kraitrit Euchukanonchai
Chairman of the Board



Mr. Chansin Treenuchagron
President & CEO



Auditor's Report



To: The Shareholders of PTT Public Company Limited

Opinion

The State Audit Office of the Kingdom of Thailand has audited the accompanying consolidated financial statements of PTT Public Company Limited and its subsidiaries (the Group) and separate financial statements of PTT Public Company Limited (the Company), which comprise the consolidated and separate statements of financial position, as at December 31, 2018, the consolidated and separate statements of income, the consolidated and separate statements of comprehensive income, the consolidated and separate statements of changes in equity and the consolidated and separate statements of cash flows for the year then ended, note to the consolidated and separate financial statements, and a summary of significant accounting policies.

In the State Audit Office of the Kingdom of Thailand's opinion, the consolidated and separate financial statements referred to above present fairly, in all material respects, the consolidated financial position of PTT Public Company Limited and its subsidiaries and separate financial position of PTT Public Company Limited, respectively, as at December 31, 2018, and its consolidated and separate financial performance and its cash flows for the year then ended in accordance with Thai Financial Reporting Standards (TFRSs).

Basis for Opinion

The State Audit Office of the Kingdom of Thailand conducted the audit in accordance with the State Audit Standards and Thai Standards on Auditing (TSAs). The State Audit Office of the Kingdom of Thailand's responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the consolidated and separate financial statements section of the State Audit Office of the Kingdom of Thailand's report. The State Audit Office of the Kingdom of Thailand is independent of the Group and the Company in accordance with the State Audit Standards and the Code of Ethics for Professional Accountants determined by the Federation of Accounting Professions that are relevant to the audit of the consolidated and separate financial statements. The State Audit Office of the Kingdom of Thailand has fulfilled other ethical responsibilities in accordance with the State Audit Standards and these ethical requirements. The State Audit Office of the Kingdom of Thailand believes that the audit evidence obtained is sufficient and appropriate to provide a basis for the State Audit Office of the Kingdom of Thailand's opinion.

Emphasis of Matter

The State Audit Office of the Kingdom of Thailand draws attention to Note 48.1 to the financial statements, which describes the event that Ombudsman of Thailand submitted a complaint to the Administrative Court (the Court) against the Company as the black case No. 510/2559, requesting the Court as follows:

- 1) To revoke the Cabinet Resolutions on December 18, 2007 and August 10, 2010.
- 2) To order the Minister of Finance, the Minister of Energy and the Company to conduct a separation and transfer of net assets according to the plaintiff's allegation as of September 30, 2001 amounting to Baht 68,569.69 million, including other compensations and benefits.

3) To revoke the separation of public assets and the preferential rights to establish the gas pipeline system according to the plaintiff's allegation.

On May 26, 2016, the Administrative Court ordered the Company to submit a defense. The Company had the public prosecutor prepared the statement and additional statement for submission to the Administrative Court. On May 11, 2018, the Administrative Court issued an order to end the fact finding process. Currently, the case is under the consideration of the Administrative Court.

In conclusion, the State Audit Office of the Kingdom of Thailand's opinion is not qualified in respect of these matters.

Key Audit Matters

Key audit matters are those matters that, in the State Audit Office of the Kingdom of Thailand's professional judgment, were of most significance in the audit of the consolidated and separate financial statements of the current period. These matters were addressed in the context of the State Audit Office of the Kingdom of Thailand's audit of the consolidated and separate financial statements as a whole, and in forming the State Audit Office of the Kingdom of Thailand's opinion thereon, and the State Audit Office of the Kingdom of Thailand does not provide a separate opinion on these matters.

The State Audit Office of the Kingdom of Thailand identifies the followings as key audit matters:

1. Estimation of petroleum reserves

Estimation of petroleum proved reserves, have a significant impact on the consolidated financial statements for impairment testing and calculation of depreciation, depletion, and amortization expenses of petroleum exploration and production assets. Estimated proved reserves may differ from the actual reserves to be recoverable in the future because the estimation is based on available information at the time of the estimation. At the beginning of each project, the estimation may be subject to a high variance, but the variance will decrease when the project approaches the end of its production life. This may impact the management's investment decisions to sustain the Group's business. The management relies on the Group's internal teams of experts in estimating the proved reserves using the estimation methods consistent with those generally employed by the petroleum exploration and production industry. The experts have to exercise significant judgment as well as experience in determining the appropriate estimation methods for the available information at the time of the estimation. Therefore, the amount of proved reserves may vary with individual judgment and experience. In addition, changes in the estimated proved reserves will impact the recognition of depreciation, depletion, and amortization expenses in the financial statements. As a result, the State Audit Office of the Kingdom of Thailand considers this as a key audit matter.

The Group disclosed estimation of petroleum proved reserves information in Note 3.2.14 Accounting Policies - Property, Plant and Equipment, Note 3.2.29 Use of Estimates and Significant Assumptions - Estimates of Petroleum Reserves, and Note 17 Property, Plant and Equipment.

The State Audit Office of the Kingdom of Thailand performed the following key audit procedures:

1. Obtain an understanding of the proved reserve estimation processes, assess the adequacy of the designed key internal controls, and perform tests of key internal controls of such process, especially the controls over the reliability of the data used in the preparation of reports related to the Group's proved reserves, and the use of proved reserves data in the calculation of depreciation, depletion, and amortization expenses, as well as the assessment of impairment of assets.
2. Assess the qualifications of the Group's internal experts who are responsible for estimating proved reserves and preparing the Group's proved reserves data.

3. Use the results of reserves estimation audit performed by the energy regulatory agency in Thailand, which has its own processes and experts for verifying the estimation of domestic petroleum reserves for projects of which the operators have submitted the required reports. The State Audit Office of the Kingdom of Thailand compared the Group's proved reserves for the year 2017 with those verified by the regulatory agency and reconciled with the estimated proved reserves presented in internal reports related to the proved reserves during the year to determine the estimated proved reserves of domestic projects of which the Group was the operator at the end of 2018.

4. Verify the Group recognized significant changes in the estimated proved reserves in the appropriate accounting period and in accordance with the Group's accounting policy, and those changes were applied to the calculation of depreciation, depletion, and amortization expenses appropriately.

2. Provision for decommissioning costs

Provision for decommissioning costs is the significant item which included in provision for decommissioning costs in the consolidated financial statements. Decommissioning activities occur at the end of projects. Decommissioning methods vary with the locations of petroleum exploration and production, which are classified into onshore and offshore production areas, where the main infrastructure, including Central Processing Platforms, Well Head Platform, Development Well, Pipeline, and other producing properties, is installed. Also, the regulations in each country have varying requirements for decommissioning activities, which can be either total or partial removal. In addition, only a small number of decommissioning activities in the past or subject to certain natures have taken place, resulting in limited decommissioning cost information that can be used as a reference in the Group's estimation of future expenses. Due to these factors, the calculation of the provision for decommissioning costs has to rely significantly on the exercise of judgment in determining assumptions around decommissioning costs, inflation rates, discount rates, and timing of the decommissioning based on the estimated field life of a project. These assumptions are subject to change over time. The management relies on the Group's teams of experts, comprising those from Engineering and Development Group, Production Asset Group, Operations Support Group, and Finance and Accounting Group in estimating the provision for decommissioning costs. As a result, the State Audit Office of the Kingdom of Thailand considers this as a key audit matter.

The Group disclosed information about provision for decommissioning costs in Note 3.2.22 Significant Accounting Policies - Provision for Decommissioning Costs, Note 3.2.29 Use of Estimates and Significant Assumptions - Provisions, and Note 28 Provision for Decommissioning Costs.

The State Audit Office of the Kingdom of Thailand performed the following key audit procedures:

1. Obtain an understanding of the decommissioning cost estimation processes, assess the adequacy of the designed internal controls and perform tests of controls over the estimation, review and adjustment of the provision for decommissioning costs, as well as related approval.

2. Assess the qualifications of the Group's experts who are responsible for estimating the provision for decommissioning costs and who are responsible for inspection and control the quality of engineering work.

3. Evaluate the reasonableness of the assumptions used in the calculation of provision for decommissioning costs by
3.1 Evaluating the reasonableness of the decommissioning costs through inquiry of the experts about the assumptions used, relying on the State Audit Office of the Kingdom of Thailand's knowledge of the business, decommissioning information of other comparable projects and related laws;

3.2 Evaluating the appropriateness of the expected timing used in calculation provision of decommissioning cost, by considering its consistency with investment plans, initial decommissioning plan submitted to the energy regulatory agency in Thailand, or any other related information; and

3.3 Evaluating the reasonableness of inflation rates and discount rates through inquiry of the experts and comparison with the information from external sources.

4. Agree decommissioning costs used in the calculation of the provision for decommissioning costs to the information obtained from the Group's engineers, both for projects of which the Group is operator and for projects of which the Group is non-operator.

5. Validate significant changes in the estimated decommissioning costs incurred during the year and changes that impact the statements of income against supporting evidence.

6. Test the calculation of the provision for decommissioning costs.

7. In case of project for which the Group had submitted the initial decommissioning plan and the decommissioning cost estimation report, required to be audited and verified by the Group's external experts, to the energy regulatory agency in Thailand, the State Audit Office of the Kingdom of Thailand assessed the reliability of the external experts by ensuring that their qualifications, work experience and independence were in compliance with the requirements imposed by the regulatory agency for the appointment of third parties in auditing and verifying the accuracy of decommissioning cost estimates.

8. Compare the actual decommissioning cost incurred with those estimation by the Group to evaluate the appropriateness of the estimation process. In case that there is significant difference, consider the reasonableness of the clarification from the Group about the cause of difference, and also consider that the Group used the experience from the actual decommissioning cost incurred within the current year to be the information for reviewing the estimation preparation process appropriately.

3. Business acquisition

As disclosed in Note 43, Business Acquisition, the Group acquired the 22.2222% participating interests in the Bongkot Project, consisting of Blocks B15, B16, B17, and G12/48, which is the significant item in the consolidated financial statements. The Group has to pay the total considerations for the acquisition of Baht 36,349.65 million. The fair value of the acquired identifiable net assets for the Group is Baht 33,828.47 million. The Group's management assesses that the participating interest acquired is the business combination according to the definition under Thai Financial Reporting Standard (TFRS) 3, Business combination. The Group has to recognize and measure the fair value on the acquisition date of the acquired identifiable assets, liabilities and the consideration transferred (the value of acquisition's considerations), and recognize the deferred tax assets or liabilities, and goodwill, including disclosing the related information by complying with the TFRS. The Group used the independent valuer to estimate the fair value of the participating interest acquired. The fair value estimation requires the selection of valuation technique, and various assumptions, which may be different depending on the individual judgement and experience of the valuer. The information which the valuer obtained and used in the fair value estimation also significantly affects the fair value. As a result, the State Audit Office of the Kingdom of Thailand considers this as a key audit matter.

The State Audit Office of the Kingdom of Thailand performed the following key audit procedures:

1. Validate the Sales and Purchase Agreement of the 22.2222% participating interest acquired in the Bongkot Project and inquire the Group's management to understand the nature and objective of the transaction, including the significant content, terms, and conditions in the agreement, and evaluate the management's judgement to determine whether the acquired of the participating interest is appropriate according to the definition of business combination under TFRS 3, Business Combination.

2. Verify the evidence of payments, the approval of petroleum concession transferred according to the law, and related documents used in recording of the accounting transactions, to determine the appropriateness of the identification of the assets acquired and liabilities assumed, including the consideration transferred.

3. Assess the knowledge, capability, and integrity of the independent valuer who is associated with the preparation of Purchase Price Allocation report.

4. Verify the fair value estimation of the acquired identifiable assets and liabilities in the Purchase Price Allocation report prepared by the independent valuer by assessing the appropriateness of the valuation technique, and the information used in the estimation, including the significant assumptions which the independent valuer used in the fair value estimation, and testing the fair value calculation. The validation also includes the communication with the independent valuer about the significant issues.

5. Review the relevant classification and disclosures in accordance with TFRS.

4. Sale of oil business

As disclosed in Note 12, The Restructuring of the Oil Business Unit is the significant item in the separate financial statements. On April 28, 2017, the 2017 Annual General Meeting of the Company's shareholders approved the restructuring of the Company by means of the transfer of the oil business unit, including the assets and liabilities of the business unit and the shares of companies related to the oil business unit, from the Company to PTT Oil and Retail Business Public Company Limited (PTTOR). On June 18, 2018, the Company and PTTOR successfully executed the Business Transfer Agreement to transfer various assets and liabilities, and shares of related companies to PTTOR. The Company has commenced the process of transferring various assets and liabilities, and shares of related companies to PTTOR since July 1, 2018. The business transfer price is Baht 117,203.26 million.

The valuation of the business transferred was performed by financial advisors. In determining the value of the business, the Company had to rely on significant estimates and assumptions, which are considered to be significant judgements that have a substantial effect on the value of the Company. As a result, the State Audit Office of the Kingdom of Thailand considers this as a key audit matter.

The State Audit Office of the Kingdom of Thailand performed the followings;

1. Understand the restructuring of the oil business unit, the transfer of the oil business, the valuation of the business, assumptions used to measure the fair value, and evaluated the adequacy and appropriateness of the designed internal controls relevant to the transfer of the business.
2. Validate the business transfer agreement, the transfer of proprietary right in properties, the delivery of the assets sold, validate the evidence of receipt of payment and related documents, and validate recording of the accounting transactions.
3. Assess the knowledge, ability, and independence of the financial advisor engaged by the Company to evaluate the valuation of the business and its transferred assets.
4. Review the valuation method and assessed the reasonable of the estimates and assumptions used in calculate the fair values, including the reasonable of discount rates compared against the information from external sources.
5. Inquire with management as to the nature and objectives of the sale of oil business.
6. Review the relevant presentation and disclosures in accordance with TFRS.

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 auditor's report thereon. The annual report will be made available to the State Audit Office of the Kingdom of Thailand after the date of this auditor's report.

The State Audit Office of the Kingdom of Thailand's opinion on the consolidated and separate financial statements does not cover the other information and the State Audit Office of the Kingdom of Thailand will not express any form of assurance conclusion thereon.

In connection with the audit of the consolidated and separate financial statements, the State Audit Office of the Kingdom of Thailand's responsibility is to read the other information identified above when it becomes available and, in doing so, consider whether the other information is materially inconsistent with the consolidated and separate financial statements or the State Audit Office of the Kingdom of Thailand's knowledge obtained in the audit, or otherwise appears to be materially misstated.

When the State Audit Office of the Kingdom of Thailand reads the annual report, if the State Audit Office of the Kingdom of Thailand concludes that there is a material misstatement therein, the State Audit Office of the Kingdom of Thailand is required to communicate the matter to those charged with governance.

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, the management is responsible for assessing the Group's and the Company's ability to continue as a going concern, appropriate disclosing, 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

The State Audit Office of the Kingdom of Thailand's 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 the State Audit Office of the Kingdom of Thailand's opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with State Audit Standards and 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 State Audit Standards and TSAs, the State Audit Office of the Kingdom of Thailand exercises professional judgment and maintain professional skepticism throughout the audit, including:

- Identifies and assesses the risks of material misstatement of the consolidated and separate financial statements, whether due to fraud or error, designs and performs audit procedures responsive to those risks, and obtains audit evidence that is sufficient and appropriate to provide a basis for the State Audit Office of the Kingdom of Thailand's 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.
 - Obtains 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.
 - Evaluates the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the management.
- 

- Concludes on the appropriateness of the 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 the State Audit Office of the Kingdom of Thailand concludes that a material uncertainty exists, the State Audit Office of the Kingdom of Thailand is required to draw attention in the State Audit Office of the Kingdom of Thailand auditor's report to the related disclosures in the consolidated and separate financial statements or, if such disclosures are inadequate, to modify the State Audit Office of the Kingdom of Thailand's opinion. The State Audit Office of the Kingdom of Thailand's conclusions are based on the audit evidence obtained up to the date of the State Audit Office of the Kingdom of Thailand auditor's report. However, future events or conditions may cause the Group and the Company to cease to continue as a going concern.
- Evaluates 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.
- Obtains 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. The State Audit Office of the Kingdom of Thailand is responsible for the direction, supervision and performance of the group audit. The State Audit Office of the Kingdom of Thailand remains solely responsible for the State Audit Office of the Kingdom of Thailand's audit opinion.

The State Audit Office of the Kingdom of Thailand communicates 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 the State Audit Office of the Kingdom of Thailand identifies during the State Audit Office of the Kingdom of Thailand's audit.

The State Audit Office of the Kingdom of Thailand also provides those charged with governance with a statement that the State Audit Office of the Kingdom of Thailand has complied with the State Audit Standards and relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on the State Audit Office of the Kingdom of Thailand's independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, the State Audit Office of the Kingdom of Thailand determines 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. The State Audit Office of the Kingdom of Thailand describes these matters in the State Audit Office of the Kingdom of Thailand auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, the State Audit Office of the Kingdom of Thailand determines that a matter should not be communicated in the State Audit Office of the Kingdom of Thailand's report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

State Audit Office
February 21, 2019

Pasutnicha Jumpathes
Deputy Auditor General

Mayuree Juntamat
Director of Financial
and Procurement Audit Office No. 14

Statement of Financial Position

PTT Public Company Limited and Its Subsidiaries
As at December 31, 2018

Unit: Baht

Assets	Notes	Consolidated financial statements		Separate financial statements	
		December 31, 2018	December 31, 2017	December 31, 2018	December 31, 2017
Current assets					
Cash and cash equivalents	4	292,184,322,373	166,189,023,655	86,204,049,166	38,691,660,939
Current investments	5	142,420,735,568	229,651,255,278	21,971,964,949	68,056,258,825
Trade accounts receivable	6	174,604,696,553	174,916,243,685	138,675,854,879	144,265,155,266
Other accounts receivable	7	78,827,069,774	50,602,704,855	17,314,183,668	16,923,203,980
Short-term lending loans	8.1	1,782,916,135	1,231,329,558	7,334,315,325	4,648,737,018
Inventories	10	125,279,815,840	121,871,798,713	10,247,494,259	27,103,531,169
Materials and supplies	11	28,871,647,153	28,942,454,106	5,540,731,086	5,749,466,246
Current derivative assets		5,097,686,415	1,997,546,512	-	-
Other current assets		7,894,466,941	6,768,006,749	4,648,056,425	3,956,768,710
Total current assets		856,963,356,752	782,170,363,111	291,936,649,757	309,394,782,153
Non-current assets					
Available-for-sale investments	13.2	10,875,929,781	17,602,408,397	2,579,555,315	4,533,102,500
Investments in subsidiaries	14.6	-	-	315,654,139,538	218,929,325,063
Investments in joint ventures	14.4, 14.6	41,317,061,064	37,937,145,910	5,927,614,973	5,927,614,973
Investments in associates	14.5, 14.6	24,368,261,034	21,979,621,626	-	3,173,227,030
Other long-term investments	15.2	26,970,809,757	27,668,655,084	13,986,905,648	15,164,124,801
Long-term lending loans	8.2	13,862,709,357	19,078,604,450	32,895,679,795	22,754,737,237
Investment properties	16	5,605,699,619	6,233,426,284	2,032,718,766	3,851,133,751
Property, plant and equipment	17	1,114,174,738,576	1,076,905,903,235	273,321,633,368	287,729,934,813
Goodwill	18	48,924,920,577	46,688,256,108	-	-
Intangible assets	19	34,200,400,854	32,107,682,512	13,813,942,896	14,403,623,166
Exploration and evaluation assets	20	108,162,569,167	108,759,721,484	-	-
Deferred tax assets	21.3	28,498,932,833	15,101,219,955	-	-
Non-current derivative assets		2,079,494,926	3,734,359,338	708,186,115	754,506,988
Other non-current assets	22	39,478,987,823	36,346,789,502	5,756,487,773	6,695,815,983
Total non-current assets		1,498,520,515,368	1,450,143,793,885	666,676,864,187	583,917,146,305
Total assets		2,355,483,872,120	2,232,314,156,996	958,613,513,944	893,311,928,458

The accompanying notes are an integral part of these financial statements.

Statement of Financial Position

PTT Public Company Limited and Its Subsidiaries
As at December 31, 2018

Unit: Baht

Liabilities and Equity	Notes	Consolidated financial statements		Separate financial statements	
		December 31, 2018	December 31, 2017	December 31, 2018	December 31, 2017
Current liabilities					
Bank overdrafts and short-term loans					
from financial institutions	23	25,561,803,923	18,126,630,943	-	-
Trade accounts payable		160,323,070,746	160,301,286,194	120,085,364,132	139,418,539,503
Other accounts payable		96,961,604,060	71,526,778,845	26,247,876,235	23,624,425,464
Current portion of long-term loans	25	63,108,598,300	66,433,929,171	26,511,158,464	29,439,944,692
Short-term loans-related parties	9.5	-	-	3,332,695,376	2,803,042,683
Income tax payable		46,487,811,196	24,094,727,080	22,063,437,824	3,592,947,307
Short-term provision for decommissioning costs	28	1,090,300,309	-	-	-
Current derivative liabilities		2,545,871,892	4,954,839,016	94,600,356	86,699,923
Other current liabilities	24	10,801,967,333	8,958,513,286	4,503,619,289	4,565,821,904
Total current liabilities		406,881,027,759	354,396,704,535	202,838,751,676	203,531,421,476
Non-current liabilities					
Long-term loans	25	454,964,315,364	444,919,659,683	123,638,958,453	150,115,471,277
Deferred tax liabilities	21.3	32,868,290,152	35,795,720,701	210,202,677	473,743,077
Provisions for employee benefit	27	23,921,033,707	23,313,066,000	6,906,650,387	8,877,981,146
Long-term provision for decommissioning costs	28	73,632,219,096	74,865,436,241	-	-
Deposits on LPG cylinders		11,082,662,040	10,519,247,338	-	10,519,247,338
Non-current derivative liabilities		668,918,447	2,104,348,790	160,953,165	45,185,175
Other non-current liabilities	29	32,971,055,231	37,844,233,080	19,857,469,279	21,868,611,384
Total non-current liabilities		630,108,494,037	629,361,711,833	150,774,233,961	191,900,239,397
Total liabilities		1,036,989,521,796	983,758,416,368	353,612,985,637	395,431,660,873

The accompanying notes are an integral part of these financial statements.

Statement of Financial Position

PTT Public Company Limited and Its Subsidiaries

As at December 31, 2018

Unit: Baht

Liabilities and Equity (Continued) Notes	Consolidated financial statements		Separate financial statements	
	December 31, 2018	December 31, 2017	December 31, 2018	December 31, 2017
Equity				
Share capital				
Authorized share capital				
28,562,996,250 ordinary shares of Baht 1 each				
(31 December 2017: 2,857,245,725 ordinary shares of Baht 10 each)	30.1	28,562,996,250	28,572,457,250	28,562,996,250
Issued and paid-up share capital				
28,562,996,250 ordinary shares of Baht 1 each				
(31 December 2017: 2,856,299,625 ordinary shares of Baht 10 each)	30.2	28,562,996,250	28,562,996,250	28,562,996,250
Premium on ordinary shares	30.2	29,211,131,966	29,211,131,966	29,211,131,966
Deficit from the change in the ownership interests in subsidiaries		(28,483,967,693)	(24,311,625,093)	-
Retained earnings				
Appropriated				
Legal reserve	31.1	2,857,245,725	2,857,245,725	2,857,245,725
Reserve for self-insurance fund	31.2	1,222,675,618	1,199,991,563	1,199,991,563
Unappropriated		838,208,853,447	775,959,276,682	541,852,837,981
Other components of equity		3,504,891,116	5,192,734,029	1,293,640,767
Total equity attributable to owners of the parent		875,083,826,429	818,671,751,122	605,000,528,307
Non-controlling interests		443,410,523,895	429,883,989,506	-
Total equity		1,318,494,350,324	1,248,555,740,628	605,000,528,307
Total liabilities and equity		2,355,483,872,120	958,613,513,944	893,311,928,458

Chansin Treenuchagron
President
& Chief Executive Officer

Phannalin Mahawongtikul
Executive Vice President
Acting Chief Financial Officer

Statement of Income

PTT Public Company Limited and Its Subsidiaries
For the Year Ended December 31, 2018

Unit: Baht

		Consolidated financial statements		Separate financial statements	
		2018	2017	2018	2017
Notes					(Restated)
Sales and service income	33	2,336,154,915,594	1,995,722,067,627	1,411,021,051,033	1,097,904,931,224
Cost of sales and services	35	2,023,001,853,100	1,688,461,455,356	1,327,637,216,709	1,023,993,615,965
Gross profit		313,153,062,494	307,260,612,271	83,383,834,324	73,911,315,259
Other income	34	16,935,097,726	28,268,513,870	54,224,423,007	51,194,602,334
Gain on foreign exchange rates		6,353,510,623	13,650,641,022	6,304,992,162	7,704,189,659
Profit before expenses		336,441,670,843	349,179,767,163	143,913,249,493	132,810,107,252
Selling and distribution expenses	35	26,653,497,122	24,624,948,200	8,185,037,318	7,713,358,618
Administrative expenses	35	55,183,564,436	75,974,028,735	20,618,164,425	15,889,696,593
Petroleum royalties and remuneration	36	16,435,234,907	13,877,333,274	-	-
Operating profit		238,169,374,378	234,703,456,954	115,110,047,750	109,207,052,041
Share of profit from investments in joint ventures	14.7.1	6,461,651,677	5,461,842,429	-	-
Share of profit from investments in associates	14.7.2	2,053,368,348	1,848,573,880	-	-
Profit before finance costs and income taxes		246,684,394,403	242,013,873,263	115,110,047,750	109,207,052,041
Finance costs	37	27,627,592,591	29,085,932,422	8,009,448,341	9,674,389,522
Profit before income taxes		219,056,801,812	212,927,940,841	107,100,599,409	99,532,662,519
Income taxes	21.1	53,646,552,942	28,306,575,417	12,588,484,038	6,915,220,225
Profit for the years from continuing operations		165,410,248,870	184,621,365,424	94,512,115,371	92,617,442,294
Profit (loss) for the years from discontinued operations, net of tax	12	-	(11,349,343)	70,761,721,267	11,856,355,680
Profit for the periods		165,410,248,870	184,610,016,081	165,273,836,638	104,473,797,974
Profit attributable to					
Owners of the parent					
Continuing operations		119,683,943,324	135,187,012,229	94,512,115,371	92,617,442,294
Discontinued operations, net of tax		-	(7,409,577)	70,761,721,267	11,856,355,680
		119,683,943,324	135,179,602,652	165,273,836,638	104,473,797,974
Non-controlling interests					
Continuing operations		45,726,305,546	49,434,353,195	-	-
Discontinued operations, net of tax		-	(3,939,766)	-	-
		45,726,305,546	49,430,413,429	-	-
Basic earnings per share					
Continuing operations	32	4.15	4.67	3.31	3.24
Discontinued operations	32	-	-	2.48	0.42
		4.15	4.67	5.79	3.66

The accompanying notes are an integral part of these financial statements.

Statement of Comprehensive Income

PTT Public Company Limited and Its Subsidiaries
For the Year Ended December 31, 2018

Unit: Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017 (Restated)
Profit for the years from continuing operations	165,410,248,870	184,621,365,424	94,512,115,371	92,617,442,294
Other comprehensive income (loss)				
Items that may be reclassified to profit or loss in subsequent periods				
Currency translation differences	(2,591,706,356)	(34,470,386,455)	-	-
Loss on measurements of available-for-sale investments	(881,069,476)	(5,031,955,629)	(27,281,381)	(6,145,675,229)
Income taxes related to available-for-sale investments	410,455,036	1,135,357,457	5,456,277	1,229,135,046
Gain (loss) on cash flow hedges	684,960,036	(367,552,252)	-	-
Income taxes related to cash flow hedges	(3,027,287)	(88,022,406)	-	-
Share of other comprehensive gain (loss) of joint ventures and associates	(380,456,659)	287,735,036	-	-
Items that will not be reclassified to profit or loss in subsequent periods				
Gain (loss) on remeasurements of defined benefits plans	946,683,776	(1,020,616,075)	799,889,519	(45,211,462)
Income taxes related to remeasurements of defined benefits plans	(183,163,864)	177,673,980	(159,977,904)	9,042,292
Share of other comprehensive income (loss) from joint ventures and associates	27,573,904	(54,629,410)	-	-
Other comprehensive income (loss) for the years, net of taxes	(1,969,750,890)	(39,432,395,754)	618,086,511	(4,952,709,353)
Comprehensive income for the years from continuing operations	163,440,497,980	145,188,969,670	95,130,201,882	87,664,732,941
Comprehensive income (loss) for the years from discontinued operations, net of taxes	-	(11,349,343)	69,097,921,267	12,218,311,172
Total comprehensive income for the periods	163,440,497,980	145,177,620,327	164,228,123,149	99,883,044,113
Total comprehensive income attributable to				
Owners of the parent				
Continuing operations	118,816,465,217	108,734,635,094	95,130,201,882	87,664,732,941
Discontinued operations, net of tax	-	(7,409,577)	69,097,921,267	12,218,311,172
	118,816,465,217	108,727,225,517	164,228,123,149	99,883,044,113
Non-controlling interests				
Continuing operations	44,624,032,763	36,454,334,576	-	-
Discontinued operations, net of tax	-	(3,939,766)	-	-
	44,624,032,763	36,450,394,810	-	-

The accompanying notes are an integral part of these financial statements.

The accompanying notes are an integral part of these financial statements.

Statement of Changes in Equity

PTT Public Company Limited and Its Subsidiaries
For the Year Ended December 31, 2018

Unit: Baht

Separate financial statements									
	Notes	Issued and paid-up share capital	Premium on ordinary shares	Retained earnings			Other components of equity		Total equity
				Legal reserve	Reserve for self-insurance fund	Unappropriated	Other comprehensive income (loss)	Available-for-sale investments	
Balance as at January 1, 2017		28,562,996,250	29,211,131,966	2,857,245,725	1,174,389,774	380,086,648,201	7,517,806,054	449,410,217,970	
Changes in equity for the year									
Reserve for self-insurance fund	31.2	-	-	-	25,601,789	(25,601,789)	-	-	
Dividend paid		-	-	-	-	(51,412,994,498)	-	(51,412,994,498)	
Other comprehensive income from discontinued operations	12	-	-	-	-	(16,044,508)	378,000,000	361,955,492	
Profit for the year		-	-	-	-	104,473,797,974	-	104,473,797,974	
Other comprehensive loss for the year		-	-	-	-	(36,169,170)	(4,916,540,183)	(4,952,709,353)	
Balance as at December 31, 2017		28,562,996,250	29,211,131,966	2,857,245,725	1,199,991,563	433,069,636,210	2,979,265,871	497,880,267,585	
Balance as at January 1, 2018		28,562,996,250	29,211,131,966	2,857,245,725	1,199,991,563	433,069,636,210	2,979,265,871	497,880,267,585	
Changes in equity for the year									
Reserve for self-insurance fund	31.2	-	-	-	22,684,055	(22,684,055)	-	-	
Dividend paid	42	-	-	-	-	(57,107,862,427)	-	(57,107,862,427)	
Other comprehensive income from discontinued operations	12	-	-	-	-	-	(1,663,800,000)	(1,663,800,000)	
Profit for the year		-	-	-	-	165,273,836,638	-	165,273,836,638	
Other comprehensive income (loss) for the year		-	-	-	-	639,911,615	(21,825,104)	618,086,511	
Balance as at December 31, 2018		28,562,996,250	29,211,131,966	2,857,245,725	1,222,675,618	541,852,837,981	1,293,640,767	605,000,528,307	

The accompanying notes are an integral part of these financial statements.

Statement of Cash Flows

PTT Public Company Limited and Its Subsidiaries
For the Year Ended December 31, 2018

Unit: Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Cash flows from operating activities				
Profit attributable to owners of the parent	119,683,943,324	135,179,602,652	165,273,836,638	104,473,797,974
Adjustment of profit to net cash provided by (used in) operating activities				
Depreciation and amortization	123,556,269,973	116,289,183,802	20,188,849,961	19,507,028,650
(Gain) loss on disposal of assets	2,154,902,333	60,210,289	(4,721,245,342)	(84,005,246)
Gain on disposal of investments	(299,334)	(2,673,805,653)	(3,673,261,900)	(1,950,951,314)
Gain on disposal of discontinued operations	-	-	(80,659,172,274)	-
Gain on bargain purchase	(1,354,901,971)	-	-	-
(Reversal of) loss on impairment of assets	16,833,146	25,409,644,604	(33,926,202)	65,705,908
(Reverse of) loss on impairment of investments	-	(562,000,000)	22,706,862,123	33,715,652,779
Share of profit from investments in joint ventures	(6,461,651,677)	(5,461,842,429)	-	-
Share of profit from investments in associates	(2,053,368,348)	(1,848,573,880)	-	-
Profit attributable to non-controlling interests	45,726,305,546	49,430,413,429	-	-
Provision for employee benefit	2,487,981,308	2,375,517,480	866,200,264	963,112,541
(Gain) loss on exchange rates	(809,179,160)	(6,421,920,357)	50,548,585	18,749,596
Unrealized (gain) loss on derivatives	(4,032,097,039)	(3,536,548,267)	169,989,298	(1,818,905,638)
(Reversal of) allowance for doubtful accounts	2,320,284,952	(149,729,204)	(22,636,081,165)	(34,459,121,339)
Write-off exploration assets	21,470,147	858,038,433	-	-
(Reversal of) allowance for loss on decline in value of inventories	4,217,015,603	(394,454,518)	252,179,770	21,182,704
Allowance for obsolete materials and supplies	157,216,972	489,576,605	32,955,250	426,162
Dividends income	(347,322,347)	(5,008,551,267)	(35,265,935,239)	(34,730,340,521)
Income taxes	53,646,552,942	28,306,575,417	30,796,871,638	9,693,556,947
Interest income	(9,435,815,591)	(8,630,246,371)	(3,024,402,378)	(4,072,990,349)
Finance costs	27,627,592,591	29,085,932,422	8,013,269,693	9,683,710,591
Others	93,326,065	495,493,801	317,895,230	296,244,436
Profit from operating activities before changes in operating assets and liabilities	357,215,059,435	353,292,516,988	98,655,433,950	101,322,853,881

Statement of Cash Flows

PTT Public Company Limited and Its Subsidiaries
For the Year Ended December 31, 2018

Unit: Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
(Increase) decrease in operating assets				
Trade accounts receivable	2,430,378,448	(31,208,993,246)	(15,930,100,711)	(19,485,670,907)
Other accounts receivable	(16,941,081,482)	(63,792,200)	(13,611,836,950)	(3,712,173,083)
Inventories	(5,503,049,394)	(5,059,561,391)	(9,382,918,320)	(4,144,835,963)
Materials and supplies	(339,304,377)	1,596,600,015	(141,923,476)	(128,999,649)
Other current assets	(1,193,783,986)	(645,975,404)	669,686,381	(1,408,657,790)
Other non-current assets	(5,765,733,296)	9,774,474,125	(2,553,304,770)	2,276,476,836
Increase (decrease) in operating liabilities				
Trade accounts payable	(2,080,698,278)	10,340,436,623	9,250,098,045	6,265,180,357
Other accounts payable	(1,682,277,929)	13,313,464,270	8,181,472,744	3,342,499,053
Other current liabilities	2,860,720,649	1,236,666,252	(505,988,331)	1,208,547,472
Deposits on LPG cylinders	563,414,702	620,713,290	177,938,200	620,713,290
Other non-current liabilities	(16,391,850,009)	(13,138,672,313)	393,556,331	(538,478,794)
	(44,043,264,952)	(13,234,639,979)	(23,453,320,857)	(15,705,399,178)
Cash received from operating activities	313,171,794,483	340,057,877,009	75,202,113,093	85,617,454,703
Income tax paid	(45,370,805,621)	(33,957,533,365)	(12,330,372,203)	(9,518,222,914)
Net cash provided by operating activities	267,800,988,862	306,100,343,644	62,871,740,890	76,099,231,789

Statement of Cash Flows

PTT Public Company Limited and Its Subsidiaries
For the Year Ended December 31, 2018

Unit: Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Cash flows from investing activities				
Payment of property, plant and equipment and investment properties	(107,143,100,161)	(110,592,672,742)	(22,631,738,393)	(24,530,299,968)
Payment of intangible assets	(2,398,008,012)	(2,467,624,937)	(360,209,801)	(270,320,163)
Payment of exploration and evaluation assets	(1,962,665,601)	(1,783,750,778)	-	-
Payment of long-term rental contracts on land and building	(105,000,000)	(1,205,179,165)	(105,000,000)	(367,053,246)
Payment for available-for-sale investments	(540,509,638)	(7,460,167,117)	(203,209,504)	(208,994,773)
Payment for business acquisition	(36,464,068,838)	-	-	-
Payment of investments in subsidiaries	-	-	(120,635,433,946)	(42,970,876,600)
Payment of investments in joint ventures	(155,360,767)	(26,120,000)	-	-
Payment of investments in associates	(1,368,071,960)	(1,720,396,715)	-	-
Payment of short-term loans	(1,984,409,281)	(96,421,701)	(2,500,000,000)	-
Payment of long-term loans	(118,546,111)	(9,222,035,230)	(26,310,000,000)	(9,391,228,875)
Payment of other long-term investments	(5,226,943,008)	(25,389,774,440)	(4,597,024,955)	(15,490,544,584)
Proceeds from disposals of property, plant and equipment and intangible assets	4,646,909,629	234,613,975	7,235,425,913	1,906,793,546
Proceeds from disposals of available-for-sale investments	2,944,665,157	11,302,907,361	24,501,220	11,152,331,670
Proceeds from disposal of discontinued operations	-	-	117,203,264,773	-
Proceeds from disposals of investments in subsidiaries	-	-	4,618,593,100	1,187,720,000
Proceeds from disposals of investments in joint ventures	33,871,046	13,338,760	-	15,372,927,810
Proceeds from disposals of investments in associates	-	50,625,000	-	-
Proceeds from short-term loans	1,659,754,291	-	409,068,377	-
Proceeds from long-term loans	4,294,182,245	3,158,627,337	36,683,534,122	41,706,801,739
Proceeds from disposal of other long-term investments	2,740,995,830	-	2,494,600,000	-
Proceeds from cancellation of leasehold in gas stations	4,712,511	-	1,400,000	-
Decrease (increase) in current investments	93,820,520,816	(52,837,629,381)	49,529,998,963	(8,890,075,323)
Interest received	8,358,990,106	7,502,500,762	3,500,206,798	7,907,796,264
Dividends received	4,814,106,863	10,014,084,956	35,646,436,864	34,349,838,896
Net cash provide by (used in) investing activities	(34,147,974,883)	(180,525,074,055)	80,004,413,531	11,464,816,393

The accompanying notes are an integral part of these financial statements.

Statement of Cash Flows

PTT Public Company Limited and Its Subsidiaries
For the Year Ended December 31, 2018

Unit: Baht

		Consolidated financial statements		Separate financial statements	
	Notes	2018	2017	2018	2017
Cash flows from financing activities					
Proceeds from issuance of ordinary shares of subsidiaries		92,811,501	3,055,733,910	-	-
Proceeds from treasury shares of subsidiary		-	3,788,793,634	-	-
Proceeds from short-term borrowing loans		-	6,745,004,885	1,564,470,776	1,157,500,451
Proceeds from long-term borrowing loans		143,626,648,847	43,920,200,318	-	-
Proceeds from change in ownership in subsidiaries		4,670,961,898	1,469,533,150	-	-
Proceed from issuance of subordinated capital debentures		-	28,984,700,697	-	-
Repayment of short-term loans		-	(6,745,004,885)	(1,034,818,082)	-
Repayment of long-term loans		(136,795,441,261)	(94,935,791,610)	(28,305,510,732)	(48,286,610,305)
Repayment of finance lease instalments		(974,563,334)	(833,248,584)	(658,200,961)	(544,203,718)
Payment for change in ownership in subsidiaries		(13,872,690,000)	(1,168,629,054)	-	-
Payment for redemption of subordinated capital debentures		-	(29,652,226,277)	-	-
Increase (decrease) in bank overdrafts and short-term loans from financial institutions		4,967,935,595	(12,400,368,717)	-	-
Finance costs paid		(28,147,863,087)	(30,892,735,018)	(10,187,617,565)	(12,463,569,976)
Dividend paid		(85,035,352,791)	(73,833,852,043)	(57,107,862,427)	(51,412,994,498)
Net cash used in financing activities		(111,467,552,632)	(162,497,889,594)	(95,729,538,991)	(111,549,878,046)
Effects of exchange rates on cash and cash equivalents		636,628,646	(750,262,208)	365,772,797	29,204,743
Currency translation differences		3,173,208,725	(11,704,505,264)	-	-
Net increase (decrease) in cash and cash equivalents		125,995,298,718	(49,377,387,477)	47,512,388,227	(23,956,625,121)
Cash and cash equivalents at the beginning of periods		166,189,023,655	215,566,411,132	38,691,660,939	62,648,286,060
Cash and cash equivalents at the end of periods	4	292,184,322,373	166,189,023,655	86,204,049,166	38,691,660,939
Non cash items					
Accounts payable from purchases of property, plant and equipment and investment properties		39,104,581,381	40,793,369,071	3,403,535,367	9,722,454,080
Accounts payable from purchases of intangible assets		268,340,332	281,470,899	39,762,075	177,893,662
Accounts payable from purchase securities		-	49,839,374	-	-

The accompanying notes are an integral part of these financial statements.

Notes to Financial Statements

PTT Public Company Limited and Its Subsidiaries
For the Year Ended December 31, 2018

1. General Information

PTT Public Company Limited (the Company) is incorporated as a public limited company in Thailand, and is listed on the Stock Exchange of Thailand. The address of its incorporated and registered office is as follows:

The Head Office of the Company is located at 555 Vibhavadi-Rangsit Road, Chatuchak, Bangkok, Thailand.

The Group has a status of a state enterprise while the Ministry of Finance is the largest shareholder and is under the supervision of Ministry of Energy.

The Company's principal activity is the operation of its petroleum business. The Company has invested in subsidiaries, joint arrangements and associates (the Group), which are engaged in upstream petroleum and natural gas, downstream petroleum, and other related businesses as described in Note 38 Operating Segments.

2. Basis of Financial Statements Preparation

The consolidated and the separate financial statements have been prepared in accordance with Thai Financial Reporting Standards under the Accounting Act, B.E. 2543. These are Thai Financial Reporting Standards under the Accounting Profession Act, B.E. 2547, including guidelines promulgated by the Federation of Accounting Professions (FAP), and the financial reporting requirements of the Securities and Exchange Commission under the Securities and Exchange Act, B.E. 2535.

The Company has presented the financial statements in compliance with the notification of the Department of Business Development "Definition of the abbreviated components required in the financial statements (No. 2), B.E. 2559", dated October 11, 2016, under the third paragraph of section 11 of the Accounting Act, B.E. 2543.

The consolidated and the separate financial statements have been prepared based on the assumption that users of the financial statements have an understanding of Thai generally accepted accounting principles and practices, which may differ from generally accepted accounting principles adopted in other countries.

The consolidated and the separate financial statements have been prepared under the historical cost convention with the exception of certain amounts, which are accounted for using the fair value method as disclosed in Note 3.2 Significant Accounting Policies.

The significant transactions arising between the Company and subsidiaries have been eliminated from the consolidated financial statements.

2. Basis of Financial Statements Preparation (Continued)

The consolidated and the separate financial statements are prepared and presented in Thai Baht and are rounded in the notes to financial statements to the nearest million unless otherwise stated.

This English translation of the financial statements has been prepared from the statutory financial statements that were issued in Thai language. In the event of a conflict or a difference in interpretation between the two languages, the Thai language statutory financial statements shall prevail.

3. Accounting Policies

3.1 Thai Accounting Standards (TASs), Thai Financial Reporting Standards (TFRSs) and Interpretations (TSICs, TFRICs), effective for accounting periods on or after the current periods and will become effective in the future are as follows:

Effective for accounting periods on or after January 1, 2018

• TAS 1 (revised 2017)	Presentation of Financial Statements
• TAS 2 (revised 2017)	Inventories
• TAS 7 (revised 2017)	Statement of Cash Flows
• TAS 8 (revised 2017)	Accounting Policies, Changes in Accounting Estimates and Errors
• TAS 10 (revised 2017)	Events after the Reporting Period
• TAS 11 (revised 2017)	Construction Contracts
• TAS 12 (revised 2017)	Income Taxes
• TAS 16 (revised 2017)	Property, Plant and Equipment
• TAS 17 (revised 2017)	Leases
• TAS 18 (revised 2017)	Revenue
• TAS 19 (revised 2017)	Employee Benefits
• TAS 20 (revised 2017)	Accounting for Government Grants and Disclosure of Government Assistance
• TAS 21 (revised 2017)	The Effects of Changes in Foreign Exchange Rates
• TAS 23 (revised 2017)	Borrowing Costs
• TAS 24 (revised 2017)	Related Party Disclosures
• TAS 26 (revised 2017)	Accounting and Reporting by Retirement Benefit Plans
• TAS 27 (revised 2017)	Separate Financial Statements

3.1 Thai Accounting Standards (TASs), Thai Financial Reporting Standards (TFRSs) and Interpretations (TSICs, TFRICs), effective for accounting periods on or after the current periods and will become effective in the future are as follows: (Continued)

Effective for accounting periods on or after January 1, 2018 (Continued)

• TAS 28 (revised 2017)	Investments in Associates and Joint Ventures
• TAS 29 (revised 2017)	Financial Reporting in Hyperinflationary Economies
• TAS 33 (revised 2017)	Earnings per Share
• TAS 34 (revised 2017)	Interim Financial Reporting
• TAS 36 (revised 2017)	Impairment of Assets
• TAS 37 (revised 2017)	Provisions, Contingent Liabilities and Contingent Assets
• TAS 38 (revised 2017)	Intangible Assets
• TAS 40 (revised 2017)	Investment Property
• TAS 41 (revised 2017)	Agriculture
• TFRS 2 (revised 2017)	Share-based Payment
• TFRS 3 (revised 2017)	Business Combinations
• TFRS 4 (revised 2017)	Insurance Contracts
• TFRS 5 (revised 2017)	Non-current Assets Held for Sale and Discontinued Operations
• TFRS 6 (revised 2017)	Exploration for and Evaluation of Mineral Resources
• TFRS 8 (revised 2017)	Operating Segments
• TFRS 10 (revised 2017)	Consolidated Financial Statements
• TFRS 11 (revised 2017)	Joint Arrangements
• TFRS 12 (revised 2017)	Disclosure of Interests in Other Entities
• TFRS 13 (revised 2017)	Fair Value Measurement

3.1 Thai Accounting Standards (TASs), Thai Financial Reporting Standards (TFRSs) and Interpretations (TSICs, TFRICs), effective for accounting periods on or after the current periods and will become effective in the future are as follows: (Continued)

Effective for accounting periods on or after January 1, 2018 (Continued)

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|---------------------------|--|
| • TSIC 10 (revised 2017) | Government Assistance - No Specific Relation to Operating Activities |
| • TSIC 15 (revised 2017) | Operating Leases - Incentives |
| • TSIC 25 (revised 2017) | Income Taxes - Changes in the Tax Status of an Entity or its Shareholders |
| • TSIC 27 (revised 2017) | Evaluating the Substance of Transactions Involving the Legal Form of a Lease |
| • TSIC 29 (revised 2017) | Service Concession Arrangements: Disclosure |
| • TSIC 31 (revised 2017) | Revenue - Barter Transactions Involving Advertising Services |
| • TSIC 32 (revised 2017) | Intangible Assets - Web Site Costs |
| • TFRIC 1 (revised 2017) | Changes in Existing Decommissioning, Restoration and Similar Liabilities |
| • TFRIC 4 (revised 2017) | Determining Whether an Arrangement Contains a Lease |
| • TFRIC 5 (revised 2017) | Rights to Interests arising from Decommissioning, Restoration and Environmental Rehabilitation Funds |
| • TFRIC 7 (revised 2017) | Applying the Restatement Approach under TAS 29 (revised 2017) Financial Reporting in Hyperinflationary Economies |
| • TFRIC 10 (revised 2017) | Interim Financial Reporting and Impairment |
| • TFRIC 12 (revised 2017) | Service Concession Arrangements |
| • TFRIC 13 (revised 2017) | Customer Loyalty Programmes |

3.1 Thai Accounting Standards (TASs), Thai Financial Reporting Standards (TFRSs) and Interpretations (TSICs, TFRICs), effective for accounting periods on or after the current periods and will become effective in the future are as follows: (Continued)

Effective for accounting periods on or after January 1, 2018 (Continued)

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|---------------------------|--|
| • TFRIC 14 (revised 2017) | TAS 19 (revised 2017) - The Limit on a Defined Benefit Asset, Minimum Funding Requirements and their Interaction |
| • TFRIC 15 (revised 2017) | Agreements for the Construction of Real Estate |
| • TFRIC 17 (revised 2017) | Distributions of Non-cash Assets to Owners |
| • TFRIC 18 (revised 2017) | Transfers of Assets from Customers |
| • TFRIC 20 (revised 2017) | Stripping Costs in the Production Phase of a Surface Mine |
| • TFRIC 21 (revised 2017) | Levies |

Effective for accounting periods on or after January 1, 2019

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|-------------------------|--|
| • TAS 1 (revised 2018) | Presentation of Financial Statements |
| • TAS 2 (revised 2018) | Inventories |
| • TAS 7 (revised 2018) | Statement of Cash Flows |
| • TAS 8 (revised 2018) | Accounting Policies, Changes in Accounting Estimates and Errors |
| • TAS 10 (revised 2018) | Events after the Reporting Period |
| • TAS 12 (revised 2018) | Income Taxes |
| • TAS 16 (revised 2018) | Property, Plant and Equipment |
| • TAS 17 (revised 2018) | Leases |
| • TAS 19 (revised 2018) | Employee Benefits |
| • TAS 20 (revised 2018) | Accounting for Government Grants and Disclosure of Government Assistance |
| • TAS 21 (revised 2018) | The Effects of Changes in Foreign Exchange Rates |

3.1 Thai Accounting Standards (TASs), Thai Financial Reporting Standards (TFRSs) and Interpretations (TSICs, TFRICs), effective for accounting periods on or after the current periods and will become effective in the future are as follows: (Continued)

Effective for accounting periods on or after January 1, 2019 (Continued)

• TAS 23 (revised 2018)	Borrowing Costs
• TAS 24 (revised 2018)	Related Party Disclosures
• TAS 26 (revised 2018)	Accounting and Reporting by Retirement Benefit Plans
• TAS 27 (revised 2018)	Separate Financial Statements
• TAS 28 (revised 2018)	Investments in Associates and Joint Ventures
• TAS 29 (revised 2018)	Financial Reporting in Hyperinflationary Economies
• TAS 33 (revised 2018)	Earnings per Share
• TAS 34 (revised 2018)	Interim Financial Reporting
• TAS 36 (revised 2018)	Impairment of Assets
• TAS 37 (revised 2018)	Provisions, Contingent Liabilities and Contingent Assets
• TAS 38 (revised 2018)	Intangible Assets
• TAS 40 (revised 2018)	Investment Property
• TAS 41 (revised 2018)	Agriculture
• TFRS 1	First-time Adoption of International Financial Reporting Standards
• TFRS 2 (revised 2018)	Share-based Payment
• TFRS 3 (revised 2018)	Business Combinations
• TFRS 4 (revised 2018)	Insurance Contracts
• TFRS 5 (revised 2018)	Non-current Assets Held for Sale and Discontinued Operations
• TFRS 6 (revised 2018)	Exploration for and Evaluation of Mineral Resources
• TFRS 8 (revised 2018)	Operating Segments
• TFRS 10 (revised 2018)	Consolidated Financial Statements
• TFRS 11 (revised 2018)	Joint Arrangements

3.1 Thai Accounting Standards (TASs), Thai Financial Reporting Standards (TFRSs) and Interpretations (TSICs, TFRICs), effective for accounting periods on or after the current periods and will become effective in the future are as follows: (Continued)

Effective for accounting periods on or after January 1, 2019 (Continued)

• TFRS 12 (revised 2018)	Disclosure of Interests in Other Entities
• TFRS 13 (revised 2018)	Fair Value Measurement
• TFRS 15	Revenue from Contracts with Customers
• TSIC 10 (revised 2018)	Government Assistance - No Specific Relation to Operating Activities
• TSIC 15 (revised 2018)	Operating Leases - Incentives
• TSIC 25 (revised 2018)	Income Taxes - Changes in the Tax Status of an Entity or its Shareholders
• TSIC 27 (revised 2018)	Evaluating the Substance of Transactions Involving the Legal Form of a Lease
• TSIC 29 (revised 2018)	Service Concession Arrangements: Disclosure
• TSIC 32 (revised 2018)	Intangible Assets - Web Site Costs
• TFRIC 1 (revised 2018)	Changes in Existing Decommissioning, Restoration and Similar Liabilities
• TFRIC 4 (revised 2018)	Determining Whether an Arrangement Contains a Lease
• TFRIC 5 (revised 2018)	Rights to Interests arising from Decommissioning, Restoration and Environmental Rehabilitation Funds
• TFRIC 7 (revised 2018)	Applying the Restatement Approach under TAS 29 (revised 2018) Financial Reporting in Hyperinflationary Economies
• TFRIC 10 (revised 2018)	Interim Financial Reporting and Impairment
• TFRIC 12 (revised 2018)	Service Concession Arrangements
• TFRIC 14 (revised 2018)	TAS 19 (revised 2018) - The Limit on a Defined Benefit Asset, Minimum Funding Requirements and their Interaction

3.1 Thai Accounting Standards (TASs), Thai Financial Reporting Standards (TFRSs) and Interpretations (TSICs, TFRICs), effective for accounting periods on or after the current periods and will become effective in the future are as follows: (Continued)

Effective for accounting periods on or after January 1, 2019 (Continued)

- | | |
|---------------------------|---|
| • TFRIC 17 (revised 2018) | Distributions of Non-cash Assets to Owners |
| • TFRIC 20 (revised 2018) | Stripping Costs in the Production Phase of a Surface Mine |
| • TFRIC 21 (revised 2018) | Levies |
| • TFRIC 22 | Foreign Currency Transactions and Advance Consideration |

Effective for accounting periods on or after January 1, 2020

- | | |
|------------|---|
| • TAS 32 | Financial Instruments: Presentation |
| • TFRS 7 | Financial Instruments: Disclosures |
| • TFRS 9 | Financial Instruments |
| • TFRIC 16 | Hedges of a Net Investment in a Foreign Operation |
| • TFRIC 19 | Extinguishing Financial Liabilities with Equity Instruments |

The management of the Group has assessed impacts of the application of the amended Thai Accounting Standards, Thai Financial Reporting Standards, Thai Standard Interpretations, and Thai Financial Reporting Interpretations; which are applicable to annual reporting periods beginning on or after 1 January 2019. It is believed that employing amended standards have no significant impact on both Consolidated Financial Statement and Separate Financial Statement. The standards, which will be applied for annual reporting periods beginning on or after January 1, 2020, are still under impact evaluation of the first-time application of the standards and interpretations. In addition, the Group has no plan for the early application of such standards.

3.2 Significant Accounting Policies

3.2.1 Cash and Cash Equivalents

Cash and cash equivalents comprise cash on hand, deposits held at call with banks and other short-term highly liquid investments which have original maturities within three months. Bank overdrafts and short-term loans from financial institutions are included in current liabilities in the statements of financial position.

3.2.2 Trade Accounts and Other Accounts Receivable

Trade accounts and other accounts receivable are carried at net realizable value. Allowance for doubtful accounts are estimated based on uncollectible amounts estimating from outstanding receivables at the statement of financial position date based on collection experience of their current financial status, also with percentage of debt aging. Doubtful account is recorded as administrative expenses in profit or loss.

3.2.3 Inventories

Inventories are stated at the lower of cost and net realizable value. The cost is calculated by using the weighted average cost method. The cost of inventory comprises total purchasing costs, payments related to purchasing, discounts, quantity discounts, as well as contributions to or compensation from taxes and several funds. Net realizable value is calculated from estimated selling price in the ordinary course of business, less the costs of completion and related selling expenses. When net realizable value of inventories is lower than cost of acquisition, it is presented under cost of goods sold in the statement of income. An allowance for obsolescence of inventories will be recognized when inventories are obsoleted or defected.

3.2.4 Materials and Supplies

Materials and supplies are stated at cost calculated by using the weighted average cost method, less allowance for obsolescence of material and supplies when there are obsolete, defective or unserviceable items.

3.2.5 Non-current Assets and Liabilities Held-for-sale

Disposed assets or asset groups, including non-current assets and liabilities held-for-sale, are classified as asset held-for-sale if their carrying amounts will be recovered through a sale transaction rather than through continuing use. This condition is met only when the sale is highly probable and the asset is available for immediate sale in its present condition, subject only to terms that are usual and customary for sales of such assets. Management must commit to the sale of the assets and they must be actively marketed at a price that is reasonable compared to their current fair value, with the expectation that sale should be recorded as completed within one year from the date of classification. These disposed assets or asset groups are measured at the lower of carrying amount and fair value less costs to sell.

The Group ceases to depreciate and amortize property, plant and equipment and intangible assets from the date the assets meet the criteria for classification as assets held-for-sale. The Group continues to recognize liabilities, including interests and other expenses attributable to liabilities classified as held-for-sale.

3.2.6 Investments in Subsidiaries

Subsidiaries are those companies which directly or indirectly controlled by the parent company. Control exists when the parent company has the power over the subsidiaries so as to obtain variable returns from the involvement with the subsidiaries and has the ability to affect those returns through the power over the subsidiaries. In case of the parent company has voting rights less than half of total voting rights in subsidiaries, the parent company will reconsider the related facts and circumstances in order to determine whether the parent company has the power to control over such subsidiaries or not.

The financial statements of subsidiaries are included in the consolidated financial statements from the date that the control commences until the date that the control ceases.

The parent company allocates profit or loss and each component of other comprehensive income or loss to the equity attributable to owners of the parent and the non-controlling interests even if this results in a deficit non-controlling interest balance.

The purchase method of accounting is used to account for business combinations, except the business combination under common control. The cost of a business combination is measured as the sum of fair value of any consideration transferred, the recognized amount of any non-controlling interest in the acquiree, and the fair value of the existing equity interest as of the purchasing date (if the business combination is achieved in stages).

- For each business combination, the Group measures the recognized amount of any non-controlling interest in the acquiree at either the fair value or the non-controlling interest's proportionate share of the net of identifiable assets of the acquiree.
- In the case of a business combination achieved in stages, the Group measures the acquisition-date fair value of the acquirer's previously-held equity interest in the acquiree and recognized gains or losses in statement of income.
- Costs related to the acquisition, including professional fees, advisory fees and other consulting fees, are recognized as expenses in statement of income.

The Group measures the identifiable assets and liabilities acquired at fair value as of the acquisition date.

Any changes in the equity interest in subsidiaries of the Group while control is retained are recorded as surplus (deficit) from the changes in the ownership interests in subsidiaries in equity.

Upon the disposal of investments, the difference between the net disposal proceeds and the carrying amount of the investments is recorded in profit or loss.

Investments in subsidiaries have been presented in the separate financial statements under the cost method.

The list of investments in subsidiaries of the Group and proportion of ownership interests have been set out in Note 14.

3.2.7 Investments in Joint Ventures and Associates

Joint ventures are joint arrangement whereby the Group has joint control of the arrangement and has rights to the net assets of the arrangement. The joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require the unanimous consent of the parties sharing control.

Associates are those companies in which the Group has significant influence, but not control or joint control, over the financial and operating policies.

The Group uses the purchase method to record the acquisition of joint ventures and associates, except the business combination under common control. Acquisition costs which are higher than fair value of identifiable assets and liabilities of the Group's equity interest in joint ventures and associates are recorded as goodwill and included in the investment in joint ventures and associates.

The consolidated financial statements of the Group include the share of profit and loss from joint ventures and associates under equity method, from the date that significant influence commences until the date that significant influence ceases. Unrealized gains or losses on transactions between the Group and its joint ventures and associates are eliminated to the extent of the Group's interest in the joint ventures and associates unless the transactions provide evidence of impairment of the transferred assets.

The Group records share of profit or loss from joint ventures and associates in proportion to the Group's equity interest in those gains and losses. Any dividends received from joint ventures and associates are deducted from the book value of the investments.

When the Group's share of loss in joint ventures and associates equals or exceeds its interest in the joint ventures and associates, the Group does not recognize further losses, unless the Group has incurred collateral or constructive obligations or made payments on behalf of the joint ventures and associates.

Upon the disposal of investments, the difference between the net disposal proceeds and the carrying amount of the investments is recorded in profit or loss.

Investments in joint ventures and associates have been presented under the cost method in the separate financial statements and under the equity method in the consolidated financial statements.

The list of investments in joint ventures and associates of the Group and proportion of ownership interests have been set out in Note 14.

3.2.8 Joint Operations

Joint operations are joint arrangement whereby the Group has rights to assets and obligations relating to the joint arrangement. The Group has recognized assets, liabilities, revenues and expenses by the portion of joint operations in the separate and the consolidated financial statements from the date that joint control commences until the date that joint control ceases.

The list of joint operations of the Group and transactions relating to its involvements have been set out in Note 14.

3.2.9 Other Investments

Investments other than investments in subsidiaries, joint ventures, and associates are classified as available-for-sale investments and other long-term investments.

Investments in equity securities and mutual funds that are marketable securities are classified as available-for-sale investments and carried at fair value in the statements of financial position. Any changes in value are recognized as gain (loss) from fair value measurement of available-for-sale investments in other comprehensive income or loss and accumulated amounts are accumulated differences are presented in other components of equity under equity.

Investments in non-marketable equity securities, which are classified as other long-term investments, are carried at cost net of allowance for impairment in the statement of financial position. Impairment testing is performed when there is a factor indicating that the investment might be impaired. If the carrying amount of the investment is higher than its recoverable amount, impairment losses are recognized in profit or loss immediately.

Investment in held-to-maturity debt securities which an entity intends and has an ability to hold until the maturity date are classified as other long-term investments and carried at amortised cost in the statement of financial position. The Group will record loss on impairment in the statement of income immediately when it is highly probable that the Group cannot collect entire/some principals or interests as state in contracts.

Upon the disposal of investments, the difference between the net disposal proceeds and the carrying amount is recognized in profit or loss. When the available-for-sale investments are disposed, the Group will record the cumulative amount of fair value in other components of equity under equity as gain (loss) on disposal of investments. When disposing of some parts of the Group's particular investment in debt or equity securities, the carrying amount of the part disposed is calculated by using the weighted average carrying amount of the total holding of the investment.

3.2.10 Related Parties

Related parties of the Company are those enterprises or individuals that control or are controlled by the Company, or are under common control with the Company, including holding companies of subsidiaries and fellow Group subsidiaries, as well as those that have equity interests in the Company that result in significant influence or joint control over the Company. In addition, related parties include associates, joint ventures, the management and directors of the Company, and entities which the management or directors of the Company, directly or indirectly, control, jointly controlled, or have significant influence.

In considering each possible related party relationship, attention is directed more to the substance of the relationship than to the legal form.

3.2.11 Foreign Currency Translation

The consolidated financial statements and the separate financial statements have been presented in Thai Baht, which is the Company's functional currency. Transactions of each company included in the consolidated financial statements are recorded in their own functional currencies.

Foreign currency transactions are translated into functional currency at the exchange rates prevailing at the transaction date. Monetary assets and liabilities at the statements of financial position date denominated in foreign currencies are translated into functional currency at the exchange rate prevailing at that date. Gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies are recognized in profit or loss.

Assets and liabilities of foreign operations, that presentation currencies are foreign currencies, are translated into Thai Baht using the closing rate at the statements of financial position date. Revenues and expenses are translated into Thai Baht using the average rate during the period. Differences arising from currency translation are included in other comprehensive income and accumulated differences are presented in other components of equity under equity.

Upon the disposal of self-sustaining foreign entities, accumulated currency translation differences under shareholders' equity are recognized as gains or losses on disposal.

3.2.12 Borrowing Costs

Borrowing costs comprise interest and other costs associated with the borrowings. Borrowing costs incurred on qualifying assets are capitalized as a cost of the qualifying property until all the activities necessary to prepare the property for its intended use are substantially completed. When funds are specifically borrowed for the construction or the production of asset, the amount of borrowing costs capitalized is determined from the actual borrowing costs during the year less any income on the temporary investment of those borrowings. When funds are borrowed for general purpose, the Group multiplies the capitalization rate by the capital expenditure in allocating borrowing costs to costs of assets.

All other borrowing costs are expensed in the period they incurred.

3.2.13 Investment Properties

Investment properties are initially recognized at cost, including expenses directly associated with the asset acquisition, less accumulated depreciation and allowance for impairment.

The Group has selected the cost model for accounting for its investment properties. This model is in accordance with that described in the accounting policy for property, plant and equipment.

Depreciation is recorded as expenses in profit or loss and is calculated using the straight-line method over the estimated useful lives of the assets, which range from 5 to 30 years. Land and construction in progress are not depreciated.

3.2.14 Property, Plant and Equipment

Property, plant and equipment are initially recognized at cost less accumulated depreciation and allowance for impairment. The costs comprise any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating. These include decommissioning costs, delivery and restoration costs, and any obligation associated with either its acquisition or a consequence of having used the items.

Repair and maintenance costs are recognized in profit or loss during the financial period in which they are incurred. The costs of significant asset improvements, major turnarounds and inspections are included in the carrying amount of the asset. In case of replacement, the Group writes off carrying value of replaced items.

The Group depreciates each significant component of property, plant and equipment separately.

The Group estimates the residual value of the property, plant and equipment based on current assessment of the amount that would currently obtain from disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life.

The Group reviews the residual value, the useful lives and depreciation methods of assets at least once a year.

Depreciation is recorded as expenses in profit or loss and is calculated using the straight-line method or unit of production method over the estimated useful lives of the assets, which are as follows:

Buildings and building improvements	2 - 40 years
Machinery and equipment	2 - 40 years
Petroleum exploration and production properties	5 - 30 years or unit of production
Mining properties	Unit of production
Other assets	3 - 30 years

Land and construction in progress are not depreciated.

Gains or losses on disposal of property, plant and equipment are determined by comparing the proceeds from sales with the carrying amounts on the disposal dates, and are recorded in statement of income when incurred.

Petroleum Exploration and Production Properties

The petroleum exploration and production business accounts for its petroleum exploration and production properties in accordance with the successful efforts method for which the accounting policies are as follows:

Cost of Properties

The cost of properties comprises the total acquisition costs of petroleum rights or the acquisition costs of the portion of properties, decommissioning costs, as well as support equipment and facilities.

3.2.14 Property, Plant and Equipment (Continued)

Cost of Properties (Continued)

Exploratory drilling costs are capitalized as petroleum exploration and evaluation assets, and will be classified as petroleum exploration and production properties of the projects if their exploratory wells have identified proved reserves that have been found to be commercially producible. However, if the exploratory wells have not identified proved reserves or have identified proved reserves but have not been found to be commercially producible, such drilling costs will be expensed in the statement of income when incurred.

Exploratory costs, comprising geological and geophysical costs as well as area reservation fees during the exploration stage, are charged as expenses in the statement of income when incurred.

Development costs, whether relating to successful or unsuccessful development wells, are capitalized and classified as assets.

Depreciation

The capitalized acquisition costs of petroleum rights are depreciated using the unit of production method based on proved reserves. Depreciation of exploratory wells, development costs as well as decommissioning costs, except unsuccessful projects, are calculated using the unit of production method based on proved reserves or proved developed reserves. The Group recognizes changes in reserve estimates prospectively.

Depreciation of support equipment, facilities and pipelines are determined using the straight-line method over the useful lives of assets.

Proved reserves and proved developed reserves are calculated by the Group's own engineers and are based on the information received from the joint operators.

Carried Cost under Petroleum Sharing Contracts

The petroleum exploration and production business records the carried costs under Petroleum Sharing Contracts using the following accounting policies:

Under Petroleum Sharing Contracts in which the government has a participating interest, some contracts require the contracting parties, excluding the government, to fund the costs of all exploration operations until the first development area is determined. During the exploration period, the contracting parties will carry an agreed upon proportion of the government's exploration costs (Carried Costs). When the project commences production, such carried costs will be fully recouped or recovered without interest by the contracting parties from the production of petroleum under the agreed procedures. The Group classifies the carried costs based on petroleum activities under the successful efforts method. The majority of them are recognized in petroleum exploration and production properties, exploration and petroleum exploration and evaluation assets in the statement of financial position and exploration expenses in the statement of income.

3.2.14 Property, Plant and Equipment (Continued)

Mining Properties

The coal business accounts for its coal exploration and production properties, including coal mining property rights and deferred mining exploration and development expenditures, by the accounting policies as follows:

Coal Mining Property Rights

Coal mining property rights comprise the total acquisition costs of concession rights in coal mining including both coal mining exploration and development expenditures.

Deferred Mining Exploration and Development Expenditures

Development expenditures and costs of area development are capitalized as mining properties under exploration and evaluation assets and will be classified as mining properties under property, plant and equipment if they meet the criteria and it is highly probable that they can create future economic benefit. However, if it is proved that they cannot create future economic benefit, development expenditures and costs of area development will be fully expensed in the statement of income when incurred.

Depreciation

The capitalized acquisition costs of mining properties are depreciated using the unit of production method based on proved reserves.

The volume of proportional production and the useful lives of coal mining concessions are estimated and reviewed by the Group.

3.2.15 Goodwill

The Group initially records goodwill at cost, which equals to the excess of the acquisition costs over the fair value of the net assets acquired, and carries out a test for impairment of goodwill at least once a year or when there are circumstances indicate that an investment might be impaired. Where the fair value of the net assets exceeds the cost of acquisition at the acquisition date, the excess is recognized as a gain in the statement of income.

To test for impairment, the Group allocates goodwill from business combinations to each cash-generating unit (or group of cash-generating units) that is expected to receive benefit from the synergies of the combination. The Group evaluates the recoverable amount of each cash-generating unit (or group of cash-generating units) and if it is lower than the carrying amount of the unit, the Group recognizes impairment losses in profit or loss. Impairment losses of goodwill will not be reversed.

3.2.16 Intangible assets

Intangible assets are initially recognized at cost less accumulated amortization and allowance for impairment. Amortization is recorded as expenses in profit or loss.

The Group records the initial costs of intangible assets from business combination at the acquisition-date fair value of the assets. Intangible assets from other sources are initially recognized at their costs.

Intangible assets include computer software licenses, asset rights such as gas transmission pipelines, and other intangible assets, such as other operating rights, patents, and customer contracts.

Intangible assets are amortized and recorded as expenses in profit or loss using the straight-line method over the useful lives of the assets which range from 3 to 40 years, except customer contracts which are amortized based on estimated sales volume.

The Group reviews the residual value, useful lives and amortization methods of intangible assets at least once a year.

3.2.17 Exploration and Evaluation Assets

Petroleum Exploration and Evaluation Assets

Petroleum exploration and evaluation expenditures are capitalized at cost as exploration and evaluation assets. If the projects have identified the proved reserves that have been found to be commercially producible, the capitalized exploration and evaluation expenditures under these projects will be transferred to petroleum exploration and production properties under property, plant and equipment, which are subsequently measured as stated in Note 3.2.14.

The capitalized exploration and evaluation expenditure is charged to statement of income in the period in which the projects have not identified proved reserves or have identified proved reserves, but have not been found to be commercially producible.

Mining Properties

Exploration and evaluation expenditures are capitalized as assets at cost, where:

- a) Such costs are expected to be recovered when the areas are successfully developed and mining operations commence, or from the sales of the areas of interest.
- b) Exploration activities in the areas of interest have not reached the stage which permits a reasonable assessment of the existence of commercial recoverable reserves, and exploration activities in the areas of interest are continuing.

Exploration and evaluation expenditures which do not meet the above criteria will be fully expensed in profit or loss. If the areas are developed and mining operations commence, exploration and evaluation expenditures that capitalized as assets will reclassify to mining properties under property, plant and equipment, which are subsequently measured as stated in Note 3.2.14.

3.2.18 Impairment of Assets

The Group performs the following tests for impairment of assets:

- Goodwill is performed annually or whenever there is an indication that the asset may be impaired.
- Investment properties, property, plant and equipment, intangible assets and exploration and evaluation assets are performed whenever there is an indication that the assets may be impaired.

The Group recognizes an impairment loss when the recoverable amount of an asset is lower than its carrying amount, which is the higher of the asset's fair value less cost to sell and its value in use. The Group determines value in use by estimating the present value of future cash flows generated by the asset, discounted using a pre-tax discount rate which reflects current market assessments of the time value of money and the risk specific to the asset. In determining fair value less costs to sell, an appropriate valuation model is used. The calculation reflects the amount that the Group could obtain from the disposal of the asset after deducting the costs of disposal. Fair value means the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

The Group recognizes an impairment loss in profit or loss.

3.2.19 Leases

Finance Leases - Where the Group is the Lessee

Leases of property, plant and equipment, where the Group assumes substantially all the risks and rewards of ownership are classified as finance leases. The leased assets are capitalized at the lower of the estimated net present value of the underlying minimum lease payments or fair value of assets. Each minimum lease payment is allocated between liabilities and finance costs in order to achieve a constant interest rate on the remaining balance of the liabilities. The finance leases' liabilities less finance costs are presented as long-term loans. Finance costs are charged to profit or loss over the lease period. Depreciation is charged over the shorter of the useful life of the asset or the lease period.

Finance Leases - Where the Group is the Lessor

Leases of property, plant and equipment under which the Group transfers substantially all the risks and rewards of ownership to lessees are classified as finance leases. The Group realizes the leased assets under asset in the statement of financial position as loans at an amount equal to the net investment in the lease, and allocates finance income based on a pattern reflecting a constant periodic rate of return on the lessor's net investment outstanding in respect of the finance lease.

3.2.19 Leases (Continued)

Operating Leases - Where the Group is the Lessee

Leases of assets where the lessor assumes a significant portion of the risks and rewards of ownership are classified as operating leases. Payments made under operating leases are charged to profit or loss using the straight-line method over the period of the lease.

The costs incurred upon termination of the operating lease agreements prior their maturity, such as penalty paid to the lessor, are recognized as expenses in the period in which the termination takes place.

Operating Leases - Where the Group is the Lessor

Leases of assets where the lessor assumes a significant portion of the risks and rewards of ownership are classified as operating leases. The assets held for operating leases are stated at cost and presented in the statement of financial position according to the nature of the assets. The group recognizes costs, including depreciation, relating to rental income as expenses and recognizes lease income over the lease term on a straight-line basis.

Accounting for an Arrangement Contains a Lease

The Group determined whether an arrangement contains a lease based on the substance of the arrangement. The arrangement contains a lease which depends on the use of a specific asset and the arrangement conveying to the purchaser (lessee) the right to control the use of the underlying asset.

The Group separates payments for the lease and other elements on the basis of their relative fair values. If the Group concludes that it is a finance lease but it is impracticable to separate the payments reliably, the Group will recognize an asset and a liability at an amount equal to the fair value of the underlying asset. Subsequently, the liability is reduced as payments are made and an imputed finance cost on the liability recognized using the Group's incremental borrowing rate of interest.

3.2.20 Income Taxes

Current Tax

The Group is taxed on its non-promoted businesses pursuant to the Revenue Code of Thailand, the Petroleum Income Tax Act, B.E. 2514 and Amendment, B.E. 2532 and other laws and regulations related to corporate income tax of other countries in which the Group has invested.

Current tax is the expected tax payable on the taxable profit for the year, using tax rates enacted at the statements of financial position date in the taxable period, and any adjustment to tax payable in respect of previous years.

3.2.20 Income Taxes (Continued)

Deferred Tax

Deferred tax is recognized in the statements of financial position using the liability method for temporary differences between tax base of assets and liabilities and the carrying amounts in the financial statements. The principal temporary differences in consolidated financial statements arise from property, plant and equipment, provisions for employee benefit, provision for decommissioning costs, and cumulative loss carried forward.

Deferred tax is measured using the tax rates enacted at the statements of financial position date.

Deferred tax assets are recognized to the extent that it is highly probable that the future taxable profits of the Group will be available against which the temporary differences can be utilized. Deferred tax assets are reduced to the extent that it is no longer probable that the related tax benefits will be realized.

The Group recognized deferred tax as income or an expense and included in profit or loss for the period, except to the extent that the tax arises from a transaction or event which is recognized outside profit or loss, either in other comprehensive income or directly in equity, or a business combination.

Deferred tax assets and liabilities can only be offset if the entity has the legal right to settle on a net basis and the deferred tax balances relate to the same taxation authority.

The Group offsets deferred tax assets and deferred tax liabilities for presentation in the statement of financial position.

3.2.21 Advance Payments for Gas Purchased under Take-or-Pay Agreements

The Company has entered into gas purchase agreements with natural gas producers, under which the Company is required to take delivery of natural gas at annual minimum quantities. During each contract year, if the Company cannot accept natural gas according to the minimum quantities under the agreements, it is required to pay for the volume of natural gas which it cannot actually take (Take-or-Pay). After the end of each contract year, the Company and the natural gas producers have to agree on and accept the volume of gas that should be taken into the calculation of Take-or-Pay for that contract year, which is subject to the basis and conditions in the agreements. Under the agreements, the Company can take certain volumes of prepaid gas (Make-up) in subsequent years after taking delivery of natural gas at the minimum quantities for that given contract year. The Company recognizes its obligations under the agreements as advance payments for gas purchased.

3.2.22 Provision for Decommissioning Costs

The Group records a provision for decommissioning costs whenever it is highly probable that an obligation will arise as a result of a past event and the amount of the obligation can be reliably estimated.

The Group recognizes a provision for decommissioning costs based on an estimate of the eventual costs relate to the removal of petroleum exploration and production properties and plant and equipment. These costs are included as part of the cost of the assets and are amortized based on proved reserves using the unit of production method and the straight-line method over the estimated useful lives of the assets, respectively. The estimates of decommissioning costs are determined based on reviews and estimates by the Group's engineers and management's judgment.

3.2.23 Provisions for Employee Benefit

Provisions for employee benefit of the Group are measured and recognized as follows:

1. Short-term employee benefits are recognized in profit or loss as expenses when incurred.
2. Post-employment benefits - defined contribution plans
The Company and its employees have jointly established a provident fund. The fund is monthly contributed by employees and by the Group. The fund's assets are held in a separate trust fund and the Group's contributions are recognized as expenses in profit or loss when incurred.
3. Post-employment benefits - defined benefit plans
The provisions under the defined benefit plan is determined based on actuarial techniques, using the projected unit credit method, in order to determine present value of the provisions and be recognized as a liability in the statements of financial position. Current service cost, past service cost, net interest on the net defined benefit liability are recognized as expenses in profit or loss. Remeasurements of the net defined benefit liability or asset, including actuarial gains and losses are recognized in other comprehensive income and accumulated amounts are recognized as retained earnings in equity.
4. Other long-term employment benefits
The provisions under the defined benefit plan is determined based on actuarial techniques, using the projected unit credit method, in order to determine present value of the provisions and be recognized as a liability in the statements of financial position. Current service cost, past service cost, net interest on the net defined benefit liability are recognized as expenses in profit or loss. Remeasurements of the net other long-term benefit liability or asset, including actuarial gains and losses are recognized in profit or loss immediately.
5. Termination benefits are recognized as a liability and an expense when, and only when, the Company is demonstrably committed to either:
 - Terminate the employment of an employee or a group of employees before the normal retirement date; or
 - Provide termination benefits as a result of an offer made in order to encourage voluntary redundancy.

3.2.24 Revenue Recognition

The Group recognizes revenue from sales upon the delivery of products or when the significant risks and rewards of ownership are transferred to the customers. Revenue from services is recognized over the period in which the services are rendered, taking into account the stage of completion. These revenues are net of trade discounts.

Other revenue is recognized on the following basis:

- | | |
|-----------------|---|
| Interest income | - Time proportion basis using the effective yields of interest bearing assets |
| Royalty income | - Accrual basis in accordance with the substance of the relevant agreements |
| Dividend income | - When the right to receive the dividend is established. |

3.2.24 Revenue Recognition (Continued)

Loyalty programmes

The Group has a customer loyalty programme whereby customers are awarded credits (Points) entitling them to the right to purchase products from the Group at a discount or qualify for a free gift. The fair value of the consideration received or receivable in respect of the initial sale is allocated between the Points and the other components of the sale. The amount allocated to the Points is estimated by reference to the fair value of the right to purchase products at a discount or fair value of the free gift. The fair value is estimated based on the amount of the discount adjusted to take into account the expected forfeiture rate. Such amount is deferred and recognised as revenue only when the Points are redeemed and the Group has fulfilled its obligations to supply the products. The amount of revenue recognised in those circumstances is based on the number of Points that have been redeemed in exchange for discounted products, relative to the total number of Points that is expected to be redeemed. In addition, deferred revenue is also released to profit or loss when it is no longer considered probable that the Points will be redeemed.

Revenue from sources other than those mentioned above is recognized using the accrual basis.

3.2.25 Government Grants

Government grants, including non-monetary grants, are recognized where there is reasonable assurance that the recipient will comply with all attached conditions and that the grant will be received. The Group recognizes the grants as income on a systematic basis over the periods for which the costs that the government grants are compensating. The Group recognizes the grants as a part of income in profit or loss.

3.2.26 Earnings per Share

Basic earnings per share is calculated by adjusting the profit attributable to owners of the parent with interests and other items related to subordinated capital debentures net of taxes related to such debentures and dividing the adjusted profit by the weighted average number of ordinary shares held by third parties during the year.

3.2.27 Financial Instruments

Financial assets in the statements of financial position include cash and cash equivalents, current investments, trade accounts receivable, other accounts receivable, available-for-sale investments, other long-term investments, lending loans, and derivative assets. Financial liabilities in the statements of financial position include bank overdrafts and short-term loans from financial institutions, trade accounts payable, other accounts payable, loans, and derivative liabilities. The particular recognition methods adopted are disclosed in the individual policy statements associated with each item.

3.2.27 Financial Instruments (Continued)

The Group uses financial instruments to reduce its risk exposure associated with fluctuations in foreign currency exchange rates, interest rates as well as oil and product market prices. These instruments primarily comprise:

Forward Foreign Exchange Contracts

Forward foreign exchange contracts protect the Group from fluctuations in exchange rates by establishing the rates at which foreign currency assets will be realized or foreign currency liabilities will be settled. Forward foreign exchange contracts are recognized in the financial statements at inception. The premium or discount on the establishment of each agreement is amortized over the contract period.

Cross-currency and Interest Rate Swap Contracts

Cross-currency and interest rate swap contracts protect the Group from fluctuations in exchange rates and interest rates. Foreign currency financial assets and liabilities as at the statements of financial position date are protected by cross-currency contracts. The Group recognizes the total amount of interest received from/paid to the counterparties, according to derivatives under cross-currency and interest rate swap contracts in finance costs using the accrual basis and recognizes derivative assets/liabilities of cross-currency and interest rate swap contracts at fair value at the end of reporting period, in the statements of financial position. The Group recognizes movements in the fair value of derivatives in profit or loss.

Oil and Products Hedging Contract

The hedging contracts of oil and product prices aim to reduce the risk exposure associated with fluctuations in the global oil and product market prices in accordance with its purchase and sale agreements by determining its future prices. Gains or losses arising from these contracts are recorded in profit or loss at the maturity date of the contracts.

The risk management policy is described in Note 39.

Hedge Accounting

The Group considers hedge accounting criteria as follows:

For fair value hedges, a change in fair value of the hedging instruments and a change in fair value of the hedged items attributable to the risk being hedged are both recognized in profit or loss.

For cash flow hedges, a change in fair value of the effective portion of the hedging instrument is recognized in other comprehensive income, while a change in fair value of the ineffective portion of the hedging instruments is recognized in profit or loss.

3.2.28 Fair Value Measurement

The Group has measured fair value and disclosed the information relating to fair value measurement in accordance with TFRS 13 (revised 2017) “Fair Value Measurement”. The guidance under this standard will be applied when the Group requires to measure any assets and liabilities at fair value under relevant standards.

The Group uses the market approach to measure their assets and liabilities that are required to be measured at fair value by relevant financial reporting standards, except that the cost approach or income approach is used when there is no active market or a quoted market price is not available.

Fair Value Hierarchy

In applying the above-mentioned valuation techniques, the Group endeavors to use relevant observable inputs as much as possible by determining a fair value hierarchy that categorizes inputs into three levels as follows:

- Level 1 Use of quoted market prices in an observable active market for such assets or liabilities
- Level 2 Use of other observable inputs for such assets or liabilities, whether directly or indirectly
- Level 3 Used of unobservable inputs for such assets or liabilities such as the Group's estimates of future cash flows

3.2.29 Use of Estimates and Significant Assumptions

The preparation of financial statements in conformity with Thai Financial Reporting Standards requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, income and expenses.

Estimates and underlying assumptions used in the preparation of financial statements are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

Information about significant assumptions and the sources of contingent estimates that might impact on the carrying amounts of assets and liabilities presented in the financial statements are as follows:

3.2.29 Use of Estimates and Significant Assumptions (Continued)

Provisions

The Group recognizes a provision in the statements of financial position if, as a result of a past event, the Group has a present obligation that can be estimated reliably and it is probable that an outflow of economic benefits will be required to settle the obligation.

The Group records provisions for decommissioning costs when it is highly probable that a commitment will arise as a result of past circumstances and the amount can be estimated reliably. The Group recognizes the provisions for decommissioning costs based on estimated amount of decommissioning of completed construction that is ready for its intended use. These costs are included as part of assets and are amortized using the units of production method based on estimated proved reserves and the straight-line method over the estimated useful lives of the assets. The provision for decommissioning costs is determined based on reviews and estimates by the Group's engineers together with the management's judgment.

Provisions depend on various current circumstances such as laws and regulations, technologies and market prices. Therefore, the actual result is likely to be different from estimates and assumptions.

Income Tax

The Group is responsible for the payment of tax in various countries. When income tax payable is estimated, the Group uses significant judgment due to the numerous transactions and calculations arising from its operations.

The Group recognizes income tax payable based on estimated incremental tax payments. The difference between the actual tax paid and the estimate will affect income tax and deferred tax in the period the difference occurs.

A deferred tax asset will be recognized when it is highly probable that the Group will have sufficient net income against which to utilize the temporary difference. Assumptions related to future taxable income are uncertain and may change affecting the recognition of deferred tax assets.

Estimates of Petroleum Reserves

Petroleum reserves are of fundamental importance when assessing investments in various exploration projects and petroleum production businesses, including impairment testing. Changes in proved reserves will affect the present value of net cash flows and depreciation expenses which are calculated using the unit of production method.

The proved reserves are the volume of commercial petroleum production as of a certain date with a high probability of achievement under current economic conditions and production methods, as well as government's rules and regulations. The proved reserves will be checked and assessed annually by the Group's geologists and reservoir engineers.

3.2.29 Use of Estimates and Significant Assumptions (Continued)

Exploration Costs

The petroleum exploration and production businesses capitalize drilling costs as assets. When they are over 12 months old, they are amortized as expenses in profit or loss except where there is (1) a discovery of proved reserves, or (2) a discovery of commercially adequate reserves whilst having future exploration and assessment plans. The decision to amortize drilling petroleum costs recorded as assets over 12 months should be made using the assumptions under current circumstances. In case those assumptions change in subsequent accounting periods, the petroleum drilling costs that are capitalized as assets will be written off as expenses in that accounting period.

Impairment of Assets

The Group considers recording an allowance for impairment of assets when an event or a circumstance indicates that the carrying amount of an asset is higher than its recoverable amount, which is the higher of the anticipated discounted cash flows from the continuing use of the asset or the fair value of the asset less any costs of disposal. As a result, the carrying amount of an asset is written down immediately to its recoverable amount. The decrease is recorded in profit or loss. Thus, the loss on impairment of assets excluding goodwill recognized in the prior period will be reversed if the estimates for indicated recoverable amount changes.

The Group's estimate of the selling price using the future oil price, the expected amount of future petroleum production and margin rate in petroleum exploration and production businesses are the key factors in impairment tests. The Group believes that these are the most reasonable indicators for estimating future cash flows. The future petroleum production comprises proved reserves and unproved reserves.

The estimation of discounted future cash flows depends on various factors such as the expected amount of future production, future selling prices, demand and supply in the market, risks and gross margins. The discounted rates used in the calculation of present value of future cash flows depend on the cost of capital of the asset unit.

3.2.30 Capital Risk Management

The capital management objective of the Group is to create returns for shareholders and other stakeholders whilst maintaining a reasonable capital structure to decrease the cost of capital.

3.2.31 Operating Segment

The operating segment information is reported by business segments and based on the internal management reports that are received and regularly reviewed by the Chief Operating Decision Maker (CODM) for allocating resources to the segments and assessing its performance.

4. Cash and Cash Equivalents

Cash and cash equivalents as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Cash on hand	1,885.77	1,260.21	9.77	169.52
Call deposits held at banks	119,956.06	90,410.62	40,015.70	30,846.73
Fixed deposits within 3 months	126,019.92	47,480.65	21,237.82	1,509.76
Treasury bills	16,736.58	14,566.49	-	-
Promissory notes	50.07	354.01	-	-
Bonds	24,940.76	-	24,940.76	-
Restricted bank cash	1,087.99	286.42	-	-
Other investments	1,507.17	11,830.62	-	6,165.65
Total	292,184.32	166,189.02	86,204.05	38,691.66

Call deposits held at banks, fixed deposits within 3 months, treasury bills, promissory notes, bonds, restricted bank cash and other investments, as at December 31, 2018 bear the interest at rates ranging from 0.00% - 6.08% per annum (December 31, 2017: interest rates ranging from 0.00% - 12.09% per annum).

5. Current Investments

Current investments as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Fixed deposits	103,566.72	175,001.14	7,412.36	41,262.33
Treasury bills	398.38	-	398.38	-
Promissory notes	349.10	6.00	-	-
Bonds	2,293.92	3,507.19	1,297.84	2,859.96
Other investments	35,812.62	51,136.93	12,863.38	23,933.97
Total	142,420.74	229,651.26	21,971.96	68,056.26

Current investments as at December 31, 2018 bear the interest at rates ranging from 0.00% to 3.28% per annum (December 31, 2017: interest rates ranging from 0.90% to 2.79% per annum).

6. Trade Accounts Receivable

Trade accounts receivable as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Trade accounts receivable - others	169,681.36	170,901.53	69,440.91	82,123.38
<u>Less</u> Allowance for doubtful accounts	(3,083.52)	(3,188.82)	(1,889.06)	(2,040.57)
Trade accounts receivable - others - net	166,597.84	167,712.71	67,551.85	80,082.81
Trade accounts receivable - related parties - net (Note 9.1)	8,006.86	7,203.53	71,124.00	64,182.35
Total	174,604.70	174,916.24	138,675.85	144,265.16

Aging analysis is as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Within credit terms	171,248.71	169,972.04	137,068.82	139,396.74
Overdue				
- Within 3 months	2,730.43	4,700.53	993.14	4,761.12
- Over 3 - 6 months	506.99	133.98	517.70	110.76
- Over 6 - 12 months	198.70	74.80	147.44	-
- Over 12 months	3,046.51	3,300.02	1,837.81	2,113.42
	177,731.34	178,181.37	140,564.91	146,382.04
<u>Less</u> Allowance for doubtful accounts	(3,126.64)	(3,265.13)	(1,889.06)	(2,116.88)
Total	174,604.70	174,916.24	138,675.85	144,265.16

Trade accounts receivable - others as at December 31, 2018 include receivables from government agencies and state enterprises in the consolidated financial statements amounting to Baht 20,834.35 million (December 31, 2017: Baht 15,471.99 million), and in the separate financial statements amounting to Baht 17,945.50 million (December 31, 2017: Baht 13,560.72 million).

7. Other Accounts Receivable

Other accounts receivable as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Other accounts receivable	37,906.98	13,919.21	1,473.57	2,751.44
<u>Less</u> Allowance for doubtful accounts	(628.18)	(412.11)	(427.97)	(255.28)
Other accounts receivable	37,278.80	13,507.10	1,045.60	2,496.16
Advance payments	16,199.20	16,168.09	270.44	281.60
Refund receivable from the Oil Stabilization Fund	19,691.94	13,578.39	13,204.37	11,797.59
Current tax assets	3,491.54	5,483.09	-	-
Other accounts receivable - others - net	76,661.48	48,736.67	14,520.41	14,575.35
Other accounts receivable - related parties - net (Note 9.2)	1,709.97	1,412.97	2,440.04	1,974.49
Advance payments - related parties (Note 9.2)	455.62	453.06	353.73	373.36
Total	78,827.07	50,602.70	17,314.18	16,923.20

The refund receivable from the Oil Stabilization Fund mostly comprises compensation for locally manufactured oil and liquefied petroleum gas (LPG), or imported LPG for local uses, as well as compensation for Natural Gas for Vehicles (NGV) prices. The compensation rates are determined by the Committee of Energy Policy Administration.

8. Lending Loans

8.1 Short-term lending loans as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Current portion of financial lease receivable - others	700.86	605.19	-	-
Current portion of financial lease receivable - related parties (Note 9.2)	3.95	3.80	-	-
Short-term lending loans - others	835.97	622.34	-	-
Short-term lending loans - related parties	843.83	469.64	7,334.32	5,077.58
<u>Less</u> Allowance for doubtful accounts	(601.69)	(469.64)	-	(428.84)
Short-term lending loans - related parties - net (Note 9.2)	242.14	-	7,334.32	4,648.74
Total	1,782.92	1,231.33	7,334.32	4,648.74

8.2 Long-term lending loans as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Long-term financial lease receivable - others	4,653.33	5,354.19	-	-
Long-term financial lease receivable - related parties (Note 9.3)	52.71	56.66	-	-
Long-term lending loans - others	2,979.62	4,385.44	-	-
Long-term lending loans - related parties	6,177.05	9,282.31	32,895.68	44,875.26
<u>Less</u> Allowance for doubtful accounts	-	-	-	(22,120.52)
Long-term lending loans - related parties - net (Note 9.3)	6,177.05	9,282.31	32,895.68	22,754.74
Total	13,862.71	19,078.60	32,895.68	22,754.74

9. Related Party Transactions

In the separate financial statements, significant transactions carried out with related parties include discontinued operations.

Significant transactions carried out with related parties are as follows:

9.1 Trade accounts receivable - related parties as at December 31, 2018 and 2017

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Subsidiaries	-	-	65,585.72	59,744.47
Joint ventures	3,747.90	3,077.27	2,213.24	1,505.27
Associates	1,318.08	1,764.15	341.80	574.17
Other related parties	2,984.00	2,438.42	2,983.24	2,434.75
	8,049.98	7,279.84	71,124.00	64,258.66
<u>Less</u> Allowance for doubtful accounts	(43.12)	(76.31)	-	(76.31)
Total (Note 6)	8,006.86	7,203.53	71,124.00	64,182.35

Aging analysis is as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Within credit terms	7,982.56	7,119.37	71,040.94	62,809.97
Overdue				
- Within 3 months	23.87	45.86	10.06	1,344.48
- Over 3 - 6 months	-	-	73.00	-
- Over 6 - 12 months	-	10.39	-	-
- Over 12 months	43.55	104.22	-	104.21
	8,049.98	7,279.84	71,124.00	64,258.66
<u>Less</u> Allowance for doubtful accounts	(43.12)	(76.31)	-	(76.31)
Total (Note 6)	8,006.86	7,203.53	71,124.00	64,182.35

9.2 Other accounts receivable, advance payments, current portion of financial lease receivable, and short-term lending loans - related parties as at December 31, 2018 and 2017

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
<u>Other accounts receivable</u>				
Subsidiaries	-	-	2,420.38	1,765.63
Joint ventures	416.42	604.99	16.18	403.97
Associates	358.17	263.92	2.91	2.74
Other related parties	1,018.76	596.47	0.57	0.69
	1,793.35	1,465.38	2,440.04	2,173.03
<u>Less</u> Allowance for doubtful accounts	(83.38)	(52.41)	-	(198.54)
Total (Note 7)	1,709.97	1,412.97	2,440.04	1,974.49
<u>Advance payments</u>				
Subsidiaries	-	-	73.77	62.24
Joint ventures	-	5.32	-	-
Other related parties	455.62	447.74	279.96	311.12
Total (Note 7)	455.62	453.06	353.73	373.36

9.2 Other accounts receivable, advance payments, current portion of financial lease receivable, and short-term lending loans - related parties as at December 31, 2018 and 2017 (Continued)

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
<u>Current portion of financial lease receivable</u>				
Joint ventures (Note 8.1)	3.95	3.80	-	-
<u>Short-term lending loans</u>				
Subsidiaries	-	-	7,334.32	5,077.58
Joint ventures	843.83	469.64	-	-
	843.83	469.64	7,334.32	5,077.58
<u>Less</u> Allowance for doubtful accounts	(601.69)	(469.64)	-	(428.84)
Total (Note 8.1)	242.14	-	7,334.32	4,648.74

Movements in short-term lending loans - related parties are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Balance as at January 1	-	90.00	-	941.84
- Payment for loans granted	369.65	96.42	2,990.02	327.28
- Receipt from loans granted	-	-	(899.08)	(798.81)
- Gain (loss) on exchange rate	7.33	-	(19.78)	(41.47)
- Reclassification	-	(90.00)	-	-
- Reversal (recognition) of allowance for doubtful accounts	(134.84)	(96.42)	428.84	(428.84)
Balance as at December 31	242.14	-	2,500.00	-
<u>Add</u> Current portion (Note 9.3)	-	-	4,834.32	4,648.74
Balance as at December 31 - net	242.14	-	7,334.32	4,648.74

Short-term lending loans - related parties as at December 31, 2018 in the consolidated financial statements bear the interest at rates ranging from 3.21% - 3.71% per annum, and in the separate financial statements bear the interest at rates 2.81% per annum (December 31, 2017: interest at rates ranging from 2.53% - 3.40% per annum). During the year, the Company received a short-term lending loan from a subsidiary. The Company, therefore, reversed allowance for doubtful accounts amounting to Baht 428.84 million, as mentioned in Note 14.11.

9.3 Long-term financial lease receivable and long-term lending loans - related parties as at December 31, 2018 and 2017

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
<u>Long-term financial lease receivable</u>				
Joint ventures (Note 8.2)	52.71	56.66	-	-
<u>Long-term lending loans</u>				
Subsidiaries	-	-	32,895.68	44,875.26
Joint ventures	3,651.76	6,766.64	-	-
Associates	2,525.29	2,515.67	-	-
	6,177.05	9,282.31	32,895.68	44,875.26
<u>Less</u> Allowance for doubtful accounts	-	-	-	(22,120.52)
Total (Note 8.2)	6,177.05	9,282.31	32,895.68	22,754.74

Details of financial lease receivable - related parties as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Financial lease receivable				
- Within 1 year	6.00	6.00	-	-
- Over 1 year but not over 5 years	24.00	24.00	-	-
- Over 5 years	40.00	46.00	-	-
Future finance income	(13.34)	(15.54)	-	-
Total	56.66	60.46	-	-

9.3 Long-term financial lease receivable and long-term lending loans - related parties as at December 31, 2018 and 2017 (Continued)

Movements in long-term lending loans - related parties are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Balance as at January 1	9,282.31	8,263.29	27,403.48	34,801.10
- Payment for loans granted	9.95	2,890.40	26,310.00	9,391.23
- Receipt from loans granted	(3,212.38)	(1,127.93)	(36,949.24)	(41,419.18)
- Gain (loss) on exchange rate	98.22	(738.98)	(1,154.76)	(6,661.58)
- Currency translation differences	(1.05)	246.24	-	-
- Reversal (recognition) of allowance for doubtful accounts	-	(250.71)	22,120.52	31,291.91
Balance as at December 31	6,177.05	9,282.31	37,730.00	27,403.48
Less Current portion (Note 9.2)	-	-	(4,834.32)	(4,648.74)
Balance as at December 31 - net	6,177.05	9,282.31	32,895.68	22,754.74

Long-term lending loans - related parties as at December 31, 2018 in the consolidated financial statements bear the interest at rates ranging from 3.66% - 6.94% per annum (December 31, 2017: interest at rates ranging from 3.66% - 6.56% per annum), and in the separate financial statements bear the interest at rates ranging from 2.88% - 4.68% per annum (December 31, 2017: interest at rates ranging from 2.63% - 4.68% per annum). During the year, the Company received a long-term lending loan from a subsidiary. The Company, therefore, reversed allowance for doubtful accounts, recorded amounting to Baht 22,120.52 million, as mentioned in Note 14.11.

9.4 Trade accounts payable - related parties as at December 31, 2018 and 2017

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Subsidiaries	-	-	38,012.70	51,583.58
Joint ventures	1,078.38	863.80	260.85	269.00
Associates	320.34	317.81	-	254.07
Other related parties	8.51	2.59	-	-
Total	1,407.23	1,184.20	38,273.55	52,106.65

9.5 Other accounts payable, current portion of financial lease liability, and short-term loans - related parties as at December 31, 2018 and 2017

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
<u>Other accounts payable</u>				
Subsidiaries	-	-	11,927.90	3,440.80
Joint ventures	46.58	22.84	7.25	4.03
Associates	24.23	12.16	16.31	3.74
Other related parties	88.86	135.21	57.51	105.96
Total	159.67	170.21	12,008.97	3,554.53
<u>Current portion of financial lease liability</u>				
Joint venture	400.42	398.68	400.42	398.68
<u>Short-term loans*</u>				
Subsidiaries	-	-	3,332.70	2,803.04

* The Company has liquidity management policies within the Group include the use of the cash pooling method. Inter-company loans were used for short-term financial management of cash surpluses or deficits of each affiliate. Interests on these were calculated by using market interest rates.

9.6 Long-term finance lease liability - related parties as at December 31, 2018 and 2017

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Joint venture	3,841.51	4,274.28	3,841.51	4,274.28

Details of finance lease liability - related parties as at December 31, 2018 and December 31, 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Finance lease liability				
- Within 1 year	453.54	456.77	453.54	456.77
- Over 1 year but not over 5 years	1,815.42	1,828.35	1,815.42	1,828.35
- Over 5 years	2,270.20	2,743.15	2,270.20	2,743.15
Future finance charges	(297.23)	(355.31)	(297.23)	(355.31)
Total	4,241.93	4,672.96	4,241.93	4,672.96

9.7 Revenue and expense transactions carried out with related parties

For the years ended December 31, 2018 and 2017

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Revenues				
<u>Sales and service income</u>				
Subsidiaries	-	-	779,669.46	567,842.77
Joint ventures	26,668.00	25,711.82	14,684.61	13,426.17
Associates	15,619.60	14,129.30	3,508.30	2,561.39
Other related parties	14,117.04	14,477.24	14,104.03	14,467.74
<u>Interest income</u>				
Subsidiaries	-	-	1,183.95	2,063.58
Joint ventures	280.09	255.13	-	66.32
Associates	160.11	160.74	-	-
<u>Dividend income</u>				
Subsidiaries	-	-	33,810.30	28,263.50
Joint ventures	-	-	610.12	1,033.30
Associates	-	-	684.21	699.28
Other related parties	253.43	380.00	112.00	110.00
<u>Other income</u>				
Subsidiaries	-	-	90,701.41	4,047.92
Joint ventures	311.71	159.62	84.00	88.47
Associates	75.00	32.53	45.94	19.61
Other related parties	47.51	295.25	46.67	22.05

9.7 Revenue and expense transactions carried out with related parties (Continued)

For the years ended December 31, 2018 and 2017

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Expenses				
<u>Cost of goods purchased and services</u>				
Subsidiaries	-	-	475,921.74	516,960.35
Joint ventures	9,571.74	9,237.90	1,530.35	1,619.31
Associates	3,487.43	3,522.99	1,126.98	2,677.67
Other related parties	1,294.43	1,450.74	304.35	271.31
<u>Interest expenses</u>				
Subsidiaries	-	-	35.18	62.48
Joint ventures	58.10	63.02	58.10	63.02
<u>Other expenses</u>				
Subsidiaries	-	-	3,739.28	3,223.41
Joint ventures	166.20	190.80	0.14	58.50
Associates	54.40	111.36	4.52	4.90
Other related parties	408.66	359.34	226.10	227.23

The aforementioned related party transactions exclude transactions carried out with government agencies and state enterprises.

Stipulation prices between the Company and its related parties are based on normal prices for the same types of business transactions carried out with non-related parties. Goods purchased from subsidiaries are charged at the normal prices determined by the subsidiaries with reference to global market prices.

9.8 Details of commitments to subsidiaries and joint ventures are stated in Note 47.1.

9.9 Crude oil and refined product purchase and sale transactions carried out with related parties without physical delivery, with the objective of maintaining crude oil and refined product reserves and inventory management, were reversed in the financial statements.

Detail of these transactions for the years ended December 31, 2018 and 2017 are as follow:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
<u>Sales</u>				
Subsidiaries	-	-	3,135.86	7,981.66
<u>Purchases</u>				
Subsidiaries	-	-	3,249.95	8,167.99

9.10 Executive remunerations

Detail of executive remunerations for the years ended December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
<u>Directors remuneration</u>				
Meeting remuneration and bonuses	386.42	349.12	62.35	72.98
<u>Managements remuneration</u>				
Salaries, bonuses, and other				
employee benefits	1,100.95	983.26	97.57	75.12
Post-employment benefits	14.52	22.98	2.35	2.79
Total (Note 35)	1,501.89	1,355.36	162.27	150.89

Managements are those persons who have authority and responsibility for planning, directing and controlling the activities of an entity, directly or indirectly.

10. Inventories

Inventories as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Oil products	88,625.35	87,473.14	5,653.44	24,128.66
Gas products	4,648.77	2,560.71	4,150.09	2,557.43
Petrochemicals products	32,596.48	28,610.81	502.44	-
Others	4,022.72	3,629.45	512.93	746.72
	129,893.32	122,274.11	10,818.90	27,432.81
<u>Less</u> Allowance for decline in value of inventories and obsolescence	(4,613.50)	(402.31)	(571.41)	(329.28)
Total	125,279.82	121,871.80	10,247.49	27,103.53

The Fuel Oil Trading Act B.E. 2543 was amended by The Fuel Oil Trading Act (No. 2) B.E. 2550 in accordance with Notification of the Department of Energy Business “Determination of Types, Rates, Criteria, Methods, and Conditions for Calculation of Oil Reserves B.E. 2558”. This Act prescribes that oil traders under section 7 must reserve crude oil and petroleum products at rates ranging from 1% - 20% of the total production output or imported volume. Inventories - legal reserves as at December 31, 2018 in the consolidated financial statements amounting to Baht 26,382.19 million (December 31, 2017: Baht 27,304.10 million), and in the separate financial statements amounting to Baht 853.07 million (December 31, 2017: Baht 6,682.59 million). These amounts were net of allowance for net realizable value.

In 2018, the Group wrote down inventories to their net realizable values and recognized the additional allowance for obsolescence of inventories as an expense of Baht 4,211.19 million in the consolidated financial statements (2017: Baht (392.09) million) and Baht 242.13 million in the separate financial statements (2017: Baht 21.19 million).

11. Materials and Supplies

Materials and supplies as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Spare parts, equipment and others	30,390.29	30,298.05	5,594.67	5,770.45
<u>Less</u> Allowance for obsolescence	(1,518.64)	(1,355.60)	(53.94)	(20.98)
Total	28,871.65	28,942.45	5,540.73	5,749.47

12. The Restructuring of the Oil Business Unit

On November 18, 2016, at the Board of Directors Meeting No. 11/2016 of the Company, the Board passed a resolution to approved the restructuring of PTT by means of the transfer of the oil business unit, including its assets and liabilities of the business unit, and the shares of companies related to the oil business unit from the Company to PTT Retail Business Company Limited (PTTRB), the change of PTTRB's name to PTT Oil and Retail Business Company Limited (PTTOR), the appointment of PTTOR as the flagship company for the oil and retail business of the Group, and the preliminary plan for an initial public offering of the ordinary shares of PTTOR and the listing of PTTOR in the Stock Exchange of Thailand (the SET). The Company and government agencies will hold less than 50%, but the Company will not hold less than 45%, of total paid-up capital (the Restructuring of PTT). In addition, the Board passed a resolution to proceed with the request of the Restructuring of PTT to the relevant agencies such as the Ministry of Energy, The Board of Directors of State Enterprise Policy Office (Superboard), the Cabinet, and the shareholders' meeting of the Company, to consider granting approvals in accordance with the relevant rules and regulations.

On February 17, 2017, at the Meeting No. 1/2017 (the 11th Meeting) of the National Energy Policy Council (NEPC) passed resolutions to (1) acknowledge the proposed Restructuring of PTT and to instruct the Company to proceed in compliance with relevant laws, regulations, and related cabinet resolutions while taking into consideration the maximum benefit of the public and the nation and (2) agree with the opinion of the Cabinet Secretariat that the proposed business restructuring of PTT would not have an impact on the nation's energy security. Subsequently, the Ministry of Energy notified the cabinet of the NEPC's meeting resolutions.

12. The Restructuring of the Oil Business Unit (Continued)

On April 28, 2017, the 2017 Annual General Meeting of the Company's shareholders approved the Restructuring of PTT by means of the transfer of the oil business unit, including the assets and liabilities of the business unit and the shares of companies related to the oil business unit, from the Company to PTTOR (the Restructuring of PTT). The business transfer will occur only after the Company obtains any approvals and/or consent from relevant governmental authorities and/or agencies necessary for the Restructuring of PTT in accordance with relevant regulations, and the Board or persons assigned by the Board are authorized to enter into negotiations and determine the criteria, conditions, and other details related to the Restructuring of PTT; execute the business transfer agreements, other agreements and supporting documents; and undertake any act necessary for and relevant to the aforementioned businesses for the purposes of the Restructuring of PTT. The Annual General Meeting also acknowledged the feasibility of the plan to launch an initial public offering (IPO) of PTTOR's ordinary shares, and to offer ordinary shares of PTTOR to PTT's existing shareholders with rights to subscribe to allocated shares, but not to offer the shares to shareholders in cases where such offering would cause PTTOR to be subject to the rules and regulations of foreign countries (Preferential Share Offering) and to list PTTOR on the SET. The Company and government agencies will hold less than 50% of the total paid-up capital after launching an IPO and listing on the SET. On the contrary, the Company will hold no less than 45% the total paid-up capital. The Company will adhere to the opinions of the Office of the Securities and Exchange Commission (the SEC) in relation to the listing of PTTOR on the SET and will obtain approval from the SEC prior to proceed further.

On June 18, 2018, the Company and PTTOR successfully executed the Business Transfer Agreement to transfer various assets and liabilities, and shares of related companies (BAFS, PTTCL, PTTOM, TLBC, THAPPLINE, PAT, IPS and FPT) to PTTOR. The Company has commenced the process of transferring various assets and liabilities, and shares of related companies to PTTOR since July 1, 2018. The business transfer price is Baht 117,203.26 million. On June 28, 2018, PTTOR made the initial payment of Baht 85,366.92 million to the Company. Then, PTTOR made the remaining payment of Baht 31,836.34 million on September 28, 2018.

The valuation of the business transferred had been evaluated by financial advisors following relevant international standards in order to provide the most reasonable prices.

In cases where the registration process for the transfer of various assets and liabilities is not completed within 6 months after the date of the business transfer, the Company must comply with the conditions under the Business Transfer Agreement, whereby the Company has to transfer the right of ownership and use in assets to PTTOR, which is entitled to benefits, interests or profits from the assets under the agreement from the date of the business transfer until the registration process is completed.

As at December 31, 2018, some assets and contracts have not yet been transferred. The Company and PTTOR are in the process of executing the memorandum for the revision of the Business Transfer Agreement by extending the period for the process of registering the transfer of ownership in assets, rights, duties and responsibilities under agreements, in accordance with the Business Transfer Agreement, whereby it is to be completed within December 31, 2019.

12. The Restructuring of the Oil Business Unit (Continued)

As a result of the Business Transfer Agreement, the Company presented the operating results of the related oil business unit as discontinued segment. The Company presented the operating results of the discontinued segment separately from those of the normal operation in the separate financial statements. The Company reclassified the transactions of this segment that were undertaken in 2017 for the purpose of comparison with the current period financial information in the statement of income and the statement of comprehensive income for the year ended December 31, 2018. However, the Company presented the statement of cash flows before the deduction of discontinued operations' portion.

The operating results of the discontinued operations in the financial information for the years ended December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Separate financial statements	
	2018	2017
Statement of income		
Sales and service income	288,790.50	522,615.57
Cost of sales and services	(271,949.15)	(491,941.55)
Gross profit	16,841.35	30,674.02
Other income	2,432.59	4,242.66
Gain (loss) on foreign exchange rates	285.71	(248.13)
Profit before expenses	19,559.65	34,668.55
Selling and distribution expenses	(7,424.75)	(12,816.78)
Administrative expenses	(3,820.15)	(7,207.76)
Profit before finance costs and income taxes	8,314.75	14,644.01
Finance costs	(3.82)	(9.32)
Profit before income taxes	8,310.93	14,634.69
Income taxes	(1,967.25)	(2,778.33)
Profit for the periods from discontinued operations, net of tax	6,343.68	11,856.36
Gain on disposal of discontinued operations	80,659.17*	-
Income taxes on gain on disposal of discontinued operations	(16,241.13)*	-
Total profit for the periods from discontinued operations, net of tax	70,761.72	11,856.36

* Include gain and income taxes relating to the reclassification adjustment resulting from sale of available-for-sale investment.

12. The Restructuring of the Oil Business Unit (Continued)

The operating results of the discontinued operations in the financial information for the years ended December 31, 2018 and 2017 are as follows: (Continued)

Unit: Million Baht

	Separate financial statements	
	2018	2017
Statement of comprehensive income		
Items that may be reclassified to profit or loss in subsequent periods		
Gain (loss) on measurement of available-for-sale investments	(2,079.75)	472.50
Income taxes related to available-for-sale investments	415.95	(94.50)
Items that may not be reclassified to profit or loss in subsequent periods		
Loss on remeasurement of employee benefits	-	(20.06)
Income taxes related to remeasurement of employee benefits	-	4.01
Other comprehensive income (loss) for the periods from discontinued operations, net of tax	(1,663.80)*	361.95

* Include losses relating to the reclassification adjustment of Baht 1,114.80 million due to sale of available-for-sale investment.

Overall, there is no impact on the consolidated financial statements from the disposal of discontinued operations since this transaction is the business combination under common control, except for the impact of income taxes related to the disposal of discontinued operations of Baht 6,032.97 million to the consolidated financial statements. Income taxes stand for current tax net of deferred tax.

Net cash flows of the discontinued operations for the years ended December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Separate financial statements	
	2018	2017
Net cash provided by operating activities	1,273.75	4,765.25
Net cash used in investing activities	(3,563.77)	(6,429.15)
Net cash provided by (used in) financing activities	-	-
Net cash used in the discontinued operations	(2,290.02)	(1,663.90)

13. Available-for-sale Investments

13.1 Details of available-for-sale investments

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Available-for-sale Investments of the Company				
Investments in Equity Securities				
Dhipaya Insurance Public Co., Ltd. (TIP)	Thailand	Insurance	13.33	13.33
Bangkok Aviation Fuel Services Public Co., Ltd. (BAFS)*	Thailand	Aircraft refuelling services	-	7.06
Investments in Mutual Funds				
CIMB - PRINCIPAL Energy and Petrochemical Index Fund (CIMB - PRINCIPAL EPIF)	Thailand	Mutual fund		
Vayupak Fund 1 (VAYU1)	Thailand	Mutual fund		
Corporate Venture Capital Fund (CVC)	United States of America/ England	Mutual fund		
Available-for-sale Investments of Subsidiaries				
Investments in Equity Securities				
PTTEP Group				
Wentworth Resources Limited (WRL)	Canada	Oil and natural gas exploration	1.18	1.18
PTTOR Group				
Bangkok Aviation Fuel Services Public Co., Ltd. (BAFS)*	Thailand	Aircraft refuelling services	7.06	-

* Since July 1, 2018, the Company has commenced the process of transferring various assets and liabilities, and shares of related companies which consist of BAFS, PTTCL, PTTOM, TLBC, THAPPLINE, PAT, IPS and FPT to PTTOR.

13.1 Details of available-for-sale investments (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Available-for-sale Investments of Subsidiaries (Continued)				
<u>Investments in Equity Securities</u>				
(Continued)				
IRPC Group				
Bangkok Union Insurance Public Co., Ltd. (BUI)	Thailand	Insurance	0.35	0.35
TPI Polene Public Co., Ltd. (TPIPL)	Thailand	Property, construction and petrochemicals	0.14	0.14
PTTGM Group				
Xanadu Mines Ltd. (XML)	Mongolia	Mineral exploration	3.80	4.19
<u>Investment in Debt Securities</u>				
PTTGC Group				
Debt Securities Available for Sale (in Private Fund) (DSAFS)	Thailand	Private Fund		
TOP Group				
Debt Securities Available for Sale (in Private Fund) (DSAFS)	Thailand	Private Fund		
<u>Investments in Mutual Funds</u>				
PTTLNG				
Vayupak Fund 1 (VAYU1)	Thailand	Mutual fund		
PTTNGD Group				
Vayupak Fund 1 (VAYU1)	Thailand	Mutual fund		
EnCo				
Vayupak Fund 1 (VAYU1)	Thailand	Mutual fund		

13.1 Details of available-for-sale investments (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Available-for-sale Investments of Subsidiaries (Continued)				
Investments in Mutual Funds (Continued)				
PTTOR Group				
Vayupak Fund 1 (VAYU1)	Thailand	Mutual fund		
PTT TANK				
Vayupak Fund 1 (VAYU1)	Thailand	Mutual fund		
PTTT Group				
Vayupak Fund 1 (VAYU1)	Thailand	Mutual fund		
PTTGC Group				
CIMB - PRINCIPAL Energy and Petrochemical Index Fund (CIMB - PRINCIPAL EPIF)	Thailand	Mutual fund		
TOP Group				
CIMB - PRINCIPAL Energy and Petrochemical Index Fund (CIMB - PRINCIPAL EPIF)	Thailand	Mutual fund		
PTTER Group				
Vayupak Fund 1 (VAYU1)	Thailand	Mutual fund		
PTTRTC				
Vayupak Fund 1 (VAYU1)	Thailand	Mutual fund		

13.2 Details of available-for-sale investments as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

Company	Ownership interest (%)		Consolidated financial statements		Separate financial statements		Dividend incomes	
	2018	2017	2018	2017	2018	2017	2018	2017
<u>Available-for-sale investments in Equity Securities</u>								
1. TIP	13.33	13.33	312.00	312.00	312.00	312.00	112.00	110.00
2. SPRC	-	-	-	-	-	-	-	259.59
3. WRL	1.18	1.18	34.91	37.39	-	-	-	-
4. BAFS	7.06	7.06	24.00	24.00	-	24.00	56.70	54.90
5. BUI	0.35	0.35	2.35	2.35	-	-	-	-
6. TPIPL	0.14	0.14	64.86	64.86	-	-	0.62	-
7. XML	3.80	4.19	238.13	239.83	-	-	-	-
Total			676.25	680.43	312.00	336.00		
<u>Available-for-sale investments in Debt Securities</u>								
8. DSAFS			5,967.16	11,988.88	-	-	-	-
Total			5,967.16	11,988.88	-	-		
<u>Available-for-sale investments in Mutual Funds</u>								
9. CIMB - PRINCIPAL EPIF			854.03	854.03	254.03	254.03	8.68	4,309.71
10. VAYU1			15.00	15.10	10.00	10.00	0.09	0.09
11. CVC			386.48	208.99	386.48	208.99	-	-
Total			1,255.51	1,078.12	650.51	473.02		
Total available-for-sale investments before changes in value of investments			7,898.92	13,747.43	962.51	809.02		
Allowance for changes in value			3,015.36	3,893.60	1,617.05	3,724.08		
Less Allowance for impairment			(38.35)	(38.62)	-	-		
Total			10,875.93	17,602.41	2,579.56	4,533.10	178.09	4,734.29

13.3 Movements in available-for-sale investments are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
As at January 1	17,602.41	23,839.54	4,533.10	18,116.25
- Additional investments	177.49	7,448.50	177.49	208.99
- Reclassifications	(3,284.29)	-	-	-
- Disposal of investments	(2,737.43)	(8,265.40)	(24.00)	(8,118.97)
- Unrealized loss on available-for-sale investments	(880.56)	(5,403.21)	(2,107.03)	(5,673.17)
- Currency translation differences	(1.69)	(17.02)	-	-
As at December 31	10,875.93	17,602.41	2,579.56	4,533.10

14. Investments in Subsidiaries, Joint Ventures and Associates

14.1 Details of subsidiaries, joint ventures and associates of the Company

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiaries				
PTT Exploration and Production Public Co., Ltd. (PTTEP)	Thailand	Petroleum exploration and production	65.29	65.29
PTT LNG Co., Ltd. (PTTLNG)	Thailand	Natural gas	100.00	100.00
PTT Natural Gas Distribution Co., Ltd. (PTTNGD)	Thailand	Natural gas	58.00	58.00
PTT Global LNG Co., Ltd. (PTTGL) (The Group holds 100% shareholding)	Thailand	Investing in LNG business	50.00	50.00
Energy Complex Co., Ltd. (EnCo) (The Group holds 100% shareholding)	Thailand	Real estate development for rent	50.00	50.00
PTT Energy Solutions Co., Ltd. (PTTES) (The Group holds 100% shareholding)	Thailand	Technical and operational services	40.00	40.00
Global Power Synergy Public Co., Ltd. (GPSC) (The Group holds 75% shareholding)	Thailand	Generation and supply of electricity, steam and water for industries	22.58	22.58
PTT (Cambodia) Limited (PTTCL)*	Cambodia	Oil marketing	-	100.00

* Since July 1, 2018, the Company has commenced the process of transferring various assets and liabilities, and shares of related companies which consist of BAFS, PTCL, PTOM, TLBC, THAPPLINE, PAT, IPS and FPT to PTTOR.

14.1 Details of subsidiaries, joint ventures and associates of the Company (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiaries (Continued)				
PTT Oil Myanmar Co., Ltd. (PTTOM)*	Myanmar	Business services	-	100.00
PTT Oil and Retail Business Public Co., Ltd. (PTTOR)	Thailand	Management services and oil marketing	100.00	100.00
PTT Tank Terminal Co., Ltd. (PTT TANK)	Thailand	Terminal and warehouse	100.00	100.00
Thai Lube Blending Co., Ltd. (TLBC)* (The Group holds 100% shareholding)	Thailand	Blending and bottling of lube oil	-	48.95
PTT International Trading Pte. Ltd. (PTTT)	Singapore	International trading	100.00	100.00
PTT International Trading London Limited (PTTT LDN)	England	International trading	100.00	100.00
PTT Global Chemical Public Co., Ltd. (PTTGC)	Thailand	Petrochemicals and refining	48.18	48.89
Thai Oil Public Co., Ltd. (TOP)	Thailand	Oil refining	48.03	49.10
IRPC Public Co., Ltd. (IRPC)	Thailand	Petrochemicals and refining	48.05	38.51

* Since July 1, 2018, the Company has commenced the process of transferring various assets and liabilities, and shares of related companies which consist of BAFS, PTTCL, PTTOM, TLBC, THAPLINE, PAT, IPS and FPT to PTTOR.

14.1 Details of subsidiaries, joint ventures and associates of the Company (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiaries (Continued)				
Thai Oil Power Co., Ltd. (TP) (The Group holds 100% shareholding)	Thailand	Generation and supply of electricity and steam	26.00	26.00
PTT Energy Resources Co., Ltd. (PTTER)	Thailand	Investment consulting in energy and mining business	100.00	100.00
PTT Global Management Co., Ltd. (PTTGM)	Thailand	Domestic and international investment	100.00	100.00
PTT Green Energy Pte. Ltd. (PTTGE)	Singapore	Investing in palm oil business	100.00	100.00
PTT Regional Treasury Center Pte. Ltd. (PTTRTC)	Singapore	Treasury services	100.00	100.00
PTT Treasury Center Co., Ltd. (PTT TCC)	Thailand	Treasury services	100.00	-
Business Services Alliance Co., Ltd. (BSA)	Thailand	Management services	100.00	100.00
PTT Digital Solutions Co., Ltd. (PTT DIGITAL) (The Group holds 100% shareholding)	Thailand	Information technology and communication services	20.00	20.00

14.1 Details of subsidiaries, joint ventures and associates of the Company (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
<u>Joint Ventures</u>				
Trans Thai-Malaysia (Thailand) Co., Ltd. (TTM(T))	Thailand	Natural gas		
Trans Thai-Malaysia (Malaysia) Sdn. Bhd. (TTM(M))	Malaysia	Natural gas		
District Cooling System and Power Plant Co., Ltd. (DCAP)	Thailand	Generation and supply of electricity and chilled water		
<u>Associates</u>				
Thai Petroleum Pipeline Co., Ltd. (THAPPLINE)* (The Group holds 49.21% shareholding)	Thailand	Oil transmission pipelines		
Petro Asia (Thailand) Co., Ltd. (PAT)*	Thailand	Oil marketing		

* Since July 1, 2018, the Company has commenced the process of transferring various assets and liabilities, and shares of related companies which consist of BAFS, PTCL, PTTOM, TLBC, THAPPLINE, PAT, IPS and FPT to PTTOR.

14.2 Details of subsidiaries and joint operations of the subsidiaries

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiaries of PTTEP Group:				
PTTEP International Limited (PTTEPI)	Thailand	Petroleum	100.00	100.00
PTTEP Offshore Investment Company Limited (PTTEPO)	Cayman Islands	Petroleum	100.00	100.00
PTTEP Southwest Vietnam Company Limited (PTTEP SV)	Cayman Islands	Petroleum	100.00	100.00
PTTEP Kim Long Vietnam Company Limited (PTTEP KV)	Cayman Islands	Petroleum	100.00	100.00
PTTEP Hoang-Long Company Limited (PTTEP HL)	Cayman Islands	Petroleum	100.00	100.00
PTTEP Hoan-Vu Company Limited (PTTEP HV)	Cayman Islands	Petroleum	100.00	100.00
PTTEP Algeria Company Limited (PTTEP AG)	Cayman Islands	Petroleum	100.00	100.00
PTTEP Services Limited (PTTEP Services)	Thailand	Human resource support	100.00	100.00
PTTEP Siam Limited (PTTEPS)	Thailand	Petroleum	100.00	100.00
PTTEP Holding Company Limited (PTTEPH)	Cayman Islands	Petroleum	100.00	100.00
PTTEP Indonesia Company Limited (PTTEP ID)	Cayman Islands	Petroleum	100.00	100.00
PTTEP Africa Investment Limited (PTTEP AI)	Cayman Islands	Petroleum	100.00	100.00

14.2 Details of subsidiaries and joint operations of the subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiaries of PTTEP Group: (Continued)				
PTTEP Rommana Company Limited (PTTEPR)*	Cayman Islands	Petroleum	-	100.00
PTTEP Australia Pty Limited (PTTEP AU)	Australia	Petroleum	100.00	100.00
PTTEP South Asia Limited (PTTEP SA)	Cayman Islands	Petroleum	100.00	100.00
PTTEP Semai II Limited (PTTEP SM)	Cayman Islands	Petroleum	100.00	100.00
PTTEP Australia Perth Pty Limited (PTTEP AP)	Australia	Petroleum	100.00	100.00
PTTEP International Holding Co., Ltd. (PTTEP IH)	Cayman Islands	Petroleum	100.00	100.00
PTTEP Southwest Vietnam Pipeline Co., Ltd. (PTTEP SVPC)	Cayman Islands	Gas transmission pipelines	100.00	100.00
PTTEP FLNG Holding Co., Ltd. (PTTEP FH)**	Hong Kong	Petroleum	100.00	100.00
PTTEP Netherland Holding Limited (PTTEP NL)	Cayman Islands	Petroleum	100.00	100.00
JV Marine Limited (JV Marine)	Cayman Islands	Petroleum	100.00	100.00
PTTEP South Mandar Limited (PTTEP SMD)	Cayman Islands	Petroleum	100.00	100.00

* On June 29, 2018, PTTEPR received the approval of dissolution of the Company from the registrar.

** On August 24, 2017, PTTEP approved for the registration for the dissolution of PTTEP FH.

14.2 Details of subsidiaries and joint operations of the subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiaries of PTTEP Group: (Continued)				
PTTEP South Sageri Limited (PTTEP SS)	Cayman Islands	Petroleum	100.00	100.00
PTTEP Sadang Limited (PTTEP SD)	Cayman Islands	Petroleum	100.00	100.00
PTTEP Malunda Limited (PTTEP ML)	Cayman Islands	Petroleum	100.00	100.00
PTTEP Netherlands Coöperatie U.A. (PTTEP NC)	Netherlands	Petroleum	100.00	100.00
PTTEP Canada Limited (PTTEP CA)	Canada	Petroleum	100.00	100.00
PTTEP Canada International Finance Limited (PTTEP CIF)	Canada	Funding services for the Group's business	100.00	100.00
PTTEP HK Holding Limited (PTTEP HK)	Hong Kong	Petroleum	100.00	100.00
PTTEP Netherlands Holding Coöperatie U.A. (PTTEP NH)	Netherlands	Petroleum	100.00	100.00
PTTEP Brazil Investment B.V. (PTTEP BI)	Netherlands	Petroleum	100.00	100.00
PTTEP Brazil Investments in Oil and Gas Exploration and Production Limitada (PTTEP BL)	Brazil	Petroleum	100.00	100.00
PTTEP Australia Offshore Pty Ltd (PTTEP AO)	Australia	Petroleum	100.00	100.00
PTTEP Australia Browse Basin Pty Ltd (PTTEP AB)	Australia	Petroleum	100.00	100.00

14.2 Details of subsidiaries and joint operations of the subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiaries of PTTEP Group: (Continued)				
PTTEP Australia Timor Sea Pty Ltd (PTTEP AT)	Australia	Petroleum	100.00	100.00
PTTEP Australasia (Operations) Pty Ltd (PTTEP AAO)	Australia	Petroleum	100.00	100.00
PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEP AAA)	Australia	Petroleum	100.00	100.00
PTTEP Australasia (Staff) Pty Ltd (PTTEP AAS)	Australia	Petroleum	100.00	100.00
Cove Energy Limited (Cove)	England	Petroleum	100.00	100.00
Cove Energy Mozambique Rovuma Onshore Limited (CEMROL)*	Cyprus	Petroleum	100.00	100.00
Cove Energy East Africa Limited (CEEAL)	Cyprus	Petroleum	100.00	100.00
PTTEP Mozambique Area 1 Limited (PTTEP MZA1)	Cyprus	Petroleum	100.00	100.00
Cove Energy Kenya Limited (CEKL)*	Kenya	Petroleum	100.00	100.00
Sinphuhorm Holdings Limited (SHL)	Cayman Islands	Petroleum	100.00	100.00
PTTEP SP Limited (PTTEP SP)	England	Petroleum	100.00	100.00
PTTEP G7 Limited (PTTEP G7)	Thailand	Petroleum	100.00	100.00

* On May 22, 2017, PTTEP approved for the registration for the dissolution of CEMROL and CEKL.

14.2 Details of subsidiaries and joint operations of the subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiaries of PTTEP Group: (Continued)				
PTTEP HK Offshore Limited (PTTEP HKO)	Hong Kong	Petroleum	100.00	100.00
PTTEP Treasury Center Company Limited (PTTEP TC)	Thailand	Treasury center for the Group's business	100.00	100.00
PTTEP Business Center Company Limited (PTTEP BC)	Thailand	Petroleum	100.00	100.00
PTTEP Mexico E&P Limited, S. de R.L. de C.V. (PTTEP MEP)	Mexico	Petroleum	100.00	100.00
PTTEP Energy Holding (Thailand) Company Limited (PTTEP EH)	Thailand	Petroleum	100.00	-
PTTEP Energy Development Company Limited (PTTEP ED)	Thailand	Petroleum	100.00	-
EP-Tech Ventures Holding Company Limited (EP-Tech)	Thailand	Petroleum related Technology	100.00	-
AI and Robotics Ventures Company Limited (ARV)	Thailand	Technology	100.00	-
PTTEP MENA Limited (PTTEP MENA)	Hong Kong	Petroleum	100.00	-
Subsidiary of PTTNGD Group:				
Amata Natural Gas Distribution Co., Ltd. (AMATA NGD)	Thailand	Natural gas	80.00	80.00

14.2 Details of subsidiaries and joint operations of the subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiary of PTTGL Group:				
PTTGL Investment Limited (PTTGLI)	Hong Kong	Investing in LNG business	100.00	100.00
Subsidiaries of GPSC Group:				
Combined Heat and Power Producing Co., Ltd. (CHPP)	Thailand	Production and distribution of electricity and chilled water/ construction and installation of electricity generating system	100.00	100.00
Natee Synergy Co., Ltd. (NSC)	Thailand	Holding company	100.00	100.00
IRPC Clean Power Co.,Ltd. (IRPCCP) (The Group holds 100% shareholding)	Thailand	Production and distribution of electricity, steam and water for industrial purpose	51.00	51.00
Ichinoseki Solar Power 1 GK (ICHINOSEKI)	Japan	Production and distribution of electricity	99.00	99.00
GPSC International Holdings Limited (GPSCIH)	Hong Kong	Holding company	100.00	100.00
Global Renewable Power Co., Ltd. (GRP)	Thailand	Holding company	100.00	-
Subsidiary of PTTCL Group:				
PTT (Lao) Co., Ltd. (PTT Lao)*	Laos	Oil marketing	-	100.00

* Since July 1, 2018, the Company has commenced the process of transferring various assets and liabilities, and shares of related companies which consist of BAFS, PTTCL, PTTOM, TLBC, THAPLINE, PAT, IPS and FPT to PTTOR.

14.2 Details of subsidiaries and joint operations of the subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiaries of PTTOR Group:				
PTT Retail Management Co., Ltd. (PTTRM)	Thailand	Petrol station and convenience store management	100.00	100.00
PTT Retail Service Co., Ltd. (PTTRS)	Thailand	Human resource management	100.00	100.00
Thai Lube Blending Co., Ltd. (TLBC)* (The Group holds 100% shareholding)	Thailand	Blending and bottling of lube oil	100.00	51.05
PTT Philippines Trading Corporation (PTTTC)	Philippines	Oil marketing	100.00	100.00
PTT Philippines Corporation (PTTPC)	Philippines	Oil marketing	100.00	100.00
PTT (Cambodia) Limited (PTTCL)*	Cambodia	Oil marketing	100.00	-
PTT Oil Myanmar Co., Ltd. (PTTOM)*	Myanmar	Business services	100.00	-
PTT (Lao) Co., Ltd. (PTT Lao)*	Laos	Oil marketing	100.00	-
PTTOR China (Shanghai) Co., Ltd. (PTTOR China)	China	Lube products	100.00	-
PTTOR Singapore Pte. Ltd. (PTTORSG)	Singapore	Retail business	100.00	-

* Since July 1, 2018, the Company has commenced the process of transferring various assets and liabilities, and shares of related companies which consist of BAFS, PTTCL, PTTOM, TLBC, THAPPLINE, PAT, IPS and FPT to PTTOR.

14.2 Details of subsidiaries and joint operations of the subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiary of PTTT Group:			100.00	100.00
PTT International Trading DMCC (PTTT DMCC)	United Arab Emirates	International oil trading		
Subsidiaries of PTTGC Group:			100.00	100.00
PTT Phenol Co., Ltd. (PPCL)	Thailand	Manufacturing and distributing petrochemical products		
GC Maintenance & Engineering Co.,Ltd (GCME) (Former: PTT Maintenance & Engineering Co., Ltd. (PTTME))	Thailand	Factory maintenance and engineering services	100.00	100.00
Thai Tank Terminal Limited (TTT)	Thailand	Service for the storage and handling of liquid chemicals, oil and gas	51.00	51.00
NPC Safety and Environmental Service Co., Ltd. (NPCSE)	Thailand	Safety and environmental services	100.00	100.00
GC Styrenics Co., Ltd. (GCS) (Former: Thai Styrenics Co., Ltd. (TSCL))	Thailand	Manufacturing and distributing petrochemical products	100.00	100.00
PTTGC International (Netherlands) B.V. (GCINTERNL)	Netherlands	Holding and operating international business	100.00	100.00
GC Glycol Co., Ltd. (Glycol) (Former: TOC Glycol Co., Ltd. (TOCGC))	Thailand	Manufacturing and distributing petrochemical products	100.00	100.00

14.2 Details of subsidiaries and joint operations of the subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiaries of PTTGC Group: (Continued)				
Global Green Chemicals Plc. (GGC)	Thailand	Manufacturing and distributing biochemical products	72.29	72.29
Solution Creation Co., Ltd. (SOLUTIONCRE)	Thailand	Manufacturing and distributing petrochemical products and health and nutrition products	100.00	100.00
Bio Spectrum Co., Ltd. (BIOSPEC)*	Thailand	Manufacturing and distributing biochemical products	100.00	100.00
Auria BioChemicals Co., Ltd. (AURIA)*	Thailand	Research and development of bio-based chemicals	100.00	100.00
PTTGC International Private Limited (GC Inter) (Former: PTT Chemical International Pte. Ltd. (CHINTER))	Singapore	Holding and operating international business	100.00	100.00
GC Oxirane Co., Ltd. (GCO)	Thailand	Manufacturing and distributing petrochemicals products	100.00	100.00
GC Polyols Co., Ltd. (GCP)	Thailand	Manufacturing and distributing petrochemicals products	82.10	82.10

* Under liquidation process

14.2 Details of subsidiaries and joint operations of the subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiaries of PTTGC Group: (Continued)				
GC Treasury Co., Ltd. (GCTC)	Thailand	Financial service management for the group	100.00	100.00
GC Logistics Solutions Co., Ltd. (GCL) (Former: PTT Polymer Logistics Co., Ltd. (PTTPL))	Thailand	Transportation, warehouse and bagging packing management of polyethylene	100.00	100.00
GC Marketing Solutions Co., Ltd. (GCM) (Former: PTT Polymer Marketing Co., Ltd. (PTTPM))	Thailand	Development, marketing and distributing polymers products, byproducts and other polymers-related products	100.00	100.00
PTTGC International (USA) Inc. (GCINTERUSA)	United States of America	Holding and operating international business	100.00	100.00
Thai Fatty Alcohols Co., Ltd. (TFA)	Thailand	Manufacturing and distributing biochemical products	72.29	72.29
PTTGC Innovation America Corporation (GCIA) (Former: Myriant Corporation (MYRIANT))	United States of America	Research and development of bio-based chemicals	100.00	100.00

14.2 Details of subsidiaries and joint operations of the subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiaries of PTTGC Group: (Continued)				
PTTGC America Corporation (AMERICACORP)	United States of America	Holding and operating international business	100.00	100.00
PTTGC America LLC (AMERICALLC)	United States of America	Operating in petrochemical business	100.00	100.00
NPC S&E Security Guard Co., Ltd. (NPCSG)	Thailand	Safety services	100.00	100.00
Vencorex (Thailand) Co., Ltd. (VENCOREXTH)	Thailand	Manufacturing and distributing chemical specialties	100.00	100.00
Vencorex France S.A.S. (VCF)	France	Manufacturing and distributing chemical specialties	100.00	100.00
Vencorex Holding (VCR)	France	Manufacturing and distributing chemical specialties	90.82	90.82
PL Global Transport Co., Ltd. (PLGT)	Thailand	Transportation of polyethylene	100.00	100.00
Polymer Marketing DMCC Company Limited (PM DMCC)	United Arab Emirates	Distributing polymer products and other polymers-related products	100.00	100.00
Polymer Marketing Vietnam Company Limited (PM Vietnam)	Vietnam	Distributing polymer products and other polymers-related products	100.00	100.00

14.2 Details of subsidiaries and joint operations of the subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiaries of PTTGC Group: (Continued)				
GC Estate Co., Ltd. (GCEC)	Thailand	Real estate development for rent and to invest in petrochemical and related industries	100.00	-
GC Ventures Co., Ltd. (GCV)	Thailand	Invest in form of Corporate Venture Capital (CVC)	100.00	-
GC Ventures America Corporation (GCVA)	United States of America	Invest in form of Corporate Venture Capital (CVC) Outside Thailand	100.00	-
Polymer Marketing Myanmar Company Ltd. (PM Myanmar)	Myanmar	Distributing polymer products and other polymers-related products	100.00	-
Siam Mitsui PTA Co., Ltd. (SMPC)	Thailand	Manufacturing and distributing petrochemical products	74.00	-
Thai PET Resin Co., Ltd. (TPRC)	Thailand	Manufacturing and distributing petrochemical products	74.00	-
GGC Biochemicals Co., Ltd. (GGC Biochemicals)	Thailand	Holding and operating in Thailand	100.00	-

14.2 Details of subsidiaries and joint operations of the subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiaries of TOP Group:				
Thaioil Power Co., Ltd. (TP) (The Group holds 100% shareholding)	Thailand	Power and steam generation and distribution	73.99	73.99
Thai Paraxylene Co., Ltd. (TPX)	Thailand	Paraxylene manufacturing and distribution	99.99	99.99
Thai Lube Base Public Company Limited (TLB)	Thailand	Lube base oil refining and distribution	99.99	99.99
Thaioil Marine Co., Ltd. (TM)	Thailand	Providing marine transportation services for petroleum and liquid chemical products	99.99	99.99
Thaioil Ethanol Co., Ltd. (TET)	Thailand	Investment in ethanol business and alternative energy products	99.99	99.99
Thaioil Energy Services Co., Ltd. (TES)	Thailand	Providing human resource management	99.99	99.99
Thaioil Solvent Co., Ltd. (TOS)	Thailand	Investment in solvent and chemical businesses	99.99	99.99
TOP SPP Co., Ltd. (TOPSPP)	Thailand	Power and steam generation and distribution	99.99	99.99
Thaioil Treasury Center Co., Ltd. (TTC)	Thailand	Treasury center for the Group's business	99.99	99.99

14.2 Details of subsidiaries and joint operations of the subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiaries of TOP Group: (Continued)				
Sapthip Co., Ltd. (SAPTHIP)	Thailand	Ethanol products manufacturing and distribution	50.00	50.00
TOP Solvent Co., Ltd. (TS)	Thailand	Distribution of solvent and chemical products	99.99	99.99
Sak Chaisidhi Co., Ltd. (SAKC)	Thailand	Solvent and chemical products manufacturing and distribution	80.52	80.52
TOP Solvent (Vietnam) LLC. (TSV)	Vietnam	Distribution of solvent and chemical products	100.00	100.00
Thaioil Marine International Pte. Ltd. (TOMI)	Singapore	Investment in marine transportation for crude oil and petroleum product business	100.00	100.00
TOP Maritime Service Co., Ltd. (TMS)	Thailand	Providing marine transportation services for crew and utilities in Gulf of Thailand	99.99	55.00
LABIX Co., Ltd. (LABIX)	Thailand	Linear Alkyl Benzene manufacturing and distribution	75.00	75.00
Sapthip Green Energy Co., Ltd. (SGE)	Thailand	Biogas power generation and distribution	50.00	-

14.2 Details of subsidiaries and joint operations of the subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiaries of IRPC Group:				
Thai ABS Co., Ltd. (TABS)*	Thailand	Manufacturing and sales of plastic resin	99.99	99.99
IRPC A&L Company Limited (IRPCAL)	Thailand	Distributing petrochemical products	59.98	59.98
IRPC Oil Company Limited (OIRPC)	Thailand	Sales of oil products and gas	99.99	99.99
Rak Phasak Company Limited (RAKPHASAK)	Thailand	Oil vessel renting	99.99	99.99
IRPC Polyol Company Limited (IRPCP)**	Thailand	Manufacturing and sales of chemical products for polyurethanes	-	74.99
IRPC Technology Company Limited (TECHIRPC)	Thailand	Vocational school	99.99	99.99
R. Solution Co., Ltd. (IRPCS)***	Thailand	Service for security	99.50	99.50
TPI Internet Portal Co., Ltd. (TPIINTERNETPORTAL)****	Thailand	Sales of oil products	-	99.99
I-polymer Company Limited (IPOL)	Thailand	Distributing plastic resin and chemical products via E-Commerce system	99.99	-

* On August 1, 2016, TABS transferred its entire business to IRPC and TABS also registered its dissolution with Ministry of Commerce on the same day.

** The status of IRPCP changed from a subsidiary of IRPC Group to a joint venture.

*** Under bankruptcy process

**** Under liquidation process

14.2 Details of subsidiaries and joint operations of the subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiaries of PTTGM Group:				
PTT Mining Limited (PTTML)	Hong Kong	Investing in other companies	100.00	100.00
Straits (Brunei) Pte. Ltd. (Straits (Brunei))	Singapore	Investing in other companies	100.00	100.00
Sakari Resources Ltd. (SAR)	Singapore	Investing in coal mine business	95.82	95.49
Yoxford Holdings (YOXFORD)	Mauritius	Investing in other companies	100.00	100.00
Madagascar Consolidated Mining SA (MCM)	Madagascar	Coal mines	80.00	80.00
Tiger Energy Trading Pte. Ltd. (TET)	Singapore	Coal mine marketing	100.00	100.00
Sakari Energy Pte. Ltd. (SAEnergy)	Singapore	Investing in other companies	100.00	100.00
Reyka Wahana Digdjaya Pte. Ltd. (RWD)	Singapore	Investing in other companies	100.00	100.00
Sakari Energy Trading Pte. Ltd. (SET)	Singapore	Investing in other companies	100.00	100.00
Sakari Marine & Infrastructure Pte. Ltd. (SMI)	Singapore	Marine engineering	100.00	100.00
PT Straits Consultancy Services (SCS)	Indonesia	Management services	100.00	100.00
PT Bahari Perdana Persada (BPPD)	Indonesia	Investing in other companies	100.00	100.00
PT Bahari Putra Perdana (BPPN)	Indonesia	Investing in other companies	100.00	100.00
PT Reyka Wahana Digdjaya (RWD)	Indonesia	Investing in other companies	100.00	100.00
PT Bahari Cakrawala Sebuku (BCS)	Indonesia	Coal mines	100.00	100.00
PT Bumi Borneo Metalindo (BBM)	Indonesia	Investing in other companies	100.00	100.00
PT Citra Pertiwi Nusantara (CPN)	Indonesia	Coal transport equipment and delivery service	100.00	100.00

14.2 Details of subsidiaries and joint operations of the subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiaries of PTTGM Group: (Continued)				
PT Bumiborneo Pertiwi Nusantara (BPN)	Indonesia	Investing in other companies	100.00	100.00
PT Karbon Mahakam (KM)	Indonesia	Coal mines	100.00	100.00
PT Metalindo Bumi Raya (MBR)	Indonesia	Coal mines	100.00	100.00
PT Borneo Citrapertiwi Nusantara (BCN)	Indonesia	Investing in other companies	100.00	100.00
PT Separi Energy (SE)	Indonesia	Investing in other companies	100.00	100.00
PT Jembayan Muarabara (JMB)	Indonesia	Coal mines	100.00	100.00
PT Kemilau Rindang Abadi (KRA)	Indonesia	Coal mines	100.00	100.00
PT Arzara Baraindo Energitama (ABE)	Indonesia	Coal mines	100.00	100.00
PT Cakrawala Abadi Jaya (CAJ)	Indonesia	Investing in other companies	100.00	100.00
PT Sakti Utama Luas (SUL)	Indonesia	Investing in other companies	100.00	100.00
Tri Tunggal Lestari Bersama (TTLB)	Indonesia	Infrastructure business	100.00	100.00
PT Makassar Prima Coal (MPC)	Indonesia	Coal mines	70.00	70.00
PTT International Holding Limited (PTTIH)	Hong Kong	Investing in other companies	100.00	100.00
PTT International Investment Limited (PTTII)	Hong Kong	Investing in other companies	100.00	100.00
PTT International (Singapore) Company Pte. Limited (PTT Inter (Sing))	Singapore	Investing in other companies	100.00	100.00
Sakari Royal Limited (SRL)*	Cambodia	Coal mines	70.00	70.00

* Under liquidation process

14.2 Details of subsidiaries and joint operations of the subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Subsidiaries of PTTGE Group:				
Sabran Brothers Pte. Ltd. (Sabran)	Singapore	Investing in other companies	100.00	100.00
Kalimantan Thailand Palm Pte. Ltd. (KTP)*	Singapore	Investing in other companies	-	100.00
PTT Green Energy (Hong Kong) Limited (PTTGE HK)**	Hong Kong	Financing	-	100.00
PTT Green Energy (Thailand) Co., Ltd. (PTTGE TH)	Thailand	Management services for PTTGE Group	100.00	100.00
Subsidiary of BSA Group:				
Sport Services Alliance Co., Ltd. (SSA)	Thailand	Football club management	100.00	100.00
Business Professional Solutions Co., Ltd. (BPS)	Thailand	Business management	100.00	100.00

* Completely registered its dissolution on July 3, 2018.

** Completely registered its dissolution on April 6, 2018.

14.2 Details of subsidiaries and joint operations of the subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Joint operations of PTTEP Group:				
Carigali - PTTEPI Operating Company Sdn. Bhd. (CPOC)	Malaysia	Petroleum	50.00	50.00
Moattama Gas Transportation Company (MGTC)	Bermuda	Gas pipeline transportation	25.50	25.50
Taninthayi Pipeline Company LLC (TPC)	Cayman Islands	Gas pipeline transportation	19.32	19.32
Orange Energy Limited (Orange)	Thailand	Petroleum	53.95	53.95
B8/32 Partners Limited (B8/32 Partners)	Thailand	Petroleum	25.00	25.00
Andaman Transportation Limited (ATL)	Cayman Islands	Gas pipeline transportation	80.00	80.00
Leismer Aerodrome Limited (LAL)*	Canada	Air transportation	-	32.00
Groupement Bir Seba (GBRS)	Algeria	Petroleum	35.00	35.00
Natuna 2 B.V. (Natuna 2)	Netherlands	Petroleum	50.00	50.00
Mozambique LNG1 Company Pte. Ltd. (MZ LNG1)**	Singapore	Petroleum	-	8.50
Hoang-Long Joint Operating Company (HL JOC)	Vietnam	Petroleum	28.50	28.50
Hoan-Vu Joint Operating Company (HV JOC)	Vietnam	Petroleum	25.00	25.00

* During 2018, PTTEP Group revisited the classification of the investment according to current situations. As a result, the investment is classified as investment in associate, accounted for using the equity method.

** During 2018, PTTEP Group revisited the classification of the investment according to current situations. As a result, the investment is classified as other long-term investment, accounted for using the cost method.

14.3 Details of joint ventures and associates of subsidiaries

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
<u>Joint Ventures</u>				
PTTEP Group				
Erawan 2 FSO Bahamas Limited (Erawan 2)	Bahamas	FSO rental services	13.11	13.11
GPSC Group				
Thai Solar Renewable Co., Ltd. (TSR)	Thailand	Holding company	40.00	40.00
Nam Lik 1 Power Co., Ltd. (NL1PC)	Laos	Production and distribution of electricity	40.00	40.00
Nava Nakorn Electricity Generating Co., Ltd. (NNEG)	Thailand	Production and distribution of electricity	30.00	30.00
PTTGC Group				
Thai Ethoxylate Co., Ltd. (TEX)	Thailand	Manufacturing and distributing of petrochemical products	50.00	50.00
Emery Oleochemical (M) Sdn. Bhd. (EOM)	Malaysia	Manufacturing and distributing of biochemical products	50.00	50.00
Emery Specialty Chemical Sdn. Bhd. (ESC)	Malaysia	Manufacturing and distributing of chemical specialties	50.00	50.00
NatureWorks LLC (NTR)	United States of America	Manufacturing and distributing of bioplastic products	50.00	50.00
PTT MCC Biochem Co., Ltd. (PTTMCC)	Thailand	Petrochemicals	50.00	50.00
PTT Asahi Chemicals Co., Ltd. (PTTAC)	Thailand	Petrochemicals	50.00	50.00
HMC Polymers Co., Ltd. (HMC)	Thailand	Petrochemicals	41.44	41.44

14.3 Details of joint ventures and associates of subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Joint Ventures (Continued)				
TOP Group				
TOP-NTL Pte. Ltd. (TOP-NTL)	Singapore	Fund management services	50.00	50.00
TOP-NTL Shipping Trust (TOP-NTL(BT))	Singapore	Investing in other companies	50.00	50.00
TOP-NYK MarineOne Pte. Ltd. (TOP-NYK)	Singapore	Marine transportation services	50.00	50.00
TOP Nautical Star Co., Ltd. (TOP-NS)	Thailand	Storage and marine transportation services	35.00	35.00
IRPC Group				
IRPC Polyol Co., Ltd. (IRPCP)*	Thailand	Manufacturing and sales of chemical products for polyurethanes	50.00	-
IRPC PCC Co., Ltd. (IRPC-PCC)**	Thailand	Sales of petrochemical products	-	49.99
WHA Industrial Estate Rayong Co., Ltd. (WHA IER)	Thailand	Industrial estate development	40.00	-
PTTGM Group				
OGP Energy Solutions Company Limited (OGPS)	Thailand	Energy management and energy-related services	40.00	40.00
FEE (Bru) Pte. Ltd. (FEEBRU)	Singapore	Coal mines	35.00	35.00
PTTGE Group				
Chancellor Oil Pte. Ltd. (Chancellor)	Singapore	Investing in other companies	77.56	77.56

* The status of IRPCP changed from a subsidiary of IRPC Group to a joint venture.

** Previously, IRPC-PCC was a joint venture under IRPCP. When the status of IRPCP changed from a subsidiary of IRPC Group to a joint venture, causing IRPC-PCC ceased to be a joint venture of the Group.

14.3 Details of joint ventures and associates of subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Associates				
PTTEP Group				
PTTEP AP Group's associates*	Australia	Airbase services	50.00	50.00
Leismer Aerodrome Limited (LAL)**	Canada	Air transportation	32.00	-
GPSC Group				
Bangpa-in Cogeneration Co., Ltd. (BIC)	Thailand	Generation and supply of electricity and steam	25.00	25.00
Xayaburi Power Co., Ltd. (XPCL)	Laos	Hydroelectric power plant	25.00	25.00
PTTOR Group				
FST Aviation Services Limited (FST)	Hong Kong	Aircraft refuelling services	25.00	25.00
Thai Petroleum Pipeline Co., Ltd. (THAPPLINE)*** (The Group holds 49.21% shareholding)	Thailand	Oil transmission pipelines	40.53	-
Petro Asia (Thailand) Co., Ltd. (PAT)***	Thailand	Oil marketing	35.00	-

* Associates of PTTEP AP Group consist of Mungallu Truscott Airbase Pty Ltd. and Troughton Island Pty Ltd.

** During 2018, PTTEP Group revisited the classification of the investment according to current situations. As a result, the investment is classified as investment in associate, accounted for using the equity method.

*** Since July 1, 2018, the Company has commenced the process of transferring various assets and liabilities, and shares of related companies which consist of BAFS, PTCL, PTOM, TLBC, THAPPLINE, PAT, IPS and FPT to PTTOR.

14.3 Details of joint ventures and associates of subsidiaries (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Associates (Continued)				
PTTGC Group				
PT Indo Thai Trading (ITT)	Indonesia	Petrochemicals	49.00	49.00
Vinythai Plc. (VNT)	Thailand	Petrochemicals	24.98	24.98
Eastern Fluid Transport Co., Ltd. (EFT)	Thailand	Infrastructure	22.65	22.65
Thai Eastern Topseeds Oil Co., Ltd. (TETSO)	Thailand	Petrochemicals	30.00	30.00
S.P. Petpack Inter Group Co., Ltd. (SPPETPACK)	Thailand	Petrochemicals	25.00	25.00
Kuraray GC Advanced Materials Co., Ltd. (KGC)	Thailand	Manufacturing of chemical specialties	33.40	-
TOP Group				
T.I.M Ship Management Co., Ltd. (TIM)	Thailand	Marine transportation services	33.33	33.33
Ubon Bio Ethanol Co., Ltd. (UBE)	Thailand	Manufacturing and distributing of ethanol	21.28	21.28
IRPC Group				
UBE Chemicals (Asia) Public Co., Ltd. (UCHA)	Thailand	Manufacturing and sales of petrochemical products	25.00	25.00
PTTER Group				
East Mediterranean Gas Company S.A.E. (EMG)	Egypt	Natural gas transmission pipelines	25.00	25.00

14.4 Investments in joint ventures in the consolidated financial statements as at December 31, 2018 and 2017

Unit: Million Baht

Company	Ownership interest (%)		2018		2017		Dividends income	
	2018	2017	Cost method	Equity method	Cost method	Equity method	2018	2017
1. TTM(T)	50.00	50.00	4,341.80	4,360.08	4,341.80	4,360.08	408.13	521.02
2. TTM(M)	50.00	50.00	1,001.31	1,287.38	1,001.31	1,299.72	182.33	76.58
3. DCAP	35.00	35.00	584.50	936.03	584.50	882.15	19.67	21.35
4. Erawan 2	13.11	13.11	506.26	565.02	544.13	611.83	95.26	121.38
5. TSR	40.00	40.00	1,697.00	1,638.80	1,697.00	1,711.83	382.43	301.00
6. NL1PC	40.00	40.00	427.63	463.49	344.77	324.03	-	-
7. NNEG	30.00	30.00	488.40	536.28	480.90	588.63	108.00	-
8. TEX	50.00	50.00	210.00	735.69	210.00	708.82	91.35	71.40
9. EOM	50.00	50.00	4,965.77	4,519.32	4,965.77	4,526.47	-	-
10. ESC	50.00	50.00	407.04	-	407.04	-	-	-
11. NTR	50.00	50.00	4,793.33	2,842.40	4,793.33	2,486.60	321.00	1,018.00
12. PTTMCC	50.00	50.00	930.12	214.68	930.12	459.98	-	-
13. PTTAC	50.00	50.00	6,909.41	9,569.39	6,909.41	6,555.07	-	-
14. HMC	41.44	41.44	9,117.12	12,885.23	9,117.12	12,849.21	1,242.21	2,194.99
15. TOP-NTL	50.00	50.00	0.25	15.80	0.25	11.32	-	-
16. TOP-NTL(BT)	50.00	50.00	24.05	67.29	24.05	43.00	-	-
17. TOP-NYK	50.00	50.00	273.88	432.28	273.88	420.36	34.00	34.00
18. TOP-NS	35.00	35.00	52.50	110.19	52.50	65.47	-	-
19. IRPCP	50.00	-	150.00	45.92	-	-	-	-
20. IRPC-PCC	-	49.99	-	-	5.00	5.68	-	5.50
21. WHA IER	40.00	-	65.00	64.50	-	-	-	-
22. OGPS	40.00	40.00	38.23	27.29	38.49	26.90	-	-
23. FEEBRU	35.00	35.00	213.32	134.23	214.84	135.18	-	-
24. Chancellor	77.56	77.56	2,949.98	1,288.56	2,971.00	1,297.74	-	-
			40,146.90	42,739.85	39,907.21	39,370.07		
Less Allowance for impairment			(3,163.31)	(1,422.79)	(3,185.83)	(1,432.92)		
Total			36,983.59	41,317.06	36,721.38	37,937.15	2,884.38	4,365.22

14.5 Investments in associates in the consolidated financial statements as at December 31, 2018 and 2017

Unit: Million Baht

Company	Ownership interest (%)		2018		2017		Dividends income	
	2018	2017	Cost method	Equity method	Cost method	Equity method	2018	2017
1. PTTEP AP Group's associates	50.00	50.00	48.59	231.54	48.94	229.97	-	-
2. LAL	32.00	-	131.78	125.65	-	-	-	-
3. BIC	25.00	25.00	923.75	879.02	923.75	812.20	81.15	20.29
4. XPCL	25.00	25.00	6,672.53	6,168.79	5,794.47	5,249.30	-	-
5. FST	25.00	25.00	0.72	1.30	0.76	1.39	-	-
6. THAPPLINE	49.21	49.21	3,952.72	5,086.82	3,952.72	5,012.28	831.28	849.59
7. PAT	35.00	35.00	131.25	-	131.25	-	-	-
8. ITT	49.00	49.00	125.28	220.27	125.28	200.67	-	-
9. VNT	24.98	24.98	3,297.39	5,130.10	3,297.39	4,632.40	266.43	133.22
10. EFT	22.65	22.65	2.27	20.15	2.27	19.53	7.48	7.25
11. TETSO	30.00	30.00	66.60	57.06	46.69	45.45	-	-
12. SPPETPACK	25.00	25.00	50.00	45.84	50.00	44.99	-	-
13. KGC	33.40	-	470.10	469.52	-	-	-	-
14. TIM	33.33	33.33	1.00	-	1.00	-	-	-
15. UBE	21.28	21.28	769.55	818.57	769.55	804.26	-	63.83
16. UCHA	25.00	25.00	5,299.82	5,113.63	5,299.82	4,927.18	34.91	-
17. EMG	25.00	25.00	15,864.11	12,767.76	15,977.09	12,858.69	-	-
			37,807.46	37,136.02	36,420.98	34,838.31		
Less Allowance for impairment			(15,995.36)	(12,767.76)	(16,108.34)	(12,858.69)		
Total			21,812.10	24,368.26	20,312.64	21,979.62	1,221.25	1,074.18

14.6 Investments in subsidiaries, joint ventures and associates in the separate financial statements as at December 31, 2018 and 2017

Unit: Million Baht

Company	Ownership interest (%)		Cost method		Dividends income	
	2018	2017	2018	2017	2018	2017
Subsidiaries						
1. PTTEP	65.29	65.29	71,390.42	71,390.42	11,663.37	10,367.45
2. PTTLNG	100.00	100.00	18,913.89	15,599.01	1,728.87	1,823.18
3. PTTNGD	58.00	58.00	418.14	418.14	1,160.00	870.00
4. PTTGL	50.00	50.00	5,210.72	5,210.72	-	-
5. EnCo	50.00	50.00	900.00	900.00	64.00	41.77
6. PTTES	40.00	40.00	62.50	62.50	-	-
7. GPSC	22.58	22.58	4,949.93	4,949.93	422.83	389.01
8. PTTCL	-	100.00	-	103.49	-	-
9. PTTOM	-	100.00	-	16.15	-	-
10. PTTOR	100.00	100.00	90,000.00	8,621.67	-	-
11. PTT TANK	100.00	100.00	2,500.37	2,500.37	121.00	133.00
12. TLBC	-	48.95	-	140.00	1.12	3.50
13. PTTT	100.00	100.00	2.50	2.50	38.21	41.90
14. PTTT LDN	100.00	100.00	347.75	347.75	-	-
15. PTTPM	-	-	-	-	-	125.00
16. PTTGC	48.18	48.89	47,426.03	48,121.52	9,301.33	7,825.33
17. TOP	48.03	49.10	11,132.20	11,380.83	5,225.83	4,507.41
18. IRPC	48.05	38.51	42,339.93	28,467.24	3,829.68	1,810.03
19. TP	26.00	26.00	2,304.76	2,304.76	182.65	270.32
20. PTTER	100.00	100.00	33,702.67	33,702.67	-	-
21. PTTGM	100.00	100.00	54,404.22	33,007.14	-	-
22. PTTGE	100.00	100.00	12,403.10	11,750.64	-	-
23. PTTRTC	100.00	100.00	31.40	31.40	-	-
24. PTT TCC	100.00	-	20.00	-	-	-
25. BSA	100.00	100.00	0.50	0.50	55.00	40.00
26. PTT DIGITAL	20.00	20.00	30.00	30.00	16.40	15.60
Investments in subsidiaries			398,491.03	279,059.35		
<u>Less Allowance for impairment</u>			(82,836.89)	(60,130.02)		
Total			315,654.14	218,929.33	33,810.29	28,263.50

14.6 Investments in subsidiaries, joint ventures and associates in the separate financial statements as at December 31, 2018 and 2017 (Continued)

Unit: Million Baht

Company	Ownership interest (%)		Cost method		Dividends income	
	2018	2017	2018	2017	2018	2017
Joint Ventures						
27. TTM(T)	50.00	50.00	4,341.80	4,341.80	408.13	521.02
28. TTM(M)	50.00	50.00	1,001.31	1,001.31	182.33	76.58
29. DCAP	35.00	35.00	584.50	584.50	19.67	21.35
30. HMC	-	-	-	-	-	414.35
Total			5,927.61	5,927.61	610.13	1,033.30
Associates						
31. THAPPLINE	-	40.53	-	3,173.23	684.21	699.28
32. PAT	-	35.00	-	131.25	-	-
Investments in associates			-	3,304.48		
Less Allowance for impairment			-	(131.25)		
Total			-	3,173.23	684.21	699.28
Total			321,581.75	228,030.17	35,104.63	29,996.08

14.7 Movements in investments in the consolidated and the separate financial statements

14.7.1 Movements in investments in joint ventures under the equity method in the consolidated financial statements are as follows:

Unit: Million Baht

	2018	2017
As at January 1	37,937.15	36,843.81
- Share of profit from investments in joint ventures	6,461.65	5,461.84
- Dividend income	(2,884.38)	(4,365.22)
- Additional investments	155.36	26.12
- Reclassifications	104.79	-
- Disposal of investments	(5.68)	-
- Share capital reduction	(33.87)	(13.34)
- Share of other comprehensive income (loss) of joint ventures	(412.37)	115.23
- Currency translation differences	(5.59)	(131.29)
As at December 31	41,317.06	37,937.15

14.7.2 Movements in investments in associates under the equity method in the consolidated financial statements are as follows:

Unit: Million Baht

	2018	2017
As at January 1	21,979.62	19,429.58
- Share of profit from investments in associates	2,053.37	1,848.57
- Dividend income	(1,221.25)	(1,074.18)
- Additional investments	1,368.07	1,720.40
- Reclassifications	131.15	-
- Disposal of investments	-	(12.00)
- Share of other comprehensive income of associates	58.36	89.47
- Currency translation differences	(1.06)	(22.22)
As at December 31	24,368.26	21,979.62

14.7.3 Movements in investments in subsidiaries, joint ventures and associates under the cost method in the separate financial statements are as follows:

Unit: Million Baht

	2018	2017
As at January 1	228,030.17	236,418.00
- Additional investments	120,635.44	42,970.88
- Disposal of investments	(4,508.24)	(17,643.06)
- Loss on impairment	(22,706.87)	(33,715.65)
- Reversal of loss on impairment	131.25	-
As at December 31	321,581.75	228,030.17

14.8 Summary financial information of the material joint ventures of the Group are as follows:

Statements of financial position as at December 31, 2018 and 2017

	2018						2017					
	TTM(T)	TTM(M)	DCAP	PTTAC	HMC	TTM(T)	TTM(M)	DCAP	PTTAC	HMC	Unit: Million Baht	
Current assets	5,101.82	2,322.60	1,045.57	6,063.62	9,017.95	5,278.15	2,526.93	1,284.51	5,482.23	7,740.55		
Non-current assets	13,367.07	4,599.63	2,419.54	21,710.38	26,441.47	15,091.41	5,335.01	2,309.95	22,602.45	28,480.74		
Current liabilities	(1,583.90)	(856.05)	(716.28)	(1,415.41)	(4,826.40)	(2,250.66)	(1,189.42)	(626.44)	(1,469.28)	(4,322.01)		
Non-current liabilities	(8,164.82)	(3,491.44)	(74.45)	(7,219.80)	(6,876.61)	(9,398.74)	(4,073.09)	(447.58)	(13,505.26)	(8,254.63)		
Net assets (100%)	8,720.17	2,574.74	2,674.38	19,138.79	23,756.41	8,720.16	2,599.43	2,520.44	13,110.14	23,644.65		
Group's share of net assets	4,360.08	1,287.38	936.03	9,569.39	9,844.66	4,360.08	1,299.72	882.15	6,555.07	9,798.34		
Adjustment	-	-	-	-	3,040.57	-	-	-	-	3,050.87		
Carrying amount of interest in joint ventures	4,360.08	1,287.38	936.03	9,569.39	12,885.23	4,360.08	1,299.72	882.15	6,555.07	12,849.21		

Statements of income for the years ended December 31, 2018 and 2017

	2018						2017					
	TTM(T)	TTM(M)	DCAP	PTTAC	HMC	TTM(T)	TTM(M)	DCAP	PTTAC	HMC	Unit: Million Baht	
Revenue*	3,038.23	740.81	2,686.63	18,753.80	32,416.09	3,200.76	163.94	2,584.42	17,021.92	32,456.21		
Expenses	(2,022.33)	(351.00)	(2,423.65)	(12,726.66)	(27,855.97)	(2,029.16)	(157.86)	(2,241.95)	(12,534.27)	(26,600.00)		
Profit before taxes	1,015.90	389.81	262.98	6,027.14	4,560.12	1,171.60	6.08	342.47	4,487.65	5,856.21		
Income taxes	(143.23)	(143.78)	(52.83)	1.33	(557.89)	26.94	(11.87)	(61.83)	1.25	(767.15)		
Net profit (loss)	872.67	246.03	210.15	6,028.47	4,002.23	1,198.54	(5.79)	280.64	4,488.90	5,089.06		

* Including gain (loss) on foreign exchange rate

14.9 Summary financial information of the material associates of the Group are as follows:

Statements of financial position as at December 31, 2018 and 2017

	2018				2017			
	THAPPLINE	XPCL	UCHA	THAPPLINE	XPCL	UCHA	Unit: Million Baht	
Current assets	4,547.65	841.16	6,917.07	4,980.30	948.25	5,238.10		
Non-current assets	6,861.20	124,116.66	8,393.98	6,248.42	106,802.92	9,310.40		
Current liabilities	(603.69)	(1,946.53)	(1,264.01)	(579.07)	(1,098.38)	(1,366.34)		
Non-current liabilities	(117.48)	(98,414.20)	(85.63)	(113.41)	(85,468.93)	(124.96)		
Net assets (100%)	10,687.68	24,597.09	13,961.41	10,536.24	21,183.86	13,057.20		
Group's share of net assets	5,259.90	6,149.27	3,490.35	5,185.36	5,295.97	3,264.30		
Adjustment	(173.08)	19.52	1,623.28	(173.08)	(46.67)	1,662.88		
Carrying amount of interest in associates	5,086.82	6,168.79	5,113.63	5,012.28	5,249.30	4,927.18		

Statements of income for the years ended December 31, 2018 and 2017

	2018				2017			
	THAPPLINE	XPCL	UCHA	THAPPLINE	XPCL	UCHA	Unit: Million Baht	
Revenue*	3,584.99	-	16,074.77	3,504.35	-	12,679.36		
Expenses	(1,279.49)	(100.14)	(14,850.97)	(1,269.93)	(86.43)	(11,491.38)		
Profit (loss) before taxes	2,305.50	(100.14)	1,223.80	2,234.42	(86.43)	1,187.98		
Income taxes	(461.26)	-	(179.99)	(452.52)	-	(128.77)		
Net profit (loss)	1,844.24	(100.14)	1,043.81	1,781.90	(86.43)	1,059.21		

* Including gain (loss) on foreign exchange rate

14.10 Significant events during the year ended December 31, 2018

PTTGM

On January 23, 2018, at the Extraordinary General Meeting of the shareholders of PTT Global Management Co., Ltd. (PTTGM) No. 1/2018, the shareholders passed an extraordinary resolution to increase 213.97 million authorized share capital at Baht 100.00 per share amounting to Baht 21,397.08 million, in order to increase the share capital of company under the Group for loan repayment of the former shareholder, in accordance with the resolution of the shareholding and finance restructuring on December 16, 2016. The Company made the additional payment on February 1, 2018.

PTTOR

On February 7, 2018, at the Board of Directors Meeting of PTT Oil and Retail Business Co., Ltd. (PTTOR) No. 2/2018, the Board passed a resolution to approve the call up of additional share capital of Baht 158.33 million, consisting of share capital Baht 3.287 per share in respect of 36 million ordinary shares, amounting to Baht 118.33 million, and Baht 50.00 per share in respect of 800,000 ordinary shares, amounting to Baht 40.00 million. The Company made the payment on February 23, 2018.

On March 9, 2018, PTTOR registered to change status from PTT Oil and Retail Business Co., Ltd. to PTT Oil and Retail Business Public Co., Ltd, under the Public Limited Companies Act.

On June 5, 2018, at the Extraordinary General Meeting of the shareholders of PTTOR No. 1/2018, the shareholders passed a resolution to increase 8,122 million authorized share capital of PTTOR at Baht 10.00 per share amounting to Baht 81,220.00 million. The Company made the payment on June 28, 2018.

IRPC

On February 20, 2018, at the Board of Directors Meeting of the Company No. 2/2018, the Board passed a resolution to approve the acquisition of ordinary shares in IRPC Public Co., Ltd. (IRPC) in the number of 1,950 million shares, which is equivalent to an interest of approximately 9.54%, amounting to Baht 13,845.00 million, causing its equity interest in IRPC increase to 48.05%. The Company made the payment on February 26, 2018 and the Group recognized deficit from the change in the ownership interests in subsidiaries amounting to Baht 5,454.63 million under shareholders' equity in the consolidated financial statements.

PTTGC

On January 19, 2018, at the Board of Directors Meeting of the Company No. 1/2018, the Board passed a resolution to approve the revision of the policy regarding shareholding in the Group's affiliates. The Company sold 31.86 million ordinary shares in PTT Global Chemical Public Co., Ltd. (PTTGC) in the year, amounting to Baht 2,784.55 million, causing its equity interest in PTTGC decrease to 48.18%. The Group recognized surplus from the change in the ownership interests in subsidiaries amounting to Baht 750.92 million under shareholders' equity in the consolidated financial statements and the Company recognized gain on disposal of investments amounting to Baht 2,089.08 million in the separate financial statements.

14.10 Significant events during the year ended December 31, 2018 (Continued)

TOP

On January 19, 2018, at the Board of Directors Meeting of the Company No. 1/2018, the Board passed a resolution to approve the revision of the policy regarding shareholding in the Group's affiliates. The Company sold 21.88 million ordinary shares in Thai Oil Public Co., Ltd. (TOP) in the year, amounting to Baht 1,834.04 million, causing its equity interest in TOP decrease to 48.03%. The Group recognized surplus from the change in the ownership interests in subsidiaries amounting to Baht 482.04 million under shareholders' equity in the consolidated financial statements and the Company recognized gain on disposal of investments amounting to Baht 1,585.41 million in the separate financial statements.

PTTLNG

On March 26, 2018, at the Board of Directors Meeting of PTT LNG Co., Ltd. (PTTLNG) No. 3/2018, the Board passed a resolution to approve the call up of additional share capital of Baht 487.92 million and Baht 1,016.07 million. The Company made these additional payments on April 27, 2018 and June 14, 2018, respectively.

On April 24, 2018, at the 2018 Annual General Meeting of PTTLNG, the shareholders passed an extraordinary resolution to increase 534.50 million authorized share capital at Baht 10.00 per share amounting to Baht 5,345.00 million. The Company made the payment amounting to Baht 1,336.25 million on June 15, 2018.

On November 29, 2018, at the Board of Directors Meeting of PTTLNG No. 10/2018, the Board passed a resolution to approve the call up of additional share capital of Baht 474.64 million. The Company made the additional payments on December 21, 2018.

PTTGE

On October 20, 2017, at the Board of Directors Meeting of the Company No. 10/2017, the Board passed a resolution to approve the increase of the share capital of PTT Green Energy Pte. Ltd. (PTTGE) to support the dissolution of companies under the Sabran Brothers Group. On March 15, 2018, PTTGE called up payment of 1 million additional shares at USD 1.00 per share amounting to USD 1.00 million or equivalent to Baht 31.12 million. The Company made the payment on April 10, 2018.

On July 20, 2018, at the Board of Directors Meeting of the Company No. 7/2018, the Board passed a resolution to approve the increase of the share capital of PTTGE to support loan repayment and operating expenses of the Group. On August 20, 2018 and August 29, 2018, PTTGE called up payment of 18.83 million additional shares at USD 1.00 per share amounting to USD 18.83 million or equivalent to Baht 621.34 million. The Company made the payment on September 6, 2018.

14.10 Significant events during the year ended December 31, 2018 (Continued)

PTT TCC

On February 20, 2018, at the Board of Directors Meeting of the Company No. 2/2018, the Board passed a resolution to approve the establishment of PTT Treasury Center Co., Ltd. (PTT TCC), to conduct the business in the area of international headquarters and treasury center for the purpose of financial and treasury management of PTT Group. The Company holds a 100% shareholding of PTT TCC.

PTT TCC has an initial registered share capital of Baht 20.00 million comprising 200,000 shares with a par value of Baht 100.00 each. The Company made the payment amounting to Baht 5.00 million on May 8, 2018.

On November 12, 2018, at the Board of Directors Meeting of the PTT TCC No. 5/2018, the Board passed a resolution to approve the called up payment of Baht 15.00 million additional shares. The Company made the payment on December 4, 2018.

14.11 Impairment of investments

The Company performs an impairment test on investments whenever events or circumstances suggest that the carrying amount of the investments may exceed its recoverable amount. A loss on impairment is recognized when the recoverable amount of an asset is lower than its carrying amount. The recoverable amount is the higher of the investment's fair value less cost to sell and its value in use.

The Company estimated the recoverable amount of the investments in subsidiaries as at December 31, 2018, using the discounted future cash flow method. The significant assumptions used to determine the recoverable amount included operating revenue and expenses, foreign exchange rates, and discount rates referred to weighted average cost of capital (WACC). The details are as follows:

PTTGM used the proceeds from the share capital increase to repay its loan to the former shareholder. Subsequently, the former shareholder, a subsidiary of the Company, used the loan repayment received to repay a loan to the Company. The Company reversed the allowance for doubtful accounts amounting to Baht 22,120.52 million mentioned in Note 9.3. According to the evaluation of the recoverable amount of the investment in PTTGM, the Company recorded allowance for impairment of the investment amounting to Baht 21,624.66 million in the separate financial statements.

PTTGE used the proceeds from the share capital increase to repay its loan to the Company. The Company reversed the allowance for doubtful account amounting to Baht 428.84 million mentioned in Note 9.2. According to the evaluation of the recoverable amount of the investment in PTTGE, the Company recorded allowance for impairment of the investment amounting to Baht 749.74 million in the separate financial statements.

In addition, the Company recorded allowance for impairment of the investment in PTTER amounting to Baht 332.47 million in the separate financial statements.

14.12 Additional information in respect of associates

The Company has not recognized its share of profit from an associate for the year ended December 31, 2018 amounting to Baht 11.90 million (2017: Baht 11.60 million) because, as at December 31, 2018, the Company had an unrealized allowance for its share of loss from these associates amounting to Baht 4.47 million (December 31, 2017: Baht 16.37 million).

14.13 Investments in subsidiaries, joint ventures and associates where voting rights and ownership interests differ are as follows:

Unit: Percentage

Company	Voting rights	Ownership
Associate		
THAPPLINE	49.22	49.21

14.14 Material non-controlling interests

Financial information of subsidiaries that have material non-controlling interests are as follow:

Company	Country of Incorporation	Non-controlling interests Shareholding (%)	
		2018	2017
PTT Exploration and Production Public Co., Ltd. (PTTEP)	Thailand	34.71	34.71
Thai Oil Public Co., Ltd. (TOP)	Thailand	51.97	50.90
IRPC Public Co., Ltd. (IRPC)	Thailand	51.95	61.49
PTT Global Chemical Public Co., Ltd. (PTTGC)	Thailand	51.82	51.11
Global Power Synergy Public Co., Ltd. (GPSC)	Thailand	25.00	25.00

14.14 Material non-controlling interests (Continued)

Financial information of subsidiaries that have material non-controlling interests, after accounting policy adjustment, before eliminations:

Summary of financial position as at December 31, 2018 and 2017

	2018						2017			
	PTTEP	TOP	IRPC	PTTGC	GPSC	PTTEP	TOP	IRPC	PTTGC	GPSC
Current assets	186,783.42	164,743.46	46,917.65	144,310.01	12,163.88	188,400.09	126,211.39	47,904.09	140,737.59	9,917.98
Non-current assets	448,303.91	103,870.15	136,348.55	324,945.33	52,196.15	439,721.21	102,095.86	139,100.85	294,226.34	49,964.37
Current liabilities	(80,663.14)	(38,020.05)	(48,895.93)	(73,858.25)	(4,727.37)	(52,330.50)	(33,379.41)	(49,747.69)	(60,312.88)	(4,087.58)
Non-current liabilities	(164,360.80)	(104,232.20)	(46,398.81)	(91,914.88)	(17,383.76)	(199,416.07)	(67,766.12)	(49,344.61)	(94,386.95)	(15,506.92)
Net assets	390,063.39	126,361.36	87,971.46	303,482.21	42,248.90	376,374.73	127,161.72	87,912.64	280,264.10	40,287.85
Owners of the parent	229,698.21	58,397.70	42,229.46	142,641.24	29,919.00	220,759.68	60,016.47	33,804.00	134,383.81	28,845.59
Non-controlling interests	160,365.18	67,963.66	45,742.00	160,840.97	12,329.90	155,615.05	67,145.25	54,108.64	145,880.29	11,442.26

Unit: Million Baht

14.14 Material non-controlling interests (Continued)

Financial information of subsidiaries that have material non-controlling interests, after accounting policy adjustment, before eliminations: (Continued)

Summary of comprehensive income or loss for the years ended December 31, 2018 and 2017

	2018						2017					
	PTTEP	TOP	IRPC	PTTGC	GPSC	PTTEP	TOP	IRPC	PTTGC	GPSC	Unit: Million Baht	
Revenue*	174,432.71	392,200.76	282,815.92	529,734.02	25,880.89	152,581.15	342,932.86	215,899.17	448,789.57	21,286.62		
Expenses	(114,462.13)	(379,848.83)	(273,572.84)	(486,477.09)	(21,748.89)	(126,014.73)	(312,078.03)	(201,085.09)	(402,699.27)	(17,689.69)		
Profit before taxes	59,970.58	12,351.93	9,243.08	43,256.93	4,132.00	26,566.42	30,854.83	14,814.08	46,090.30	3,596.93		
Income taxes	(23,764.29)	(1,982.79)	(1,146.59)	(2,985.96)	(242.79)	(5,986.95)	(5,529.49)	(2,181.34)	(3,863.24)	(256.76)		
Net profit	36,206.29	10,369.14	8,096.49	40,270.97	3,889.21	20,579.47	25,325.34	12,632.74	42,227.06	3,340.17		
Other comprehensive income (loss)	(2,929.13)	(161.55)	(1.30)	268.34	(55.09)	(34,796.06)	(310.29)	(67.23)	(1,041.90)	(25.77)		
Total comprehensive income (loss)	33,277.16	10,207.59	8,095.19	40,539.31	3,834.12	(14,216.59)	25,015.05	12,565.51	41,185.16	3,314.40		
Owners of the parent	21,725.46	4,788.58	3,873.95	19,454.10	2,478.21	(9,281.50)	12,041.86	4,837.31	18,633.84	2,362.24		
Non-controlling interests	11,551.70	5,419.01	4,221.24	21,085.21	1,355.91	(4,935.09)	12,973.19	7,728.20	22,551.32	952.16		
Total dividend paid to non-controlling interests	6,200.60	5,597.24	4,152.43	10,437.75	468.22	5,512.39	4,607.79	2,912.16	8,550.66	430.76		

* Including gain (loss) on foreign exchange rate

14.14 Material non-controlling interests (Continued)

Financial information of subsidiaries that have material non-controlling interests, after accounting policy adjustment, before eliminations: (Continued)

Summary of cash flows for the years ended December 31, 2018 and 2017

	2018						2017			
	PTTEP	TOP	IRPC	PTTGC	GPSC	PTTEP	TOP	IRPC	PTTGC	GPSC
Net cash provided by operating activities	104,710.90	18,544.52	17,848.87	52,024.71	5,849.84	89,704.08	33,985.38	20,385.01	58,395.96	3,152.97
Net cash provided by (used in) investing activities	5,102.58	(25,913.14)	(6,133.88)	(31,237.25)	(3,358.35)	(85,783.66)	(30,073.51)	(11,240.33)	(36,821.84)	(2,362.97)
Net cash provided by (used in) financing activities	(55,685.33)	25,380.10	(11,522.20)	(27,397.36)	(718.26)	(22,539.55)	(18,794.24)	(9,042.03)	(10,674.82)	(2,305.36)
Others	(354.06)	406.56	-	(75.45)	(25.03)	(5,037.92)	(614.97)	-	1,386.71	(14.34)
Net increase (decrease) in cash and cash equivalents	53,774.09	18,418.04	192.79	(6,685.35)	1,748.20	(23,657.05)	(15,497.34)	102.65	12,286.01	(1,529.70)

Unit: Million Baht

15. Other Long-term Investments

15.1 Details of other long-term investments

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Other Long-term Investments of the Company				
Long-term Investments in Equity Securities				
Petro Asia (Sanshui) Co., Ltd. (PA (Sanshui))	China	Oil marketing	25.00	25.00
Petro Asia (Maoming) Co., Ltd. (PA (Maoming))	China	Oil marketing	20.00	20.00
Sarn Palung Social Enterprise Co., Ltd. (SPSE) (The Group holds 100% shareholding)	Thailand	Social enterprise	20.00	20.00
Intoplane Services Co., Ltd. (IPS)*	Thailand	Aircraft refuelling services	-	16.67
Baania (Thailand) Co.,Ltd. (Baania)	Thailand	Integrated online real estate platform	3.57	-
Colour Vision International Co., Ltd. (Corpus)	Thailand	Finished yarn production	0.48	0.48
Fuel Pipeline Transportation Co., Ltd. (FPT)* **	Thailand	Oil transmission pipelines	-	-
HG Robotics Co., Ltd. (HG Robotics)	Thailand	Autonomous and robotics solutions	9.49	-

* Since July 1, 2018, the Company has commenced the process of transferring various assets and liabilities, and shares of related companies which consist of BAFS, PTCL, PTOM, TLBC, THAPLINE, PAT, IPS and FPT to PTTOR.

** As at December 31, 2017, the Company holds 0.0000090% of ownership interest.

15.1 Details of other long-term investments (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
<u>Other Long-term Investments of the Company (Continued)</u>				
<u>Long-term Investments in Debt Securities</u>				
Berli Jucker Public Co., Ltd. (BJC)	Thailand	Consumer products manufacturing and service		
Bangkok Dusit Medical Services Public Co., Ltd. (BDMS)	Thailand	Health care services		
Bangkok Mass Transit System Public Co., Ltd. (BTS)	Thailand	Transportation and logistics		
Indorama Ventures Public Co., Ltd. (IVL)	Thailand	Petrochemicals and chemicals		
The Commercial Bank (P.S.Q.C.) (CBQ)	Qatar	Banking		
Bank of Ayudhya Public Co., Ltd. (BAY)	Thailand	Banking		
Emirates NBD (ENBD)	United Arab Emirates	Banking		
The Siam Cement Public Co., Ltd. (SCC)	Thailand	Property and Construction		
Thai Beverage Public Co., Ltd. (TBEV)	Thailand	Manufacturing and distributing of food and beverage		
Bangchak Corporation Public Co., Ltd. (BCP)	Thailand	Energy & Utilities		
Charoen Pokphand Foods Public Co., Ltd. (CPF)	Thailand	Food & Beverage		

15.1 Details of other long-term investments (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Other Long-term Investments of Subsidiaries				
<u>Long-term Investments in Equity Securities</u>				
PTTEP Group				
Sarn Palung Social Enterprise Co., Ltd. (SPSE) (The Group holds 100% shareholding)	Thailand	Social enterprise	15.00	15.00
Mozambique LNG1 Company Pte. Ltd. (MZ LNG1)*	Singapore	Petroleum	8.50	-
PTTGL Group				
Petronas LNG 9 Sdn. Bhd. (PL9SB)	Malaysia	LNG liquefaction	10.00	10.00
GPSC Group				
24M Technologies, Inc. (24M)	United States of America	Research and development of battery	29.50	18.00
Ratchaburi Power Co., Ltd. (RPCL)	Thailand	Electricity generation	15.00	15.00
Sarn Palung Social Enterprise Co., Ltd. (SPSE) (The Group holds 100% shareholding)	Thailand	Social enterprise	10.00	10.00

* During 2018, PTTEP Group revisited the classification of the investment according to current situations. As a result, the investment is classified as other long-term investment, accounted for using the cost method.

15.1 Details of other long-term investments (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Other Long-term Investments of Subsidiaries (Continued)				
Long-term Investments in Equity Securities (Continued)				
PTTOR Group				
Sarn Palung Social Enterprise Co., Ltd. (SPSE) (The Group holds 100% shareholding)	Thailand	Social enterprise	10.00	10.00
Intoplane Services Co., Ltd. (IPS)*	Thailand	Aircraft refuelling services	16.67	-
Fuel Pipeline Transportation Co., Ltd. (FPT)* **	Thailand	Oil transmission pipelines	-	-
PTTT Group				
KIC Oil Terminal Sdn. Bhd. (KOT)	Malaysia	Logistics services	10.00	10.00
Kadriah Integrated Facilities Sdn. Bhd. (KIF)	Malaysia	Logistics services	10.00	10.00
Kadriah I Ltd. (K I)	Malaysia	Logistics services	10.00	10.00
Kadriah II Ltd. (K II)	Malaysia	Logistics services	10.00	10.00
PTTGC Group				
Alliance Petrochemical Investment (Singapore) Pte. Ltd. (API)***	Singapore	Investment in other companies	-	15.34
Exeltium SAS (EXS)	France	Electricity business	4.00	4.00
Sarn Palung Social Enterprise Co., Ltd. (SPSE) (The Group holds 100% shareholding)	Thailand	Social enterprise	15.00	15.00
TPBI & Myanmar Star Co., Ltd. (TPBIMS)	Myanmar	Manufacturing and distributing of polymer products	10.00	-

* Since July 1, 2018, the Company has commenced the process of transferring various assets and liabilities, and shares of related companies which consist of BAFS, PTCL, PTOM, TLBC, THAPPLINE, PAT, IPS and FPT to PTTOR.

** As at December 31, 2018, the Company holds 0.0000090% of ownership interest.

*** During the third quarter of 2018, PTTGC sold all shares in API.

15.1 Details of other long-term investments (Continued)

Company	Country of Incorporation	Business	Ownership interest (%)	
			2018	2017
Other Long-term Investments of Subsidiaries (Continued)				
Long-term Investments in Equity Securities (Continued)				
TOP Group				
Sarn Palung Social Enterprise Co., Ltd. (SPSE) (The Group holds 100% shareholding)	Thailand	Social enterprise	15.00	15.00
IRPC Group				
TPI EOEG Co., Ltd. (TPIE)	Thailand	Finance service	36.31	36.31
TPI Holding Co., Ltd. (TPIH)	Thailand	Investment in other companies	35.01	35.01
Pornchai Enterprises Co., Ltd. (PEC)	Thailand	Real estate for rent	23.65	23.65
Thai Special Steel Industries Public Co., Ltd. (TSSI)	Thailand	Steel wire manufacturing	16.24	16.24
Rayong Acetylene Co., Ltd. (RAC)	Thailand	Industrial gas manufacturing	13.04	13.04
DIA Polyacrylate Co., Ltd. (DIA)	Thailand	Plastic resin manufacturing	3.65	3.65
Sarn Palung Social Enterprise Co., Ltd. (SPSE) (The Group holds 100% shareholding)	Thailand	Social enterprise	15.00	15.00

15.2 Details of other long-term investments as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

Company	Ownership interest (%)		Cost/ Cost amortized				Dividends income	
			Consolidated financial statements		Separate financial statements			
	2018	2017	2018	2017	2018	2017	2018	2017
<u>Long-term investments in Equity Securities</u>								
1. PA (Sanshui)	25.00	25.00	6.06	6.06	6.06	6.06	-	-
2. PA (Maoming)	20.00	20.00	14.83	14.83	14.83	14.83	-	-
3. SPSE	100.00	100.00	2.49	2.49	0.50	0.50	-	-
4. Baania	3.57	-	10.00	-	10.00	-	-	-
5. Corpus	0.48	0.48	0.60	0.60	0.60	0.60	-	-
6. HG Robotics	9.49	-	18.50	-	18.50	-	-	-
7. PL9SB	10.00	10.00	9,671.67	9,740.55	-	-	-	-
8. MZ LNG1	8.50	-	6.90	-	-	-	-	-
9. 24M	29.50	18.00	1,005.80	715.62	-	-	-	-
10. RPCL	15.00	15.00	888.75	888.75	-	-	135.00	270.00
11. IPS	16.67	16.67	0.02	0.02	-	0.02	-	-
12. FPT*	-	-	0.02	0.02	-	0.02	-	-
13. KOT	10.00	10.00	114.02	114.83	-	-	-	-
14. KIF	10.00	10.00	47.25	47.59	-	-	-	-
15. K I	10.00	10.00	237.49	239.19	-	-	-	-
16. K II	10.00	10.00	63.48	63.93	-	-	-	-
17. API	-	15.34	-	290.24	-	-	6.43	-
18. EXS	4.00	4.00	282.88	282.88	-	-	-	-
19. TPBIMS	10.00	-	15.88	-	-	-	-	-
20. TPIE	36.31	36.31	828.94	828.94	-	-	-	-
21. TPIH	35.01	35.01	1,415.90	1,415.90	-	-	-	-
22. PEC	23.65	23.65	1,118.95	1,118.95	-	-	-	-
23. TSSI	16.24	16.24	673.35	673.35	-	-	-	-
24. RAC	13.04	13.04	15.00	15.00	-	-	-	-
25. DIA	3.65	3.65	8.50	8.50	-	-	-	1.91
26. Other	-	-	43.22	2.00	-	-	-	-
Long-term investments in Equity Securities			16,490.50	16,470.24	50.49	22.03		
<u>Less</u> Allowance for impairment			(3,954.52)	(3,957.81)	(14.14)	(14.14)		
Total			12,535.98	12,512.43	36.35	7.89	141.43	271.91

* As at December 31, 2018 and 2017, the Group holds 0.0000090% of ownership interest, totaling 66 shares, amounting to Baht 22,220.00.

15.2 Details of other long-term investments as at December 31, 2018 and 2017 are as follows: (Continued)

Unit: Million Baht

Company	Ownership interest (%)		Cost/ Cost amortized				Dividends income	
			Consolidated financial statements		Separate financial statements			
	2018	2017	2018	2017	2018	2017	2018	2017
<u>Long-term investments in Debt Securities</u>								
27. BJC			-	2,500.00	-	2,500.00	-	-
28. BDMS			420.37	420.70	420.37	420.70	-	-
29. BTS			-	451.10	-	451.10	-	-
30. IVL			500.00	500.00	500.00	500.00	-	-
31. CBQ			6,456.96	6,502.92	6,456.96	6,502.92	-	-
32. BAY			-	2,505.49	-	2,505.49	-	-
33. ENBD			4,519.87	2,276.02	4,519.87	2,276.02	-	-
34. SCC			103.36	-	103.36	-	-	-
35. TBEV			300.00	-	300.00	-	-	-
36. BCP			500.00	-	500.00	-	-	-
37. CPF			1,150.00	-	1,150.00	-	-	-
38. Other			484.27	-	-	-	-	-
Total			14,434.83	15,156.23	13,950.56	15,156.23	-	-
Total			26,970.81	27,668.66	13,986.91	15,164.12	141.43	271.91

15.3 Movements in other long-term investments are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Long-term investments in Equity Securities				
As at January 1	12,512.43	2,205.88	7.89	7.39
- Additional investments	203.03	9,883.54	28.50	0.50
- Reclassifications	179.64	-	-	-
- Disposal of investments	(290.24)	-	(0.04)	-
- Reversal of loss on impairment	-	562.00	-	-
- Currency translation differences	(68.88)	(138.99)	-	-
Long-term investments in Equity Securities as at December 31	12,535.98	12,512.43	36.35	7.89
Long-term investments in Debt Securities as at December 31	14,434.83	15,156.23	13,950.56	15,156.23
Total other long-term investments as at December 31	26,970.81	27,668.66	13,986.91	15,164.12

15.4 Significant events during the year ended December 31, 2018

Baania

On May 9, 2018, at the Management Committee Meeting of the Company No. 14/2018, the Committee passed a resolution to approve the invest in Baania (Thailand) Co., Ltd. (Baania) amounting to Baht 10.00 million by acquiring 3.57% of convertible preference share. On May 14, 2018, the Company entered into a share subscription agreement and made the payment on June 20, 2018.

HG Robotics

On September 19, 2018, at the Management Committee Meeting of the Company No. 28/2018, the Committee passed a resolution to approve the invest in HG Robotics Co., Ltd. (HG Robotics) amounting to Baht 18.50 million by acquiring 9.49% of preferred share. On October 17, 2018, the Company entered into a share subscription agreement and made the payment on October 30, 2018.

16. Investment Properties

Details of investment properties are as follows:

Unit: Million Baht

	Consolidated financial statements				
	Land	Buildings and building improvements	Other assets	Construction in progress	Total
As at January 1, 2017					
Cost	5,212.02	2,343.68	-	-	7,555.70
<u>Less</u> Accumulated depreciation	-	(973.80)	-	-	(973.80)
Allowance for impairment	(354.35)	-	-	-	(354.35)
Net book value	4,857.67	1,369.88	-	-	6,227.55
For the year ended December 31, 2017					
Beginning net book value	4,857.67	1,369.88	-	-	6,227.55
- Additions	1.29	13.24	-	6.16	20.69
- Reclassifications	4.82	27.02	-	(1.39)	30.45
- Disposals - net	(15.80)	(1.98)	-	-	(17.78)
- Depreciation for the year	-	(114.88)	-	-	(114.88)
- Reversal of loss on impairment	87.40	-	-	-	87.40
Ending net book value	4,935.38	1,293.28	-	4.77	6,233.43
As at December 31, 2017					
Cost	5,202.33	2,374.80	-	4.77	7,581.90
<u>Less</u> Accumulated depreciation	-	(1,081.52)	-	-	(1,081.52)
Allowance for impairment	(266.95)	-	-	-	(266.95)
Net book value	4,935.38	1,293.28	-	4.77	6,233.43

16. Investment Properties (Continued)

Details of investment properties are as follows (Continued):

Unit: Million Baht

	Consolidated financial statements				
	Land	Buildings and building improvements	Other assets	Construction in progress	Total
For the year ended December 31, 2018					
Beginning net book value	4,935.38	1,293.28	-	4.77	6,233.43
- Additions	12.42	123.54	3.69	27.44	167.09
- Reclassifications	(595.95)	57.98	-	(32.21)	(570.18)
- Disposals - net	(25.42)	(133.47)	-	-	(158.89)
- Depreciation for the year	-	(116.39)	(0.11)	-	(116.50)
- Reversal of loss on impairment	50.75	-	-	-	50.75
Ending net book value	4,377.18	1,224.94	3.58	-	5,605.70
As at December 31, 2018					
Cost	4,593.38	2,342.43	3.69	-	6,939.50
<u>Less</u> Accumulated depreciation	-	(1,117.49)	(0.11)	-	(1,117.60)
Allowance for impairment	(216.20)	-	-	-	(216.20)
Net book value	4,377.18	1,224.94	3.58	-	5,605.70

16. Investment Properties (Continued)

Details of investment properties are as follows (Continued):

Unit: Million Baht

	Separate financial statements			
	Land	Buildings and building improvements	Construction in progress	Total
As at January 1, 2017				
Cost	3,574.41	480.29	-	4,054.70
<u>Less</u> Accumulated depreciation	-	(215.14)	-	(215.14)
Net book value	3,574.41	265.15	-	3,839.56
For the year ended December 31, 2017				
Beginning net book value	3,574.41	265.15	-	3,839.56
- Additions	-	4.11	6.16	10.27
- Reclassifications	(3.35)	27.03	(1.39)	22.29
- Disposals - net	-	(1.98)	-	(1.98)
- Depreciation for the year	-	(19.01)	-	(19.01)
Ending net book value	3,571.06	275.30	4.77	3,851.13
As at December 31, 2017				
Cost	3,571.06	503.64	4.77	4,079.47
<u>Less</u> Accumulated depreciation	-	(228.34)	-	(228.34)
Net book value	3,571.06	275.30	4.77	3,851.13

16. Investment Properties (Continued)

Details of investment properties are as follows: (Continued)

Unit: Million Baht

Separate financial statements				
	Land	Buildings and building improvements	Construction in progress	Total
For the year ended December 31, 2018				
Beginning net book value	3,571.06	275.30	4.77	3,851.13
- Additions	-	1.36	27.44	28.80
- Reclassifications	(0.05)	410.81	(32.21)	378.55
- Disposals - net	(1,926.37)	(133.47)	-	(2,059.84)
- Disposal of discontinued operations - net	-	(134.30)	-	(134.30)
- Depreciation for the year	-	(31.62)	-	(31.62)
Ending net book value	1,644.64	388.08	-	2,032.72
As at December 31, 2018				
Cost	1,644.64	1,229.13	-	2,873.77
<u>Less</u> Accumulated depreciation	-	(841.05)	-	(841.05)
Net book value	1,644.64	388.08	-	2,032.72

17. Property, Plant and Equipment (Continued)

Details of property, plant and equipment are as follows: (Continued)

Unit: Million Baht

Consolidated financial statements								
	Land	Buildings and building improvements	Machinery and equipment	Exploration and production properties	Mining Properties	Other assets	Construction in progress	Total
For the year ended December 31, 2017								
Beginning net book value	35,581.14	135,973.07	513,819.03	291,891.99	17,939.60	8,876.77	102,621.06	1,106,702.66
- Additions	4,183.63	3,109.69	13,977.09	48,607.48	988.64	983.82	46,142.24	117,992.59
- Borrowing costs	-	-	-	-	-	-	1,907.56	1,907.56
- Reclassifications	(40.64)	10,808.22	69,985.93	748.98	7.55	712.10	(82,934.42)	(712.28)
- Disposals - net	(1,512.38)	(130.94)	(585.82)	(2,857.05)	(615.21)	(61.88)	(284.52)	(6,047.80)
- Depreciation for the year	-	(11,400.46)	(40,701.22)	(54,131.68)	(1,521.34)	(2,191.35)	-	(109,946.05)
- Loss on impairment	-	(409.35)	(1,212.94)	-	(2,807.31)	(546.36)	(313.31)	(5,289.27)
- Reversal of loss on impairment	110.03	42.91	46.99	-	-	-	-	199.93
- Currency translation differences	(52.25)	(304.72)	(144.52)	(25,350.13)	(1,431.33)	(19.25)	(599.24)	(27,901.44)
Ending net book value	38,269.53	137,688.42	555,184.54	258,909.59	12,560.60	7,753.85	66,539.37	1,076,905.90
As at December 31, 2017								
Cost	38,369.18	288,813.65	966,165.37	879,673.52	53,209.26	23,852.24	68,250.88	2,318,334.10
Less Accumulated depreciation	-	(150,417.72)	(407,753.27)	(580,556.01)	(26,775.94)	(15,552.03)	-	(1,181,054.97)
Allowance for impairment	(99.65)	(707.51)	(3,227.56)	(40,207.92)	(13,872.72)	(546.36)	(1,711.51)	(60,373.23)
Net book value	38,269.53	137,688.42	555,184.54	258,909.59	12,560.60	7,753.85	66,539.37	1,076,905.90

17. Property, Plant and Equipment (Continued)

Details of property, plant and equipment are as follows: (Continued)

Unit: Million Baht

	Consolidated financial statements						
	Land	Buildings and building improvements	Machinery and equipment	Exploration and production properties	Mining Properties	Other assets	Construction in progress
Total							
For the year ended December 31, 2018							
Beginning net book value	38,269.53	137,688.42	555,184.54	258,909.59	12,560.60	7,753.85	66,539.37
- Business Acquisition (Note 43)	1,922.60	337.47	7,353.87	43,209.77	-	-	70.18
- Additions	4,527.66	2,120.71	3,638.68	33,350.65	1,496.71	1,201.51	72,132.13
- Borrowing costs	-	-	-	-	-	-	1,314.84
- Reclassifications	2,564.16	6,944.18	35,303.37	1,675.88	101.48	4,349.88	(51,113.05)
- Disposals - net	-	(477.45)	(1,070.90)	(13,098.15)	(56.51)	(344.40)	(213.97)
- Depreciation for the year	-	(11,496.03)	(43,079.64)	(59,490.77)	(1,537.65)	(2,099.31)	-
- Loss on impairment	-	-	-	-	-	-	(41.62)
- Reversal of loss on impairment	-	40.30	818.69	-	-	-	-
- Currency translation differences	(16.30)	(95.85)	(340.99)	(2,477.49)	(88.81)	(2.42)	(64.57)
Ending net book value	47,267.65	135,061.75	557,807.62	262,079.48	12,475.82	10,859.11	88,623.31
As at December 31, 2018							
Cost	47,367.30	295,838.40	1,023,831.31	859,932.18	54,380.77	27,210.84	90,219.80
Less Accumulated depreciation	-	(160,113.91)	(462,814.33)	(586,991.28)	(28,130.33)	(16,334.64)	-
Allowance for impairment	(99.65)	(662.74)	(3,209.36)	(10,861.42)	(13,774.62)	(17.09)	(1,596.49)
Net book value	47,267.65	135,061.75	557,807.62	262,079.48	12,475.82	10,859.11	88,623.31
							1,114,174.74

As at December 31, 2018, the Group had pledged assets amounting to Baht 50,740.55 million (December 31, 2017: Baht 33,169.75 million.)

17. Property, Plant and Equipment (Continued)

Details of property, plant and equipment are as follows: (Continued)

Unit: Million Baht

Separate financial statements						
	Land	Buildings and building improvement	Machinery and equipment	Other assets	Construction in progress	Total
As at January 1, 2017						
Cost	11,473.01	41,570.53	348,960.01	14,496.95	41,010.64	457,511.14
<u>Less</u> Accumulated depreciation	-	(17,504.68)	(144,926.69)	(10,053.07)	-	(172,484.44)
Allowance for impairment	(17.37)	(0.16)	(7.59)	-	-	(25.12)
Net book value	11,455.64	24,065.69	204,025.73	4,443.88	41,010.64	285,001.58
For the year ended December 31, 2017						
Beginning net book value	11,455.64	24,065.69	204,025.73	4,443.88	41,010.64	285,001.58
- Additions	933.85	512.10	1,266.91	482.85	19,454.27	22,649.98
- Borrowing costs	-	-	-	-	843.85	843.85
- Reclassifications	369.24	5,298.92	34,058.18	334.21	(41,071.59)	(1,011.04)
- Disposals - net	(1,745.72)	(51.98)	(23.49)	(45.74)	-	(1,866.93)
- Depreciation for the year	-	(1,848.00)	(14,546.11)	(1,429.20)	-	(17,823.31)
- Loss on impairment	-	(53.00)	(36.32)	-	-	(89.32)
- Reversal of loss on impairment	17.37	0.16	7.59	-	-	25.12
Ending net book value	11,030.38	27,923.89	224,752.49	3,786.00	20,237.17	287,729.93
As at December 31, 2017						
Cost	11,030.38	47,075.51	383,419.77	15,128.11	20,237.17	476,890.94
<u>Less</u> Accumulated depreciation	-	(19,098.62)	(158,630.96)	(11,342.11)	-	(189,071.69)
Allowance for impairment	-	(53.00)	(36.32)	-	-	(89.32)
Net book value	11,030.38	27,923.89	224,752.49	3,786.00	20,237.17	287,729.93

17. Property, Plant and Equipment (Continued)

Details of property, plant and equipment are as follows: (Continued)

Unit: Million Baht

Separate financial statements						
	Land	Buildings and building improvement	Machinery and equipment	Other assets	Construction in progress	Total
For the year ended December 31, 2018						
Beginning net book value	11,030.38	27,923.89	224,752.49	3,786.00	20,237.17	287,729.93
- Additions	316.71	229.16	839.99	604.18	23,186.86	25,176.90
- Borrowing costs	-	-	-	-	697.49	697.49
- Reclassifications	1,206.22	1,951.04	13,220.00	4,214.04	(21,903.18)	(1,311.88)
- Disposals - net	-	(400.94)	(81.37)	(144.06)	(0.62)	(626.99)
- Disposal of discontinued operations - net	(5,182.14)	(4,565.43)	(8,336.34)	(473.12)	(1,465.38)	(20,022.41)
- Depreciation for the year	-	(1,839.30)	(15,075.65)	(1,432.90)	-	(18,347.85)
- Reversal of loss on impairment	-	26.44	-	-	-	26.44
Ending net book value	7,371.17	23,324.86	215,319.12	6,554.14	20,752.34	273,321.63
As at December 31, 2018						
Cost	7,371.17	38,360.19	369,986.08	17,819.69	20,752.34	454,289.47
<u>Less</u> Accumulated depreciation	-	(15,008.77)	(154,630.64)	(11,265.55)	-	(180,904.96)
Allowance for impairment	-	(26.56)	(36.32)	-	-	(62.88)
Net book value	7,371.17	23,324.86	215,319.12	6,554.14	20,752.34	273,321.63

Borrowing costs were capitalized as a part of costs of property, plant and equipment. For the year of 2018, the Group used capitalization rates ranging from 1.10% - 5.67% (2017: 1.10% - 5.25%).

17. Property, Plant and Equipment (Continued)

Details of property, plant and equipment are as follows: (Continued)

As at December 31, 2018 and 2017, details of other assets include vehicles and natural gas pipeline acquired under finance leases which were recorded as machinery and equipment are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Cost	10,664.03	10,782.04	9,516.59	10,038.70
<u>Less</u> Accumulated depreciation	(4,849.07)	(4,655.80)	(4,406.14)	(4,273.61)
Net book value	5,814.96	6,126.24	5,110.45	5,765.09

18. Goodwill

Movements of goodwill are as follows:

Unit: Million Baht

	Consolidated financial statements	
	2018	2017
Net book value as at January 1	46,688.26	50,778.17
- Business acquisition (Note 43)	2,521.18	-
- Loss on impairment of assets	-	(795.61)
- Currency translation differences	(284.52)	(3,294.30)
Net book value as at December 31	48,924.92	46,688.26

19. Intangible Assets

Details of intangible assets are as follows:

Unit: Million Baht

Consolidated financial statements				
	Computer software	Right of use	Other Intangible assets	Total
As at January 1, 2017				
Cost	18,423.81	32,387.97	9,345.33	60,157.11
<u>Less</u> Accumulated amortization	(9,310.66)	(12,535.85)	(4,400.44)	(26,246.95)
Allowance for impairment	-	(409.83)	-	(409.83)
Net book value	9,113.15	19,442.29	4,944.89	33,500.33
For the year ended December 31, 2017				
Beginning net book value	9,113.15	19,442.29	4,944.89	33,500.33
- Additions	889.65	270.51	731.62	1,891.78
- Reclassifications	1,293.48	71.97	(199.67)	1,165.78
- Disposals - net	(0.15)	(3.21)	(7.52)	(10.88)
- Amortization for the year	(1,853.24)	(1,088.12)	(430.46)	(3,371.82)
- Loss on impairment	-	(470.42)	(21.85)	(492.27)
- Currency translation differences	(307.51)	(18.27)	(249.46)	(575.24)
Ending net book value	9,135.38	18,204.75	4,767.55	32,107.68
As at December 31, 2017				
Cost	19,996.09	32,687.28	9,228.14	61,911.51
<u>Less</u> Accumulated amortization	(10,860.71)	(13,645.30)	(4,438.74)	(28,944.75)
Allowance for impairment	-	(837.23)	(21.85)	(859.08)
Net book value	9,135.38	18,204.75	4,767.55	32,107.68

19. Intangible Assets (Continued)

Details of intangible assets are as follows: (Continued)

Unit: Million Baht

Consolidated financial statements				
	Computer software	Right of use	Other Intangible assets	Total
For the year ended December 31, 2018				
Beginning net book value	9,135.38	18,204.75	4,767.55	32,107.68
- Business acquisition (Note 43)	10.54	3.37	-	13.91
- Addition	1,235.35	103.43	1,185.34	2,524.12
- Reclassifications	2,116.54	1,261.50	(19.97)	3,358.07
- Disposals - net	(0.13)	(85.82)	(2.49)	(88.44)
- Amortization for the year	(2,148.00)	(1,069.06)	(522.14)	(3,739.20)
- Reversal of loss on impairment	-	85.82	-	85.82
- Currency translation differences	(15.94)	(26.76)	(18.86)	(61.56)
Ending net book value	10,333.74	18,477.23	5,389.43	34,200.40
As at December 31, 2018				
Cost	23,188.24	33,816.97	10,348.07	67,353.28
<u>Less</u> Accumulated amortization	(12,854.50)	(14,595.60)	(4,936.79)	(32,386.89)
Allowance for impairment	-	(744.14)	(21.85)	(765.99)
Net book value	10,333.74	18,477.23	5,389.43	34,200.40

19. Intangible Assets (Continued)

Details of intangible assets are as follows: (Continued)

Unit: Million Baht

Separate financial statements				
	Computer software	Right of use	Other Intangible assets	Total
As at January 1, 2017				
Cost	5,324.86	19,952.02	67.50	25,344.38
<u>Less</u> Accumulated amortization	(3,187.58)	(7,803.22)	(5.51)	(10,996.31)
Net book value	2,137.28	12,148.80	61.99	14,348.07
For the year ended December 31, 2017				
Beginning net book value	2,137.28	12,148.80	61.99	14,348.07
- Additions	304.03	5.55	-	309.58
- Reclassifications	1,063.82	5.76	-	1,069.58
- Disposals - net	(0.16)	-	-	(0.16)
- Amortization for the year	(796.06)	(523.27)	(4.12)	(1,323.45)
Ending net book value	2,708.91	11,636.84	57.87	14,403.62
As at December 31, 2017				
Cost	6,691.53	19,963.08	67.50	26,722.11
<u>Less</u> Accumulated amortization	(3,982.62)	(8,326.24)	(9.63)	(12,318.49)
Net book value	2,708.91	11,636.84	57.87	14,403.62
For the year ended December 31, 2018				
Beginning net book value	2,708.91	11,636.84	57.87	14,403.62
- Additions	226.78	-	-	226.78
- Reclassifications	1,061.40	166.10	-	1,227.50
- Disposals - net	(3.92)	-	-	(3.92)
- Disposal of discontinued operations - net	(395.65)	-	(55.82)	(451.47)
- Amortization for the year	(1,060.29)	(526.23)	(2.05)	(1,588.57)
Ending net book value	2,537.23	11,276.71	-	13,813.94
As at December 31, 2018				
Cost	7,178.44	20,129.18	-	27,307.62
<u>Less</u> Accumulated amortization	(4,641.21)	(8,852.47)	-	(13,493.68)
Net book value	2,537.23	11,276.71	-	13,813.94

20. Exploration and Evaluation Assets

Details of exploration and evaluation assets are as follows:

Unit: Million Baht

Consolidated financial statements			
	Petroleum exploration and evaluation assets	Mining properties	Total
As at January 1, 2017			
Cost	178,484.00	918.13	179,402.13
<u>Less</u> Allowance for impairment	(41,773.34)	(178.82)	(41,952.16)
Net book value	136,710.66	739.31	137,449.97
For the year ended December 31, 2017			
Beginning net book value	136,710.66	739.31	137,449.97
- Additions	774.80	6.65	781.45
- Reclassifications	(749.00)	-	(749.00)
- Disposals - net	(46.31)	-	(46.31)
- Loss on impairment	(18,504.89)	-	(18,504.89)
- Currency translation differences	(10,110.27)	(61.23)	(10,171.50)
Ending net book value	108,074.99	684.73	108,759.72
As at December 31, 2017			
Cost	166,614.27	847.84	167,462.11
<u>Less</u> Allowance for impairment	(58,539.28)	(163.11)	(58,702.39)
Net book value	108,074.99	684.73	108,759.72

20. Exploration and Evaluation Assets (Continued)

Details of exploration and evaluation assets are as follows: (Continued)

Unit: Million Baht

Consolidated financial statements			
	Petroleum exploration and evaluation assets	Mining properties	Total
For the year ended December 31, 2018			
Beginning net book value	108,074.99	684.73	108,759.72
- Additions	1,968.02	6.38	1,974.40
- Reclassifications	(1,675.87)	-	(1,675.87)
- Disposals - net	(2.36)	-	(2.36)
- Currency translation differences	(879.59)	(13.73)	(893.32)
Ending net book value	107,485.19	677.38	108,162.57
As at December 31, 2018			
Cost	160,814.99	839.34	161,654.33
<u>Less</u> Allowance for impairment	(53,329.80)	(161.96)	(53,491.76)
Net book value	107,485.19	677.38	108,162.57

21. Income Taxes and Deferred Taxes

Applicable tax rates for the Group are as follows:

	Rates (%)
Petroleum income tax on petroleum business in Thailand	
pursuant to the Petroleum Income Tax Act, B.E. 2514 and B.E. 2532	50
Income tax under the Revenue Code of the Company and subsidiaries	20
Corporate income tax in foreign countries	5 - 50
Corporate Income tax from the Petroleum business in the Thai-Malaysia co-development area	
under the Petroleum Income Tax Act (No. 5) B.E. 2541	0 - 20
Petroleum resource rent tax in Australia	40

21.1 Income taxes recognized in the statements of income for the years ended December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Current tax:				
Current tax	67,814.56	37,827.43	12,806.19	5,539.45
Adjustments in respect of current tax of previous year	1,495.93	(500.79)	(215.60)	(33.27)
	69,310.49	37,326.64	12,590.59	5,506.18
Deferred tax:				
Change in temporary differences	(15,204.04)	(3,495.81)	(2.11)	1,409.04
Tax effect of currency translation on tax base	(459.90)	(5,524.25)	-	-
	(15,663.94)	(9,020.06)	(2.11)	1,409.04
Total	53,646.55	28,306.58	12,588.48	6,915.22

21.2 Reconciliations between income taxes and the product of profit before income taxes multiplied by the applicable tax rate are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Profit before income taxes from continuing operations	219,056.80	212,927.94	107,100.60	99,532.66
Profit (loss) before income taxes from discontinued operations	-	(11.35)	88,970.10	14,634.69
Profit before income taxes	219,056.80	212,916.59	196,070.70	114,167.35
Tax calculated at a tax rate of 20%	43,811.36	42,583.32	39,214.14	22,833.47
Tax effect of:				
Income not subject to tax	(8,745.47)	(14,882.31)	(8,563.77)	(13,084.51)
Nondeductible expenses	15,674.47	15,334.74	464.21	259.39
Expenses deductible at a greater amount	(471.64)	(444.49)	(92.88)	(129.64)
Adjustment in respect of prior year	1,495.93	(500.79)	(215.60)	(33.27)
Share of profit from investment in joint ventures and associates	(1,731.67)	(1,471.94)	-	-
Tax credit on petroleum royalty	(14,561.41)	(11,877.17)	-	-
Tax credit on foreign corporate income tax	(375.26)	(431.40)	-	-
Differences in tax rate	11,904.42	4,649.34	-	-
Deferred tax on functional currency	(459.90)	(5,524.25)	-	-
Effect from the restructuring of the Oil Business Unit (Note 12)	6,032.97	-	-	-
Others	1,072.75	871.53	(9.24)	(151.89)
Total income taxes	53,646.55	28,306.58	30,796.86	9,693.55
<u>Less</u> Income taxes of discontinued operations	-	-	(18,208.38)	(2,778.33)
Income taxes	53,646.55	28,306.58	12,588.48	6,915.22

21.3 Movements in deferred taxes are as follows:

Unit: Million Baht

Consolidated financial statements									
	Net balance as at January 1, 2018	Profit (Loss)	Other comprehensive income (loss)	Business acquisition	Currency translation differences	Others	As at December 31, 2018		
							Net balance	Deferred tax assets	Deferred tax liabilities
Property, plant and equipment	(57,969.58)	4,448.29	-	(3,870.02)	(676.80)	-	(58,068.11)	8,920.09	(66,988.20)
Intangible assets	18.17	7,136.72	-	-	(1.26)	-	7,153.63	7,299.68	(146.05)
Investments	55.75	14.61	-	-	-	-	70.36	70.36	-
Available-for-sale investments	(743.83)	-	410.46	-	-	-	(333.37)	14.79	(348.16)
Trade and other accounts receivable	(3,137.13)	(945.90)	-	-	0.30	(0.15)	(4,082.88)	481.37	(4,564.25)
Inventories	177.41	(217.73)	-	1.54	-	(0.43)	(39.21)	216.19	(255.40)
Loans	(140.50)	12.00	-	-	-	-	(128.50)	-	(128.50)
Provision for employee benefit	6,001.54	31.50	(183.16)	18.67	(16.37)	2.52	5,854.70	5,854.70	-
Provision for decommissioning costs	19,992.74	3,093.89	-	4,003.69	(178.44)	-	26,911.88	26,911.88	-
Cumulative loss carried forward	7,029.89	1,877.27	100.57	157.81	1,240.16	(11.56)	10,394.14	10,394.14	-
Petroleum resource rent tax in Australia	2,265.76	(29.39)	-	-	(1.89)	(2,234.48)	-	-	-
Tax effect of currency translation on tax base	2,041.88	459.91	-	-	(18.83)	-	2,482.96	2,511.42	(28.46)
Others	3,713.40	(217.23)	(16.62)	2,098.89	(180.76)	17.36	5,415.04	6,328.98	(913.94)
Total before set-off of taxes	(20,694.50)	15,663.94	311.25	2,410.58	166.11	(2,226.74)	(4,369.36)	69,003.60	(73,372.96)
Set-off of taxes							-	(40,504.67)	40,504.67
Net deferred tax assets (liabilities)							(4,369.36)	28,498.93	(32,868.29)

21.3 Movements in deferred taxes are as follows: (Continued)

Unit: Million Baht

Consolidated financial statements							
	Net balance as at January 1, 2017	Profit (Loss)	Other comprehensive income (loss)	Currency translation differences	Others	As at December 31, 2017	
					Net balance	Deferred tax assets	Deferred tax liabilities
Property, plant and equipment	(61,688.36)	(1,219.95)	-	4,938.73	-	(57,969.58)	7,530.41 (65,499.99)
Intangible assets	(137.23)	145.54	-	9.86	-	18.17 183.26	(165.09)
Investments	116.32	(60.57)	-	-	-	55.75	-
Available-for-sale investments	(1,879.21)	-	1,135.50	(0.12)	-	(743.83)	1.31 (745.14)
Trade and other accounts receivable	(2,176.04)	(971.71)	-	10.62	-	(3,137.13)	451.07 (3,588.20)
Inventories	150.01	27.35	-	0.05	-	177.41 183.10	(5.69)
Loans	224.60	(365.10)	-	-	-	(140.50)	(140.50)
Provision for employee benefit	5,566.50	492.69	177.69	(235.34)	-	6,001.54 6,002.23	(0.69)
Provision for decommissioning costs	19,587.23	2,160.44	-	(1,754.93)	-	19,992.74	19,992.74 -
Cumulative loss carried forward	3,434.21	3,929.02	33.31	(366.65)	-	7,029.89	7,029.89 -
Petroleum resource rent tax in Australia	2,484.13	-	-	(218.37)	-	2,265.76	2,265.76 -
Tax effect of currency translation on tax base	(3,528.80)	5,524.25	-	46.43	-	2,041.88	2,069.52 (27.64)
Others	4,407.45	(641.90)	(582.74)	505.24	25.35	3,713.40 4,505.71	(792.31)
Total before set-off of taxes	(33,439.19)	9,020.06	763.76	2,935.52	25.35	(20,694.50)	50,270.75 (70,965.25)
Set-off of taxes						-	(35,169.53) 35,169.53
Net deferred tax assets (liabilities)						(20,694.50)	15,101.22 (35,795.72)

21.3 Movements in deferred taxes are as follows: (Continued)

Unit: Million Baht

Separate financial statements						
	Net balance as at January 1, 2018	Profit (Loss)	Other comprehensive income (loss)	As at December 31, 2018		
				Net balance	Deferred tax assets	Deferred tax liabilities
Property, plant and equipment	(533.59)	(54.10)	-	(587.69)	-	(587.69)
Intangible assets	132.59	3.15	-	135.74	135.74	-
Investments	54.89	-	-	54.89	54.89	-
Available-for-sale investments	(744.81)	-	421.41	(323.40)	-	(323.40)
Trade and other accounts receivable	(1,914.08)	(93.94)	-	(2,008.02)	460.00	(2,468.02)
Inventories	61.71	8.97	-	70.68	70.68	-
Loans	(124.52)	33.99	-	(90.53)	-	(90.53)
Provision for employee benefit	1,775.60	(234.29)	(159.98)	1,381.33	1,381.33	-
Others	818.47	338.33	-	1,156.80	1,156.80	-
Total before set-off of taxes	(473.74)	2.11	261.43	(210.20)	3,259.44	(3,469.64)
Set-off of taxes				-	(3,259.44)	3,259.44
Net deferred tax assets (liabilities)				(210.20)	-	(210.20)

21.3 Movements in deferred taxes are as follows: (Continued)

Unit: Million Baht

Separate financial statements					
	Net balance as at January 1, 2017	Profit (Loss)	Other comprehensive income	As at December 31, 2017	
				Net balance	Deferred tax assets / Deferred tax liabilities
Property, plant and equipment	(560.33)	26.74	-	(533.59)	- (533.59)
Intangible assets	136.51	(3.92)	-	132.59	132.59 -
Investments	115.35	(60.46)	-	54.89	54.89 -
Available-for-sale investments	(1,879.45)	-	1,134.64	(744.81)	- (744.81)
Trade and other accounts receivable	(772.41)	(1,141.67)	-	(1,914.08)	443.89 (2,357.97)
Inventories	61.74	(0.03)	-	61.71	61.71 -
Loans	239.25	(363.77)	-	(124.52)	- (124.52)
Provision for employee benefit	1,627.74	134.81	13.05	1,775.60	1,775.60 -
Others	819.21	(0.74)	-	818.47	1,031.79 (213.32)
Total before set-off of taxes	(212.39)	(1,409.04)	1,147.69	(473.74)	3,500.47 (3,974.21)
Set-off of taxes				-	(3,500.47) 3,500.47
Net deferred tax assets (liabilities)				(473.74)	- (473.74)

22. Other Non-current Assets

Details of other non-current assets as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Long-term other accounts receivable	1,375.95	2,007.67	8.39	1,217.04
Advance payments and deferred charge	17,334.19	23,112.41	1,176.88	4,690.90
Advance payments for gas purchases	-	559.86	61.83	620.62
Decommissioning fund	5,247.82	4,292.84	-	-
Others*	15,521.03	6,374.01	4,509.39	167.26
Total	39,478.99	36,346.79	5,756.49	6,695.82

The Company made advance payments for some gas that cannot take-up as the minimum volumes committed in the Gas Sales Agreements (Take-or-Pay). The Company has the right to take those volumes of prepaid gas (Make-up Right) in subsequent years, with no maturity period.

As at December 31, 2018, advance payments for gas purchases comprised the balance of advance payments made for gas purchases, from the Sirikit gas fields in Thailand, for the untaken-up gas volumes in 2017. (As at December 31, 2017, advance payments for gas purchases comprised the balance of advance payments made for gas purchases, from the Yadana gas fields in Myanmar, for the untaken-up gas volumes in 2000).

* As at December 31, 2018, the Company has a restricted bank cash amounting to Baht 4,372.75 million placed as a security to stay the enforcement of the judgement as described in Note 47.7.

23. Bank Overdrafts and Short-term Loans from Financial Institutions

As at December 31, 2018, the bank overdrafts and short-term loans from financial institutions bear interest at rates ranging from 1.00% to 4.75% per annum (December 31, 2017: interest at rates range from 1.61% to 5.25% per annum).

24. Other Current Liabilities

Details of other current liabilities as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Undue output VAT	4,945.93	3,692.83	4,364.83	3,290.94
Provision for remuneration for the renewal of petroleum production	2,890.32	2,072.75	-	-
Others	2,965.72	3,192.93	138.79	1,274.88
Total	10,801.97	8,958.51	4,503.62	4,565.82

25. Long-term Loans

Details of long-term loans as at December 31, 2018 and 2017 are as follows:

Current portion of long-term loans

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Loans - Baht currency	12,344.94	13,742.71	-	14.51
Loans - foreign currencies	2,439.19	15,141.42	-	10,182.63
Debentures - Baht currency	47,504.98	26,049.47	26,000.00	18,549.47
Debentures - foreign currencies	-	10,562.90	-	-
Liabilities under finance leases	819.49	937.43	511.16	693.33
Total	63,108.60	66,433.93	26,511.16	29,439.94

Long-term loans

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Loans - Baht currency	118,096.85	76,554.42	1,000.00	1,000.00
Loans - foreign currencies	21,304.70	36,598.69	6,830.15	6,753.49
Debentures - Baht currency	147,477.25	194,970.13	83,715.20	109,715.20
Debentures - foreign currencies	163,462.61	131,981.09	27,969.16	28,152.20
Liabilities under finance leases	4,622.90	4,815.33	4,124.45	4,494.58
Total	454,964.31	444,919.66	123,638.96	150,115.47

25. Long-term Loans (Continued)

Original currency of loans and debentures in foreign currencies as at December 31, 2018 and 2017 are as follows:

Current portion of long-term loans and debentures

Unit: Million

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Loans - foreign currencies				
- USD	47.74	444.67	-	310.00
- EURO	10.92	10.69	-	-
- JPY	408.57	419.99	-	-
- LAK	12,855.64	-	-	-
- VND	228,506.04	-	-	-
Debentures - foreign currencies				
- USD	-	323.21	-	-

Long-term loans and debentures

Unit: Million

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Loans - foreign currencies				
- USD	219.80	666.13	-	-
- EURO	141.01	156.60	-	-
- JPY	29,749.62	29,788.42	23,000.00	23,000.00
- LAK	38,566.93	-	-	-
Debentures - foreign currencies				
- USD	5,020.33	4,023.80	857.56	857.07

25. Long-term Loans (Continued)

Long-term loans, including the current portion, outstanding as at December 31, 2018 and 2017 can be classified by types of interest rate as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Floating interest rate	143,045.16	129,584.07	-	10,182.63
Fixed interest rate	375,027.75	381,769.52	150,150.12	169,372.78
Total	518,072.91	511,353.59	150,150.12	179,555.41

Interest rates charged on long-term loans as at December 31, 2018 and 2017 are as follows:

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Loans - Baht currency	1.22% - 7.83%	0.50% - 7.83%	7.83%	0.50% - 7.83%
Loans - foreign currencies				
- USD	1.00% - 6.00%	2.07% - 17.00%	-	2.15%
- EURO	2.50%	2.50%	-	-
- JPY	1.50% - 4.45%	1.50% - 4.45%	4.45%	4.45%
- LAK	4.75%	-	-	-
- VND	6.40%	-	-	-
Debentures - Baht currency	2.21% - 6.80%	2.21% - 6.80%	3.50% - 6.80%	3.50% - 6.80%
Debentures - foreign currencies				
- USD	3.63% - 6.51%	3.63% - 6.51%	4.50% - 5.88%	4.50% - 5.88%
Liabilities under finance leases	1.15% - 12.00%	1.15% - 12.00%	1.15% - 8.28%	1.15% - 4.65%

25.1 Loans

Loans - Baht currency

As at December 31, 2018, detail of long-term loan of the Company, which is secured by the Ministry of Finance in Baht currency, is as follows:

Currency	Principal (unit: million)	Interest rate percent (per annum)	Repayment terms
THB	1,000	Fixed rate	Principal is repayable at the end of contract, in July 2020.

As at December 31, 2018, details of long-term loans from financial institutions of the subsidiaries in Baht currency are as follows:

Currency	Principal (unit: million)	Interest rate percent (per annum)	Repayment terms
THB	5,000	Fixed rate	Principal is repayable every 3 months, totalling 39 instalments, commencing in March 2011.
THB	10,000	6M FDR plus margin	Principal is repayable every 6 months, totalling 31 instalments, commencing in December 2017.
THB	169	Fixed rate	Principal is repayable every 6 months, totalling 30 instalments, commencing in June 2017.
THB	3,500	6M THBFX plus margin	Principal is repayable every 6 months, totalling 22 instalments, commencing in November 2020.
THB	1,000	3M BIBOR plus margin	Principal is repayable every 6 months, totalling 18 instalments, commencing in May 2020.
THB	500	3M BIBOR plus margin	Principal is repayable every 6 months, totalling 13 instalments, commencing in June 2020.
THB	1,110	3M THBFX plus margin	Principal is repayable every 3 months, totalling 10 instalments, commencing in July 2015.
THB	2,100	6M FDR plus margin	Principal is repayable every 6 months, totalling 10 instalments, commencing in September 2017.
THB	5,000	6M FDR plus margin	Principal is repayable every 6 months, totalling 10 instalments, commencing in May 2020.
THB	3,800	6M FDR plus margin	Principal is repayable every 6 months, totalling 12 instalments, commencing in December 2018.

25.1 Loans (Continued)

Loans - Baht currency (Continued)

As at December 31, 2018, details of long-term loans from financial institutions of the subsidiaries in Baht currency are as follows: (Continued)

Currency	Principal (unit: million)	Interest rate percent (per annum)	Repayment terms
THB	7,000	6M FDR plus margin	Principal is repayable every 6 months, totalling 12 instalments, commencing in June 2016.
THB	15,000	6M FDR plus margin	Principal is repayable every 6 months, totalling 10 instalments, commencing in November 2020.
THB	7,000	Highest rate on 6-month-fixed deposit plus margin	Principal is repayable every 6 months, totalling 15 instalments, commencing in September 2013.
THB	3,000	Highest rate on 6-month-fixed deposit plus margin	Principal is repayable every 6 months, totalling 14 instalments, commencing in March 2014.
THB	3,000	Highest rate on 6-month-fixed deposit plus margin	Principal is repayable every 6 months, totalling 10 instalments, commencing in July 2015.
THB	6,000	Highest rate on 6-month-fixed deposit plus margin	Principal is repayable every 6 months, totalling 10 instalments, commencing in March 2016.
THB	5,000	6M THBFIX plus margin	Principal is repayable 2 times, in December 2020 and June 2023.
THB	1,000	Fixed rate	Principal is repayable every 3 months, totalling 16 instalments, commencing in September 2016.
THB	700	3M BIBOR plus margin	Principal is repayable every 3 months, totalling 20 instalments, commencing in March 2016.
THB	900	Highest rate on 6-month-fixed deposit plus margin	Principal is repayable every 6 months, totalling 14 instalments, commencing in April 2016.
THB	900	Highest rate on 6-month-fixed deposit plus margin	Principal is repayable every 6 months, totalling 14 instalments, commencing in May 2016.
THB	900	Highest rate on 6-month-fixed deposit plus margin	Principal is repayable every 6 months, totalling 12 instalments, commencing in May 2017.
THB	750	Fixed rate	Principal is repayable every 6 months, totalling 20 instalments, commencing in May 2018.
THB	750	Fixed rate	Principal is repayable every 6 months, totalling 20 instalments, commencing in May 2018.
THB	8,654	Highest rate on 6-month-fixed deposit plus margin	Principal is repayable every 6 months, totalling 17 instalments, commencing in September 2018.
THB	500	Fixed rate	Principal is repayable every 3 months, totalling 33 instalments, commencing in June 2019.
THB	575	3M BIBOR plus margin	Principal is repayable every 3 months, totalling 13 instalments, commencing in September 2019.
THB	14,357	3M THBFIX plus margin	Principal is repayable every 6 months, totalling 24 instalments, commencing in February 2021.

25.1 Loans (Continued)

Loans - Baht currency (Continued)

As at December 31, 2018, details of long-term loans from financial institutions of the subsidiaries in Baht currency are as follows: (Continued)

Currency	Principal (unit: million)	Interest rate percent (per annum)	Repayment terms
THB	6,004	3M THBFX plus margin	Principal is repayable every 6 months, totalling 20 instalments, commencing in February 2021.
THB	500	6M THBFX plus margin	Principal is repayable at the end of contract, in November 2020.
THB	5,000	6M FDR plus margin	Principal is repayable every 6 months, totalling 17 instalments, commencing in September 2020.
THB	10,000	MLR minus discount	Principal is repayable every 6 months, totalling 16 instalments, commencing in March 2021.
THB	10,000	3M THBFX plus margin	Principal is repayable every 6 months, totalling 12 instalments, commencing in June 2021.
THB	9,500	3M BIBOR plus margin	Principal is repayable every 6 months, totalling 9 instalments, commencing in September 2020.
THB	3,000	3M BIBOR plus margin	Principal is repayable every 6 months, totalling 15 instalments, commencing in September 2020.
THB	5,400	THBFX plus margin	Principal is repayable every 6 months, totalling 20 instalments, commencing in June 2019.
THB	1,500	MLR minus discount	Principal is repayable every 6 months, totalling 24 instalments, commencing in September 2012.
THB	300	MLR minus discount	Principal is repayable every 6 months, totalling 12 instalments, commencing in September 2015.
THB	800	FDR plus margin	Principal is repayable every 3 months, totalling 36 instalments, commencing in March 2020.
THB	141	6M FDR plus margin	Principal is repayable every 6 months, totalling 8 instalments, commencing in June 2017.
THB	8,500	3M THBFX plus margin	Principal is repayable every 6 months, totalling 38 instalments, commencing in June 2018.
THB	1,800	6M FDR plus margin	Principal is repayable every 6 months, totalling 16 instalments, commencing in June 2015.
THB	217	THBFX plus margin	Principal is repayable as the conditions specified in the contract.

25.1 Loans (Continued)

Loans – foreign currency

As at December 31, 2018, details of long-term loans from financial institutions of the Company in foreign currency are as follows:

Currency	Principal (unit: million)	Interest rate percent (per annum)	Repayment terms
JPY	23,000	Fixed rate	Principal is repayable in full at the end of contract, in April 2036.

As at December 31, 2018, details of long-term loans from financial institutions of the subsidiaries in foreign currency are as follows:

Currency	Principal (unit: million)	Interest rate percent (per annum)	Repayment terms
JPY	7,900	JPY-LIBOR plus margin	Principal is repayable every 6 months, totalling 37 instalments, commencing in May 2018.
USD	200	LIBOR plus margin	Principal is repayable every 6 months, totalling 11 instalments, commencing in June 2025.
USD	100	6M LIBOR plus margin	Principal is repayable every 6 months, totalling 10 instalments, commencing in March 2016.
EURO	190	3M EURIBOR plus margin	Principal is repayable every 12 months, totalling 6 instalments, commencing in 2017.
LAK	81,500	Fixed rate	Principal is repayable every 3 months, totalling 20 instalments, commencing in January 2017.
VND	310,791	Fixed rate	Principal is repayable every 6 months, totalling 18 instalments, commencing in July 2019.

The Group has entered into derivative contracts on long-term loans to cover foreign currency exchange rates risks and interest rates risks as mentioned in Note 39.2 to Note 39.4.

25.2 Debentures

Debentures - Baht currency

As at December 31, 2018, the details of unsecured, unsubordinated debentures in Baht currency of the Company are as follows:

Currency	Principal (unit: million)	Par value (per share)	Period (years)	Interest rate percent (per annum)	Repayment terms
THB	1,000	1,000	15	5.90	Interest is repayable every 6 months and mature in May 2019.
THB	15,000	1,000	6 years 11 months	Year 1 - 4 : 4.10	Interest is repayable every 6 months and mature in May 2019.
			24 days	Year 5 - 6 : 5.10	
THB	10,000	1,000	6 years 9 months	Year 1 - 4 : 4.10	Interest is repayable every 6 months and mature in May 2019.
			15 days	Year 5 - 6 : 5.10	
THB	22,000	1,000	6 years 11 months	4.75	Interest is repayable every 6 months and mature in November 2020.
			19 days		
THB	4,118	1,000	15	5.95	Interest is repayable every 6 months and mature in August 2020.
THB	1,030	1,000	15	6.53	Interest is repayable every 6 months and mature in May 2021.
THB	10,000	1,000	6 years 11 months	4.00	Interest is repayable every 6 months and mature in November 2021.
THB	4,200	1,000	6 years 27 days	3.50	Interest is repayable every 6 months and mature in November 2021.
THB	4,000	1,000	12	4.50	Interest is repayable every 6 months and mature in February 2022.
THB	10,000	1,000	10	6.58	Interest is repayable at the maturity date and mature in September 2023.

25.2 Debentures (Continued)

Debentures - Baht currency (Continued)

As at December 31, 2018, the details of unsecured, unsubordinated debentures with the debenture holders' early redemption right of the Company in Baht currency are as follows:

Currency	Principal (unit: million)	Par value (per share)	Period (years)	Interest rate percent (per annum)	Repayment terms
THB	14,967	1,000	15	Year 1 - 5 : 5.00 Year 6 - 8 : 6.20 Year 9 - 15 : 6.80	Interest is repayable every 6 months and mature in March 2024. (The debenture holders can early redeem at the end of 8 th year.)
THB	9,400	1,000	15	Year 1 - 5 : 4.25 Year 6 - 10 : 5.50 Year 11 - 15 : 5.75	Interest is repayable every 6 months and mature in July 2024. (The debenture holders can early redeem at the end of 10 th year.)
THB	4,000	1,000	100	5.90	Interest is repayable every 6 months and mature in December 2110. (The debenture holders can early redeem at the end of 50 th and 75 th year and other cases specified in the regulations regarding the rights and obligations of the issuer and the debenture holders.)

25.2 Debentures (Continued)

Debentures - Baht currency (Continued)

As at December 31, 2018, the details of unsecured, unsubordinated debentures in Baht currency of the subsidiaries are as follows:

Currency	Principal (unit: million)	Par value (per share)	Period (years)	Interest rate percent (per annum)	Repayment terms
THB	3,500	1,000	4	2.21	Interest is repayable at the maturity date and mature in September 2021.
THB	1,500	1,000	7	2.82	Interest is repayable at the maturity date and mature in September 2024.
THB	3,364	1,000	5	4.50	Interest is repayable every 6 months and mature in May 2019.
THB	6,890	1,000	7	4.96	Interest is repayable every 6 months and mature in May 2021.
THB	5,000	1,000	10	4.80	Interest is repayable every 3 months and mature in May 2019.
THB	8,200	1,000	5	3.91	Interest is repayable every 6 months and mature in June 2019.
THB	11,400	1,000	15	4.82	Interest is repayable every 6 months and mature in June 2029.
THB	1,942	1,000	10	5.50	Interest is repayable every 6 months and mature in June 2019.
THB	10,000	1,000	7	4.50	Interest is repayable every 6 months and mature in August 2021.
THB	3,000	1,000	12	4.80	Interest is repayable every 6 months and mature in April 2022.
THB	7,500	1,000	15	5.05	Interest is repayable every 6 months and mature in March 2027.
THB	3,000	1,000	5	4.13	Interest is repayable every 6 months and mature in March 2019.
THB	3,000	1,000	7	4.61	Interest is repayable every 6 months and mature in March 2021.
THB	7,000	1,000	10	4.84	Interest is repayable every 6 months and mature in March 2024.

25.2 Debentures (Continued)

Debentures - Baht currency (Continued)

As at December 31, 2018, the details of unsecured, unsubordinated debentures with the debenture holders' early redemption right of the subsidiaries in Baht currency are as follows:

Currency	Principal (unit: million)	Par value (per share)	Period (years)	Interest rate percent (per annum)	Repayment terms
THB	10,000	1,000	4	3.05	Interest is repayable every 6 months and mature in August 2021.

Debentures - foreign currency

As at December 31, 2018, the details of unsecured, unsubordinated debentures in foreign currency of the Company are as follows:

Currency	Principal (unit: million)	Par value (per share)	Period (years)	Interest rate percent (per annum)	Repayment terms
USD	298	1,000	30	5.875	Interest is repayable every 6 months and mature in August 2035.
USD	571	1,000	30	4.50	Interest is repayable every 6 months and mature in October 2042.

25.2 Debentures (Continued)

Debentures - foreign currency (Continued)

As at December 31, 2018, the details of unsecured, unsubordinated debentures in foreign currency of the subsidiaries are as follows:

Currency	Principal (unit: million)	Par value (per share)	Period (years)	Interest rate percent (per annum)	Repayment terms
USD	700	1,000	10	5.692	Interest is payable every 6 months and mature in April 2021.
USD	490	1,000	30	6.35	Interest is payable every 6 months and mature in June 2042.
USD	504	1,000	10	4.25	Interest is payable every 6 months and mature in September 2022.
USD	496	1,000	4	4.25	Interest is payable every 6 months and mature in September 2022.
USD	216	1,000	10	3.625	Interest is payable every 6 months and mature in January 2023.
USD	172	1,000	30	4.875	Interest is payable every 6 months and mature in January 2023.
USD	284	1,000	10	3.625	Interest is repayable every 6 months and mature in January 2023.
USD	328	1,000	30	4.875	Interest is payable every 6 months and mature in January 2043.
USD	400	1,000	10	4.625	Interest is payable every 6 months and mature in November 2028.
USD	600	1,000	30	5.375	Interest is repayable every 6 months and mature in November 2048.

The Group has entered into derivative contracts on debentures to cover foreign currency exchange rates and interest rates risks as mentioned in Note 39.2 to Note 39.4.

25.3 Liabilities under finance leases

Details of liabilities under finance leases as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Liabilities under finance leases				
- Within 1 year	928.78	1,028.09	588.63	766.97
- Over 1 year but not over 5 years	2,679.59	2,396.64	2,138.29	2,058.62
- Over 5 years	2,270.20	2,743.15	2,270.20	2,743.15
Future finance charges	(436.18)	(415.12)	(361.51)	(380.83)
Present value of liabilities under finance leases	5,442.39	5,752.76	4,635.61	5,187.91
Present value of liabilities under finance leases				
- Current liabilities	819.49	937.43	511.16	693.33
- Non-current liabilities	4,622.90	4,815.33	4,124.45	4,494.58
Total	5,442.39	5,752.76	4,635.61	5,187.91

25.4 Maturities of long-term loans as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

Consolidated financial statements						
2018						
	Baht Currency Loans	Foreign Currency Loans	Baht Currency Debentures	Foreign Currency Debentures	Liabilities Under Finance Leases	Total
Within 1 year	12,344.94	2,439.19	47,504.98	-	819.49	63,108.60
Over 1 year but not over 5 years	68,877.54	10,895.33	91,720.17	71,376.58	2,435.33	245,304.95
Over 5 years	49,219.31	10,409.37	55,757.08	92,086.03	2,187.57	209,659.36
Total	130,441.79	23,743.89	194,982.23	163,462.61	5,442.39	518,072.91

25.4 Maturities of long-term loans as at December 31, 2018 and 2017 are as follows: (Continued)

Unit: Million Baht

Consolidated financial statements						
2017						
	Baht Currency Loans	Foreign Currency Loans	Baht Currency Debentures	Foreign Currency Debentures	Liabilities Under Finance Leases	Total
Within 1 year	13,742.71	15,141.42	26,049.47	10,562.90	937.43	66,433.93
Over 1 year but not over 5 years	51,316.90	27,351.64	129,215.78	55,570.48	2,187.41	265,642.21
Over 5 years	25,237.52	9,247.05	65,754.35	76,410.61	2,627.92	179,277.45
Total	90,297.13	51,740.11	221,019.60	142,543.99	5,752.76	511,353.59

Unit: Million Baht

Separate financial statements						
2018						
	Baht Currency Loans	Foreign Currency Loans	Baht Currency Debentures	Foreign Currency Debentures	Liabilities Under Finance Leases	Total
Within 1 year	-	-	26,000.00	-	511.16	26,511.16
Over 1 year but not over 5 years	1,000.00	-	55,348.00	-	1,936.88	58,284.88
Over 5 years	-	6,830.15	28,367.20	27,969.16	2,187.57	65,354.08
Total	1,000.00	6,830.15	109,715.20	27,969.16	4,635.61	150,150.12

Unit: Million Baht

Separate financial statements						
2017						
	Baht Currency Loans	Foreign Currency Loans	Baht Currency Debentures	Foreign Currency Debentures	Liabilities Under Finance Leases	Total
Within 1 year	14.51	10,182.63	18,549.47	-	693.33	29,439.94
Over 1 year but not over 5 years	1,000.00	-	71,348.00	-	1,866.66	74,214.66
Over 5 years	-	6,753.49	38,367.20	28,152.20	2,627.92	75,900.81
Total	1,014.51	16,936.12	128,264.67	28,152.20	5,187.91	179,555.41

26. Changes in Liabilities Arising from Financing Activities

Changes in liabilities arising from financing activities as follows:

Consolidated financial statements							Unit: Million Baht	
	As at January 1, 2018	Cash flows from financing		Non-cash items			As at December 31, 2018	
		Additions	Repayments	Finance leases - Additions	(Gain) loss on exchange rates	Currency translation differences		Others
Short-term loans from financial institutions	18,126.63	43,112.57	(38,144.63)	-	-	(117.99)	2,585.22	25,561.80
Loans - Baht currency	90,297.13	68,202.51	(28,862.73)	-	-	-	804.88	130,441.79
Loans - foreign currencies	51,740.11	7,418.40	(34,815.10)	-	(458.46)	(508.97)	367.91	23,743.89
Debentures - Baht currency	221,019.60	-	(26,142.50)	-	295.47	(202.61)	12.27	194,982.23
Debentures - foreign currencies	142,543.99	68,005.74	(46,975.11)	-	192.20	(679.63)	375.42	163,462.61
Finance leases	5,752.76	-	(974.56)	743.92	(0.10)	(0.60)	(79.03)	5,442.39
Total	529,480.22	186,739.22	(175,914.63)	743.92	29.11	(1,509.80)	4,066.67	543,634.71

26. Changes in Liabilities Arising from Financing Activities (Continued)

Changes in liabilities arising from financing activities as follows: (Continued)

Unit: Million Baht

Separate financial statements							
	As at January 1, 2018	Cash flows from financing		Non-cash items			As at December 31, 2018
		Additions	Repayments	Finance leases - Additions	Gain on exchange rates	Others	
Short-term loans from financial institutions	2,803.04	1,564.48	(1,034.82)	-	-	-	3,332.70
Loans - Baht currency	1,014.51	-	(14.51)	-	-	-	1,000.00
Loans - foreign currencies	16,936.12	-	(9,741.53)	-	(364.44)	-	6,830.15
Debentures - Baht currency	128,264.67	-	(18,549.47)	-	-	-	109,715.20
Debentures - foreign currencies	28,152.20	-	-	-	(201.92)	18.88	27,969.16
Finance leases	5,187.91	-	(658.20)	270.75	(1.60)	(163.25)	4,635.61
Total	182,358.45	1,564.48	(29,998.53)	270.75	(567.96)	(144.37)	153,482.82

27. Provisions for Employee Benefit

Movements in the present value of provisions for employee benefit are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
As at January 1	23,313.07	21,072.33	8,877.98	8,140.10
Service cost	1,912.94	1,676.40	643.16	681.99
Interest cost	600.11	596.11	236.74	274.96
Actuarial (gain) loss from provisions for post-employment benefit	(946.68)	1,023.08	(799.89)	65.27
Actuarial (gain) loss from provisions for other long-term employee benefit	(25.07)	103.01	(13.70)	6.16
Actual payment	(969.83)	(1,152.90)	(236.52)	(290.50)
Business acquisition (Note 43)	89.61	-	-	-
Disposal of assets and discontinued operations	(10.04)	-	(1,801.12)	-
Currency translation differences	(43.08)	(4.96)	-	-
As at December 31	23,921.03	23,313.07	6,906.65	8,877.98

Details of actuarial (gain) loss from provisions for post-employment benefit are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Loss from experience adjustments	335.61	170.81	493.17	-
(Gain) loss from changes in financial assumptions	(1,371.90)	290.24	(1,293.06)	(33.43)
Loss from changes in demographic assumptions	89.61	562.03	-	98.70
Total	(946.68)	1,023.08	(799.89)	65.27

27. Provisions for Employee Benefit (Continued)

Expenses recognized in the statements of income and comprehensive income for the years ended December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Service cost	1,912.94	1,676.40	643.16	681.99
Interest cost	600.11	596.11	236.74	274.96
Actuarial (gain) loss	(971.75)	1,126.09	(813.59)	71.43
Total	1,541.30	3,398.60	66.31	1,028.38

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Cost of sales and services	809.99	656.33	141.63	144.80
Selling and distribution expenses	168.28	209.48	115.44	202.99
Administrative expenses	1,494.87	1,484.57	606.78	612.53
Management remuneration	14.84	25.14	2.35	2.79
Other comprehensive (gain) loss	(946.68)	1,023.08	(799.89)	65.27
Total	1,541.30	3,398.60	66.31	1,028.38

Principal actuarial assumptions used in determining the present value of provisions for post-employment benefit of the Group are as follows:

	Annual percentage (%)	
	2018	2017
Discount rate	1.73 - 8.15	1.40 - 6.24
Inflation rate	0.00 - 6.50	0.00 - 6.50
Employee turnover rate	0.00 - 70.00	0.00 - 80.00
Mortality rate	based on the published statistics of each country	based on the published statistics of each country

27. Provisions for Employee Benefit (Continued)

Sensitivity analysis of principal actuarial assumption used in determining the present value of provisions for post-employment benefits of the Group as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Increase (decrease) in present value of the provisions	
	2018	2017
Discount rate		
Increase 1%	(3,086.77)	(3,237.50)
Decrease 1%	4,115.71	4,448.39

Weighted average duration of the provisions for post-employment benefit of the Group for the year 2018 is 18.75 years (for the year 2017: 18.90 years).

On December 13, 2018, the National Legislative Assembly passed a resolution approving the draft of a new Labor Protection Act, which is in the process being published in the Royal Gazette. The new Labor Protection Act stipulates additional legal severance pay rates in the event of termination of an employee who has worked for an uninterrupted period of 20 years or more, whereby the employee is entitled to receive compensation of not less than 400 days at the employee's last wage rate. This change is considered a post-employment benefits plan amendment, and results in an increase of Baht 2,982.49 million in employee benefits liabilities in the consolidated financial statements. However, there is no impact on the separate financial statements because the Company is covered by the State Enterprise Labor Relations Act B.E. 2543. The Group will reflect the effect of this change by recognizing the past service costs as expenses in the income statement of the period in which the law is effective.

28. Provision for Decommissioning Costs

Movements in the provision for decommissioning costs which will occur in the future are as follows:

Unit: Million Baht

	Consolidated financial statements	
	2018	2017
As at January 1	74,865.44	72,751.56
- Business acquisition (Note 43)	8,007.39	-
- Additional provision	4,223.32	11,621.49
- Use during the year	(729.43)	(824.35)
- Reversal of non-occurred provision	(5,336.16)	(1,982.25)
- Disposals	(5,631.24)	-
- Currency translation differences	(676.80)	(6,701.01)
As at December 31	74,722.52	74,865.44
- Current portion	(1,090.30)	-
- Long-term portion	73,632.22	74,865.44

29. Other Non-current Liabilities

Other non-current liabilities as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Long-term other accounts payable	3,603.00	4,155.12	3,490.10	4,045.35
Provision for remuneration for the renewal of petroleum production	7,744.52	6,373.27	-	-
Long-term liability: Make-up	10,782.35	10,495.80	10,782.35	10,495.80
Deferred revenue	6,609.13	14,002.78	5,244.77	6,342.08
Others	4,232.06	2,817.26	340.25	985.38
Total	32,971.06	37,844.23	19,857.47	21,868.61

Long-term liability (Make-up) arises from the amount of the difference between the natural gas price for the committed gas volumes that the Company paid in advance and the natural gas price as at the date of taking the gas that exceeds the interest paid for the advance payment for untaken-up gas volume (Take-or-Pay). The Company has to distribute the difference to the parties who paid for the Take-or-Pay interest for the Yadana and Yetagun gas fields.

30. Share Capital

On April 12, 2018, at the 2018 Annual General Shareholders' Meeting of the Company, the shareholders passed resolutions as follows:

1. To approve the reduction of the Company's authorized share capital by Baht 9,461,000 from Baht 28,572,457,250 to Baht 28,562,996,250 by cancelling 946,100 unissued shares with a par value of Baht 10.00 per share. The Company completed the registration of the capital reduction with the Ministry of Commerce on April 17, 2018.
2. To approve a change in the par value of the Company's shares, from Baht 10.00 per share to Baht 1.00 per share. As a result, the number of authorized shares, and issued and paid-up shares increased by 25,706,696,625 shares, from 2,856,299,625 shares to 28,562,996,250 shares. The authorized share capital, and issued and paid-up share capital of the Company remain unchanged. The Company completed the registration of the change with the Ministry of Commerce on April 18, 2018 and the effective date of the change on the Stock Exchange of Thailand is April 24, 2018.

30.1 Share Capital - Authorized Shares

	Par Value (Baht per share)	The number of authorized shares (Shares)	The value of authorized shares (Baht)
As at December 31, 2017	10	2,857,245,725	28,572,457,250
As at December 31, 2018	1	28,562,996,250	28,562,996,250

30.2 Share Capital - Issued and Paid-up Shares

	Number of issued and fully paid-up shares (Shares)	Value of issued and fully paid-up shares (Baht)	Premium on Ordinary shares (Baht)	Total (Baht)
As at December 31, 2017	2,856,299,625	28,562,996,250	29,211,131,966	57,774,128,216
As at December 31, 2018	28,562,996,250	28,562,996,250	29,211,131,966	57,774,128,216

31. Reserves

31.1 Legal Reserve

Under the Public Limited Companies Act B.E. 2535, the Company is required to appropriate not less than 5% of its annual net profit as legal reserve until the reserve fund reaches 10% of the authorized share capital. The reserve is non-distributable. The Company's reserve has already reached the 10% of its authorized share capital, stipulated in the Act.

31.2 Reserve for Self-insurance Fund

Movements of reserves for self-insurance fund are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Balance as at January 1	1,199.99	1,174.39	1,199.99	1,174.39
Appropriated during the years	22.69	25.60	22.69	25.60
Balance as at December 31	1,222.68	1,199.99	1,222.68	1,199.99

The self-insurance fund was set up to provide insurance coverage for the Company's business. The Company appropriates net profit from operations and the interest income of the self-insurance fund each year to the fund.

32. Basic Earnings per Share

Basic earnings per share for the years ended December 31, 2018 and 2017 are as follows:

Unit: Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Profit attributable to owners of the parent from continuing operations	119,683,943,324	135,187,012,229	94,512,115,371	92,617,442,294
Adjustment of profit	(1,124,184,883)	(1,670,431,798)	-	-
Profit for calculation of earnings per share from continuing operations	118,559,758,441	133,516,580,431	94,512,115,371	92,617,442,294
Profit (loss) for calculation of earnings per share from discontinued operations	-	(7,409,577)	70,761,721,267	11,856,355,680
Total profit	118,559,758,441	133,509,170,854	165,273,836,638	104,473,797,974
Number of weighted average of ordinary shares (shares)	28,562,996,250	28,562,996,250	28,562,996,250	28,562,996,250
Earnings per share from continuing operations (Baht/share)	4.15	4.67	3.31	3.24
Earnings per share from discontinued operations (Baht/share)	-	-	2.48	0.42
Earnings per share (Baht/share)	4.15	4.67	5.79	3.66

33. Sales and Service Income

Details of sales and service income for the years ended December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Oil products	1,440,216.43	1,176,823.54	862,501.80	623,422.25
Gas products	405,644.09	376,321.57	495,125.46	445,873.15
Petrochemicals products	423,744.74	384,770.99	49,693.12	28,244.56
Mining products	20,527.20	19,250.09	-	-
Non-oil businesses	15,914.60	13,639.54	300.76	-
Services	7,732.32	6,898.56	1,696.63	49.50
Others	22,375.54	18,017.78	1,703.28	315.47
Total	2,336,154.92	1,995,722.07	1,411,021.05	1,097,904.93

Sales and services income for the years ended December 31, 2018 and 2017 include sales to government agencies and state enterprises amounting to Baht 111,936.72 million and Baht 105,423.32 million in the consolidated financial statements, and Baht 79,998.69 million and Baht 64,988.54 million in the separate financial statements, respectively.

34. Other Income

Details of other income for the years ended December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017*	2018	2017*
Transportation income	3,667.94	3,525.21	5,074.53	4,895.56
Dividend income	347.32	5,008.55	34,534.25	33,972.66
Interest income	9,435.82	8,630.25	3,013.86	4,038.69
Compensation for loan interest				
on advance payments for gas purchases	(2.20)	(2.09)	(2.20)	(2.09)
Gain (loss) on disposal of investments	(2,154.60)	2,613.60	8,398.04	2,016.69
Gain (loss) on derivatives	(2,369.19)	692.73	(575.85)	2,438.12
Others	8,010.01	7,800.26	3,781.79	3,834.97
Total	16,935.10	28,268.51	54,224.42	51,194.60

Compensation for loan interests on advance payments for gas purchases (Take-or-Pay) represents the compensation, which the Company received from the Electricity Generating Authority of Thailand (EGAT) and the Independent Power Plants (IPP) in order to absorb the interests on loans that the Company obtains to make advance payments for gas purchases.

* The Company has reclassified the financial information to be comparable with the financial statement presentation for the years ended December 31, 2018.

35. Expenses by Nature

Details of expenses by nature for the years ended December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Changes in finished goods and work in process	(6,446.60)	(3,554.65)	(5,569.11)	(635.40)
Goods purchased and raw materials used	1,829,951.29	1,503,068.32	1,302,747.62	996,359.49
Executive remunerations (Note 9.10)	1,501.89	1,355.36	162.27	150.89
Staff costs	51,285.46	49,151.50	8,387.47	7,589.62
Outsourcing	11,132.93	8,943.99	3,744.17	1,303.56
Transportation	17,511.16	16,953.80	5,058.57	4,884.12
Depreciation and amortization	123,556.27	116,289.18	18,616.25	16,630.28
Repairment	15,394.38	14,238.46	2,634.09	2,309.97
Utilities	12,451.88	12,607.66	11,109.06	10,685.45
Rental fees and property insurance premium	9,240.47	9,276.83	2,301.46	2,012.93
Petroleum exploration expenses	1,481.06	1,744.62	-	-
(Reversal of) doubtful accounts	2,320.28	(149.73)	(22,646.38)	(34,226.28)
Loss on impairment of assets	16.83	24,847.64	22,706.87	33,786.64
Others	35,441.61	34,287.45	7,188.08	6,745.40
Total	2,104,838.91	1,789,060.43	1,356,440.42	1,047,596.67

36. Petroleum Royalties and Remuneration

Details of petroleum royalties and remuneration for the years ended December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements	
	2018	2017
Petroleum royalties	16,435.23	13,877.33
Special remuneration benefits	-	-
Total	16,435.23	13,877.33

37. Finance Costs

Details of finance costs for the years ended December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Interest expenses:				
Loans from financial institutions	6,659.17	10,897.35	415.45	856.10
Debentures	15,883.08	13,625.10	7,211.49	8,006.47
Liabilities under finance leases	92.92	109.52	70.93	77.15
Others	3,881.90	3,076.56	0.02	1.60
Other finance costs	1,110.52	1,377.40	311.56	733.07
Total	27,627.59	29,085.93	8,009.45	9,674.39

38. Operating Segments

These operating segments are consistent with the internal management reports provided to the Chief Operating Decision Maker (CODM), who makes decisions related to the allocation of resources to the segments and assesses their performance.

For management purposes, the Group is organized into business units based on types of products and services. The major segments of the Group are as follows:

Upstream Petroleum and Natural Gas Business Group

1. Petroleum exploration and production business:

The Group conducts petroleum exploration and production business both domestically and overseas. The Group is the operator and jointly invests with leading petroleum exploration and production companies. Most domestic projects are located in the Gulf of Thailand, while overseas projects are located in Southeast Asia, Australia, America and Africa.

2. Natural gas business:

The Group conducts natural gas business including procurement, natural gas pipeline transmission, distribution, and natural gas separation. Products from the natural gas separation plants are used as feedstock for the petrochemical industry and as fuel in the household, transportation and industry sectors.

3. Coal business:

The Group conducts coal mining business, involving overseas exploration, production and distribution of coals.

38. Operating Segments (Continued)

Downstream Petroleum Business Group

1. Oil business:

The Group conducts marketing of petroleum products and lube oil in both domestic and overseas markets under an efficient operating system of procurement, storage, and distribution of products as well as the retail business at service stations

2. International trading business:

The Group conducts international trading business including the import and export of petroleum and petrochemical products as well as other related products. This includes the price risk management and international chartering.

3. Petrochemical and Refining business:

The Group conducts refining business including the production and distribution of petroleum and petrochemicals products in both domestic and overseas markets.

Other operations of the Group are included in other segments, none of which constitutes a separately reportable segment.

The Group operates major segment in Thailand only. As a result, all the revenues and assets as reflected in these financial statements pertain exclusively to this geographical reportable segment. For the year 2018 and 2017, the Group has no major customer with revenue of 10 percent or more of an entity's revenues.

The Group changed the operating segment of GPSC, EnCo, PTES and DCAP from the Gas business segment to the Other business segment in order to reflect the business operations and internal Group reporting. The Group therefore reorganised the operating segment information of 2017 to enable comparison with the current period's information.

Pricing among business groups is based on normal market prices except for pricing among business groups within the Company, for which net market prices, after deducting management fees for petroleum terminals and operating fees, are applied.

38. Operating Segments (Continued)

Consolidated financial statements

For the year ended December 31, 2018

Unit: Million Baht

	Upstream petroleum and natural gas			Downstream petroleum			Others	Elimination	Total
	Petroleum exploration and production	Natural gas	Coal	Oil	International trading	Petrochemicals and Refining			
Sales - others	24,848.91	346,496.13	20,527.20	594,808.16	661,512.22	673,931.56	14,030.74	-	2,336,154.92
- related parties	146,960.25	143,052.68	-	6,255.59	577,608.87	458,148.48	18,213.15	(1,350,239.02)	-
Net sales	171,809.16	489,548.81	20,527.20	601,063.75	1,239,121.09	1,132,080.04	32,243.89	(1,350,239.02)	2,336,154.92
Gross profit*	149,826.56	106,024.30	9,182.22	33,672.26	5,322.09	118,323.25	6,435.77	(2,124.12)	426,662.33
EBITDA	126,842.63	94,083.75	7,444.80	15,270.93	2,701.46	97,820.92	5,653.09	1,578.32	351,395.90
Depreciation and amortization expenses	(60,141.43)	(17,996.29)	(1,928.95)	(4,316.17)	(110.21)	(34,898.87)	(4,164.35)	-	(123,556.27)
Segment operating profit	66,701.20	76,087.46	5,515.85	10,954.76	2,591.25	62,922.05	1,488.74	1,578.32	227,839.63
Share of profit from investments in joint ventures and associates	83.97	558.71	-	905.82	-	6,298.16	668.36	-	8,515.02
Others	(1,886.17)	(3.38)	(109.24)	(29.56)	(434.52)	(707.06)	79.53	-	(3,090.40)
Unallocated revenue and expenses:									
Interest income									9,435.82
Loss on derivatives									(2,369.19)
Gain on foreign exchange rate									6,353.51
EBIT									246,684.39
Profit for the year									165,410.25

* Gross profit excludes depreciation and amortization expenses in cost of sales.

38. Operating Segments (Continued)

Consolidated financial statements

As at December 31, 2018

Unit: Million Baht

	Upstream petroleum and natural gas				Downstream petroleum			Others	Elimination	Total
	Petroleum exploration and production	Natural gas	Coal	Oil	International trading	Petro-chemicals and Refining				
Segment assets	588,195.26	413,776.38	27,195.61	126,978.19	77,049.54	815,640.67		212,463.97	-	2,261,299.62
Inter-company assets	24,184.24	21,277.41	329.60	8,513.94	42,484.39	29,233.93		45,731.43	(171,754.94)	-
Investments in joint ventures and associates	922.20	5,674.75	-	5,088.13	-	43,377.82		10,622.42	-	65,685.32
Total segment assets	613,301.70	440,728.54	27,525.21	140,580.26	119,533.93	888,252.42		268,817.82	(171,754.94)	2,326,984.94
Non-allocated assets										28,498.93
Total assets										2,355,483.87
Segment liabilities	216,808.23	89,709.36	4,192.10	71,704.14	91,809.07	341,388.31		188,510.02	-	1,004,121.23
Inter-company liabilities	502.99	39,427.53	91.59	45,538.49	13,963.28	55,406.04		17,424.15	(172,354.07)	-
Total segment liabilities	217,311.22	129,136.89	4,283.69	117,242.63	105,772.35	396,794.35		205,934.17	(172,354.07)	1,004,121.23
Non-allocated liabilities										32,868.29
Total liabilities										1,036,989.52
Capital expenditure	36,778.18	21,656.80	1,876.49	8,170.56	82.55	54,294.83		8,561.24	(6,972.15)	124,448.50

38. Operating Segments (Continued)

Consolidated financial statements

For the year ended December 31, 2017

Unit: Million Baht

	Upstream petroleum and natural gas			Downstream petroleum			Others	Elimination	Total
	Petroleum exploration and production	Natural gas	Coal	Oil	International trading	Petrochemicals and Refining			
Sales - others	20,882.31	316,729.39	19,250.09	539,951.90	500,248.27	588,597.24	10,062.87	-	1,995,722.07
- related parties	126,842.35	127,010.57	325.05	7,343.88	435,367.41	362,130.15	16,070.87	(1,075,090.28)	-
Net sales	147,724.66	443,739.96	19,575.14	547,295.78	935,615.68	950,727.39	26,133.74	(1,075,090.28)	1,995,722.07
Gross profit*	125,450.52	94,775.74	7,998.46	34,723.87	3,079.59	143,907.60	4,714.40	(1,045.16)	413,605.02
EBITDA	105,468.39	83,792.20	6,113.97	19,597.99	527.24	123,835.15	4,537.74	1,522.53	345,395.21
Depreciation and amortization expenses	(55,769.82)	(16,341.38)	(1,890.34)	(4,143.70)	(33.31)	(34,519.22)	(3,591.41)	-	(116,289.18)
Segment operating profit	49,698.57	67,450.82	4,223.63	15,454.29	493.93	89,315.93	946.33	1,522.53	229,106.03
Share of profit from investments in joint ventures and associates	92.71	590.05	-	875.08	-	5,137.22	615.36	-	7,310.42
Others	(18,504.89)	(102.43)	(4,228.02)	72.57	(0.23)	(2,298.18)	7,684.98	-	(17,376.20)
Unallocated revenue and expenses:									
Interest income									8,630.25
Gain on derivatives									692.73
Gain on foreign exchange rate									13,650.64
EBIT									242,013.87
Profit for the year									184,610.02

* Gross profit excludes depreciation and amortization expenses in cost of sales.

38. Operating Segments (Continued)

Consolidated financial statements

As at December 31, 2017

Unit: Million Baht

	Upstream petroleum and natural gas				Downstream petroleum			Others	Elimination	Total
	Petroleum exploration and production	Natural gas	Coal	Oil	International trading	Petrochemicals and Refining				
Segment assets	584,407.86	389,996.83	26,218.20	114,904.93	93,781.17	748,140.88		199,846.30	-	2,157,296.17
Inter-company assets	22,552.28	12,338.99	1,326.90	1,142.99	44,918.56	29,407.75		55,136.38	(166,823.85)	-
Investments in joint ventures and associates	841.80	5,686.70	-	5,013.67	-	38,806.45		9,568.15	-	59,916.77
Total segment assets	607,801.94	408,022.52	27,545.10	121,061.59	138,699.73	816,355.08		264,550.83	(166,823.85)	2,217,212.94
Non-allocated assets										15,101.22
Total assets										<u>2,232,314.16</u>
Segment liabilities	219,605.72	67,860.18	5,004.35	34,488.14	110,722.15	298,036.47		212,245.69	-	947,962.70
Inter-company liabilities	668.46	37,878.34	23,625.27	28,481.76	16,075.61	51,347.53		7,981.82	(166,058.79)	-
Total segment liabilities	220,274.18	105,738.52	28,629.62	62,969.90	126,797.76	349,384.00		220,227.51	(166,058.79)	947,962.70
Non-allocated liabilities										35,795.72
Total liabilities										<u>983,758.42</u>
Capital expenditure	49,911.49	21,829.96	1,467.86	9,895.29	193.90	35,161.01		4,234.52	(99.97)	122,594.06

39. Disclosure of Financial Instruments

The Group faces the principal financial risks associated with fluctuations in exchange rates, interest rates, and global oil market prices. The Group also has certain portions of sales, purchases and loans for operations nominated in foreign currencies which are paid in both fixed and floating interest rates. Accordingly, the management has entered into derivative contracts to cover these risks. The financial instruments used for hedging risks are forward foreign exchange contracts, interest rate swap contracts, cross-currency swap contracts, participating swap contracts etc. Risk exposure relating to global oil market prices is managed by forward oil contracts.

The department responsible for managing exposure to exchange rate risks and fluctuations in oil market prices has to report details of the costs and market prices of all financial instruments to management, including outstanding forward foreign exchange contracts and forward oil contracts. The reported information principally covers risk exposure from:

- foreign exchange rate risk
- currency risk
- currency and interest rate risk
- interest rate risk
- fluctuation in oil market price risk
- credit risk

39.1 Foreign Exchange Rate Risk

The Group has entered into forward foreign exchange contracts. The contract prices and exchange rates under the forward foreign exchange contracts as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

Consolidated financial statements		
	2018	2017
Forward foreign exchange purchase contracts		
Baht 0.2940 - 0.3234 = 1 JPY	461.96	-
Baht 0.3088 - 0.3224 = 1 JPY	-	513.92
Baht 30.4210 - 34.1175 = 1 USD	86,864.07	-
Baht 32.3700 - 36.1775 = 1 USD	-	70,122.18
Baht 37.1600 - 37.6300 = 1 EUR	31.67	-
Baht 38.5400 - 40.3900 = 1 EUR	-	27.72
Baht 41.4270 = 1 GBP	265.13	-
Forward foreign exchange sale contracts		
Baht 30.7540 - 32.8300 = 1 USD	20,697.05	-
Baht 32.2340 - 38.3101 = 1 USD	-	51,918.08
Baht 0.2894 - 0.2952 = 1 JPY	17,506.89	-
Baht 38.4370 - 38.6057 = 1 EUR	-	20.81

Unit: Million Baht

Separate financial statements		
	2018	2017
Forward foreign exchange purchase contracts		
Baht 32.3760 - 33.0504 = 1 USD	24,429.29	-
Baht 32.4747 - 33.1884 = 1 USD	-	21,116.03
Forward foreign exchange sale contracts		
Baht 32.1780 - 32.8300 = 1 USD	14,753.80	-
Baht 32.2340 - 38.3101 = 1 USD	-	41,036.11
Baht 0.2894 - 0.2952 = 1 JPY	17,506.89	-

39.2 Currency Risk

The Group has entered into a cross-currency swap contracts of a long-term loan in the form of a participating swap contracts. The terms of such contract as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
JPY 23,000 million/USD 196.94 million	6,830.15	6,753.49	6,830.15	6,753.49

This contract has a maturity later than five years.

39.3 Currency and Interest Rate Risk

The Group has entered into cross-currency swap contracts of other long-term investments, long-term loans and debentures. The terms of the outstanding cross-currency swap contracts as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Baht 4,000 million/USD 120.55 million	4,000.00	4,000.00	4,000.00	4,000.00
Baht 9,000 million/USD 285.42 million	-	9,000.00	-	9,000.00
Baht 6,811.50 million/USD 200.00 million	6,811.50	-	-	-
Baht 8,285.45 million/USD 250.00 million	8,285.45	-	-	-
Baht 745.00 million/USD 250.00 million	745.00	-	-	-
Baht 5,000 million/USD 162.60 million	-	5,000.00	-	-
Baht 3,372.70 million/USD 100.00 million	-	3,372.70	-	-
Baht 6,777.40 million/USD 200.00 million	-	6,777.40	-	-
Baht 27,100 million/USD 844.85 million	27,100.00	27,100.00	-	-
USD 70 million/THB 2,184 million	2,259.94	-	2,259.94	-
USD 70 million/THB 2,331 million	2,259.94	2,276.02	2,259.94	2,276.02
USD 200 million/THB 6,880 million	6,456.95	6,502.92	6,456.95	6,502.92
Total	57,918.78	64,029.04	14,976.83	21,778.94

39.3 Currency and Interest Rate Risk (Continued)

The maturity periods of contracts are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Due within 1 year	3,245.00	16,500.00	-	9,000.00
Over 1 year but not over 5 years	43,273.78	36,129.04	14,976.83	12,778.94
Over 5 years	11,400.00	11,400.00	-	-
Total	57,918.78	64,029.04	14,976.83	21,778.94

39.4 Interest Rate Risk

The Group has entered into interest rate swap contracts of long-term loans and debentures. The terms of the outstanding interest rate swap contracts as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Interest rate swap contracts to swap floating for fixed rate in USD currency	324.50	-	-	-
Interest rate swap contracts to swap fixed for floating rate in USD currency	16,148.53	16,592.98	16,148.53	16,266.17
Interest rate swap contracts to swap floating for fixed rate in Baht currency	6,241.13	2,500.00	-	-
Interest rate swap contracts to swap fixed for floating rate in Baht currency	18,000.00	8,000.00	18,000.00	8,000.00
Interest rate swap contracts to swap floating for fixed rate in JPY currency	7,473.61	7,372.62	-	-
Interest rate swap contracts to swap floating for fixed rate in EUR currency	-	500.00	-	-
Total	48,187.77	34,965.60	34,148.53	24,266.17

39.4 Interest Rate Risk (Continued)

The maturity periods of contracts are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Due within 1 year	16,575.15	3,426.61	16,148.53	-
Over 1 year but not over 5 years	8,030.95	24,299.42	6,000.00	22,266.17
Over 5 years	23,581.67	7,239.57	12,000.00	2,000.00
Total	48,187.77	34,965.60	34,148.53	24,266.17

39.5 Fluctuations in Oil Market Price Risk

The Group has entered into oil price derivatives. As at December 31, 2018, the volume of oil under those contracts that mature during January to December 2019 is 20.01 million barrels in the consolidated financial statements and 0.01 million barrels in the separate financial statements (as at December 31, 2017: 16.41 million barrels in the consolidated financial statements and 0.91 million barrels in the separate financial statements).

39.6 Credit Risk

Credit risk arises when customers do not comply with the terms and conditions of credit agreements, causing financial losses to the Company. However, the Company has managed risk by adjusting its credit policies according to the current economic situation, focusing on developing financial instruments by cooperating with financial institutions to support credit facilities provided to customers in order to buy the Company's products, such as the Dealer Financing and Supply Chain Credit project, the trade credit insurance, and the Payment card and Fleet card, aims to reduce credit risks of the Company. The Company also reduces credit risk by determining procedures for risk prevention and mitigation, including credit rating for all trading partners of the Company.

40. Fair Value Measurement

The fair value of the current portions of financial assets and liabilities approximates the carrying value due to the relatively short-term maturity of these financial instruments.

The fair value of long-term lending loans and borrowings carrying interest at market rates approximates the carrying values.

As at December 31, 2018 and 2017, the Group had the assets and liabilities that were measured at fair value using different levels of inputs as follows:

As at December 31, 2018

Unit: Million Baht

Consolidated financial statements				
	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value				
Available-for-sale investments				
Equity instruments	3,425.91	-	-	3,425.91
Mutual funds	1,104.59	-	388.27	1,492.86
Debt instruments	-	5,957.16	-	5,957.16
Derivatives				
Foreign currency forward contracts	-	985.65	-	985.65
Cross-currency swap contracts	-	1,672.28	-	1,672.28
Interest rate swap contracts	-	257.46	-	257.46
Commodity swap contracts	1,731.90	1,373.50	-	3,105.40
Other derivative contracts	-	1,156.39	-	1,156.39
Financial liabilities measured at fair value				
Other accounts payable				
Deferred considerations acquired through business acquisition	-	-	15,120.70	15,120.70
Derivatives				
Foreign currency forward contracts	-	556.87	-	556.87
Cross-currency swap contracts	-	471.79	-	471.79
Interest rate swap contracts	-	366.14	-	366.14
Commodity swap contracts	-	1,738.15	-	1,738.15
Other derivative contracts	-	81.84	-	81.84

40. Fair Value Measurement (Continued)

As at December 31, 2018 and 2017, the Group had the assets and liabilities that were measured at fair value using different levels of inputs as follows: (Continued)

As at December 31, 2017

Unit: Million Baht

Consolidated financial statements				
	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value				
Available-for-sale investments				
Equity instruments	4,243.93	-	-	4,243.93
Mutual funds	1,113.97	-	170.86	1,284.83
Debt instruments	-	12,073.65	-	12,073.65
Derivatives				
Foreign currency forward contracts	-	2,445.39	-	2,445.39
Cross-currency swap contracts	-	1,749.74	-	1,749.74
Interest rate swap contracts	-	28.06	-	28.06
Commodity swap contracts	645.98	35.77	-	681.75
Other derivative contracts	-	826.97	-	826.97
Financial liabilities measured at fair value				
Derivatives				
Foreign currency forward contracts	0.64	3,043.35	-	3,043.99
Cross-currency swap contracts	-	801.56	-	801.56
Interest rate swap contracts	-	70.38	-	70.38
Commodity swap contracts	2,293.09	836.80	-	3,129.89
Other derivative contracts	-	13.37	-	13.37

40. Fair Value Measurement (Continued)

As at December 31, 2018 and 2017, the Group had the assets and liabilities that were measured at fair value using different levels of inputs as follows: (Continued)

As at December 31, 2018

Unit: Million Baht

Separate financial statements				
	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value				
Available-for-sale investments				
Equity instruments	1,816.00	-	-	1,816.00
Mutual funds	375.29	-	388.27	763.56
Derivatives				
Cross-currency swap contracts	-	703.07	-	703.07
Interest rate swap contracts	-	5.12	-	5.12
Financial liabilities measured at fair value				
Derivatives				
Cross-currency swap contracts	-	103.22	-	103.22
Interest rate swap contracts	-	152.34	-	152.34

As at December 31, 2017

Unit: Million Baht

Separate financial statements				
	Level 1	Level 2	Level 3	Total
Financial assets measured at fair value				
Available-for-sale investments				
Equity instruments	3,983.75	-	-	3,983.75
Mutual funds	378.49	-	170.86	549.35
Derivatives				
Cross-currency swap contracts	-	751.08	-	751.08
Interest rate swap contracts	-	3.43	-	3.43
Financial liabilities measured at fair value				
Derivatives				
Cross-currency swap contracts	-	86.70	-	86.70
Interest rate swap contracts	-	45.19	-	45.19

40. Fair Value Measurement (Continued)

As at December 31, 2018 and 2017, the Group had the assets and liabilities that were disclosed at fair value using different levels of inputs as follows:

As at December 31, 2018

Unit: Million Baht

Consolidated financial statements				
	Level 1	Level 2	Level 3	Total
Financial assets disclosed at fair value				
Investments in long-term debt securities	-	17,262.15	-	17,262.15
Investment properties	-	11,442.89	11,322.16	22,765.05
Derivatives				
Foreign currency forward contracts	-	254.90	-	254.90
Foreign exchange option contracts	-	1,139.83	-	1,139.83
Financial liabilities disclosed at fair value				
Debentures - Baht currency	-	180,413.98	-	180,413.98
Debentures - foreign currencies	-	103,881.63	-	103,881.63
Derivatives				
Foreign currency forward contracts	-	166.14	-	166.14
Commodity swap contracts	-	2.13	-	2.13

40. Fair Value Measurement (Continued)

As at December 31, 2018 and 2017, the Group had the assets and liabilities that were disclosed at fair value using different levels of inputs as follows: (Continued)

As at December 31, 2017

Unit: Million Baht

Consolidated financial statements				
	Level 1	Level 2	Level 3	Total
Financial assets disclosed at fair value				
Investments in long-term debt securities	-	15,195.46	-	15,195.46
Investment properties	-	12,591.15	9,829.62	22,420.77
Derivatives				
Foreign currency forward contracts	-	826.40	-	826.40
Foreign exchange option contracts	-	803.06	-	803.06
Commodity swap contracts	-	38.01	-	38.01
Financial liabilities disclosed at fair value				
Debentures - Baht currency	-	212,309.87	-	212,309.87
Debentures - foreign currencies	-	131,466.36	-	131,466.36
Derivatives				
Foreign currency forward contracts	-	428.58	-	428.58
Commodity swap contracts	-	43.25	-	43.25

40. Fair Value Measurement (Continued)

As at December 31, 2018 and 2017, the Group had the assets and liabilities that were disclosed at fair value using different levels of inputs as follows: (Continued)

As at December 31, 2018

Unit: Million Baht

Separate financial statements				
	Level 1	Level 2	Level 3	Total
Financial assets disclosed at fair value				
Investments in long-term debt securities	-	17,262.15	-	17,262.15
Investment properties	-	4,111.04	436.71	4,547.75
Derivatives				
Foreign currency forward contracts	-	254.59	-	254.59
Foreign exchange option contracts	-	1,139.83	-	1,139.83
Financial liabilities disclosed at fair value				
Debentures - Baht currency	-	121,082.31	-	121,082.31
Debentures - foreign currencies	-	28,248.78	-	28,248.78
Derivatives				
Foreign currency forward contracts	-	166.05	-	166.05
Commodity swap contracts	-	2.13	-	2.13

40. Fair Value Measurement (Continued)

As at December 31, 2018 and 2017, the Group had the assets and liabilities that were disclosed at fair value using different levels of inputs as follows: (Continued)

As at December 31, 2017

Unit: Million Baht

Separate financial statements				
	Level 1	Level 2	Level 3	Total
Financial assets disclosed at fair value				
Investments in long-term debt securities	-	15,195.46	-	15,195.46
Investment properties	-	10,964.62	619.10	11,583.72
Derivatives				
Foreign currency forward contracts	-	817.24	-	817.24
Foreign exchange option contracts	-	803.06	-	803.06
Commodity swap contracts	-	38.01	-	38.01
Financial liabilities disclosed at fair value				
Debentures - Baht currency	-	144,110.09	-	144,110.09
Debentures - foreign currencies	-	34,228.14	-	34,228.14
Derivatives				
Foreign currency forward contracts	-	428.42	-	428.42
Commodity swap contracts	-	43.25	-	43.25

Fair value valuation techniques and inputs for Level 2 valuation

The fair values of debt securities and derivatives were determined based on discounted future cash flow and valuation model techniques, using an appropriate risk-adjusted discount rate. Most of the inputs used for the valuation are observable in the relevant markets such as spot rates of foreign currencies, yield curves of the respective currencies, interest rate yield curves, bonds yield curves, and commodity price yield curves, etc.

The fair value of land categorized as investment property was determined by independent property appraisers under the market approach.

Fair value valuation techniques and inputs for Level 3 valuation

The fair values of available-for-sale investments in mutual funds were determined based on the net asset value as reported in the Capital Call Statement and translated by using the closing exchange rate.

The fair values of land and buildings for rent categorized as investment property were determined using the income approach. The inputs used for the valuation consisted of the rate of return and finance costs.

During the year, there was no transfer within the fair value hierarchy.

41. Subordinated Capital Debentures

In July 2017, the Group has carried out a capital structure management with respect to USD subordinated capital debentures as follows:

Consolidated financial statements						
	Unit: Million USD			Unit: Million Baht		
	Before restructuring	(redeemed)/ reissued	After restructuring	Before restructuring	(redeemed)/ reissued	After restructuring
PTTEP						
Issuance and offering value	1,000.00	(854.69)	145.31	-	-	-
Net value from finance cost	995.53	(850.88)*	144.65	32,206.55	(27,526.73)*	4,679.82
PTTEP TC						
Issuance and offering value	-	854.69**	854.69	-	-	-
Net value from finance cost	-	853.47	853.47	-	28,570.16	28,570.16
Total						
Issuance and offering value	1,000.00	-	1,000.00	-	-	-
Net value from finance cost	995.53	2.59	998.12	32,206.55	1,043.43	33,249.98

* PTTEP redeemed the subordinated capital debentures with the payment of USD 874.31 million (Baht 28,310.98 million)

** PTTEP Treasury Center Co., Ltd. (PTTEP TC), a subsidiary of PTTEP, issued and offered the subordinated capital debentures, fully guaranteed by PTTEP, in the same amount as what was redeemed by PTTEP. The subordinated capital debentures will be settled upon the liquidation of the issuing company (perpetual), or as per the redemption rights stipulated in the offering memorandum. The subordinated capital debentures were issued in the two following series:

- Series 1: Issued and offered on July 17, 2017 in the amount of USD 500 million with an initial fixed interest rate of 4.6% until July 17, 2022. The right to early redeem in full amount shall be first exercisable on July 17, 2022. Subsequent interest rates and redeemable rights are stipulated in the offering memorandum.
- Series 2: Issued and offered on July 26, 2017 in the amount of USD 354.69 million with an initial fixed interest rate of 4.875% until June 18, 2019. The right to early redeem in full amount shall be first exercisable on June 18, 2019. Subsequent interest rates and redeemable rights are stipulated in the offering memorandum.

These subordinated capital debentures pay the distributions semi-annually. However, PTTEP TC may elect to defer the payment of a distribution at its sole discretion without any limit as to the number of times. The deferred distributions will not bear additional interest. In case that they are deferred from and including the date falling 12 months from the date on which it is first deferred, they will be constituted as the principal of the securities. However, if PTTEP TC elects to defer distributions of those 2 series, both PTTEP, as a guarantor, and PTTEP TC are restricted from declaring any dividends. Also, they will procure that no distribution or other payment is declared, paid or made on any of its Junior Securities or its Parity Securities. Additionally, both PTTEP and PTTEP TC will be restricted from redeeming, reducing, cancelling, or buying-back of its Junior Securities or its Parity Securities. These subordinated capital debentures are legally subordinated to all other capital debentures issued by PTTEP TC, except for equity. As a result, in case of PTTEP TC's liquidation, these subordinated capital debentures holders shall have rights to be repaid in the principle and accumulated return from PTTEP TC with the amount not over than PTTEP TC's net assets after the repayment of other debts and commitment made by PTTEP TC, except for equity.

In 2018, no subordinated capital debentures were issued.

42. Dividend Payment

On April 12, 2018, at the 2018 Annual General Shareholders' Meeting of the Company, the shareholders approved dividend payments for the year 2017 of Baht 20.00 per share, approximately amounting to Baht 57,107.88 million. On September 15, 2017, the Company paid an interim dividend for the operating results of the first half of 2017 at Baht 8.00 per share for 2,856,261,256 shares, amounting to Baht 22,850.09 million. The remaining dividends were paid as follows:

Dividends	For operating period	Dividend payment rate (Baht/share)	Number of shares (shares)	Total dividend (million Baht)	Payment date
For the year 2017	July 1, 2017 - December 31, 2017	12.00	2,854,815,755	34,257.79	April 27, 2018

On September 28, 2018, at the Board of Directors Meeting No. 9/2018 of the Company, the Board approved interim dividend payments for the first half of 2018 as follows:

Dividends	For operating period	Dividend payment rate (Baht/share)	Number of shares (shares)	Total dividend (million Baht)	Payment date
Interim	January 1, 2018 - June 30, 2018	0.80	28,562,591,709	22,850.07	October 26, 2018

43. Business Acquisition

On January 31, 2018, PTTEP and PTTEP International Limited (PTTEPI), a subsidiary of PTTEP, have signed an Agreement for the Assignment and Transfer of the 22.2222% stake in the Bongkot Project, consisting of Blocks B15, B16 and B17 from Shell Integrated Gas Thailand Pte. Limited and Block G12/48 from Thai Energy Company Limited respectively.

The transaction was completed on June 21, 2018. As a result, the PTTEP Group's participating interests of Block B15, B16 and B17 and Block G12/48 increased from 44.4445% to 66.6667%. The PTTEP Group is still the operator of the project and classifies the investment as joint operation.

Details of net assets acquired and goodwill at the acquisition date are as follows:

Unit: Million Baht	
Purchase consideration	36,349.65
Fair value of net assets acquired	(33,828.47)
Goodwill (Note 18)	2,521.18

43. Business Acquisition (Continued)

Assets and liabilities arising from the business acquisition at the acquisition date are as follows:

	Unit: Million Baht
Cash and cash equivalents	16.33
Other accounts receivable	13.85
Inventories	14.36
Materials and supplies	479.38
Other current assets	15.73
Property, plant and equipment (Note 17)	43,343.98
Intangible assets (Note 19)	5.79
Deferred tax assets (Note 21)	2,994.12
Other non-current assets	0.71
Trade accounts payable	(209.72)
Other accounts payable	(522.19)
Other current liabilities	(79.03)
Provision for decommissioning costs (Note 28)	(8,007.39)
Other non-current liabilities	(4,237.45)
Fair value of net assets	33,828.47
<u>Add</u> Goodwill (Note 18)	2,521.18
Total purchase consideration transferred	36,349.65
<u>Less</u> Cash and cash equivalents of joint operation	(16.33)
Deferred consideration	(12,873.17)
Contingent consideration	(4,469.05)
Cash outflow on the business acquisition	18,991.10

Goodwill of Baht 2,521.18 million was a result of benefit which the PTTEP Group will receive from acquisition of additional participation interest in the project in according with the PTTEP Group's policy to increase its future production. Moreover, it can be used for tax benefit.

The fair value of total purchase considerations transferred on the acquisition date of Baht 36,349.65 million consist of cash payment on acquisition date of Baht 19,007.43 million, deferred consideration of Baht 12,873.17 million and contingent consideration of Baht 4,469.05 million. The fair value is estimated using revenue method based on discount rate of 3.4% and probability assumption applied. It is classified as fair value level 3. Until December 31, 2018, PTTEP Group have already paid for purchase consideration transferred relating to the business acquisition amounting to Baht 33,930.20 million.

43. Business Acquisition (Continued)

On August 8, 2018, the PTTGC Group entered into the Shares Purchase Agreement to acquire 74% share of Siam Mitsui PTA Company Limited, Purified Terephthalic Acid producer, and 74% share of Thai PET Resin Company Limited, Polyethylene Terephthalate resin producer, directly and indirectly, from SCG Chemicals Co., Ltd. and Mitsui Chemicals, Inc. Subsequently on December 27, 2018, the PTTGC Group completed the share acquisition of subsidiaries.

Details of net assets acquired and gain on bargain purchase at the acquisition date are as follows:

	Unit: Million Baht
Fair value of net assets acquired	6,726.61
Purchase consideration	(5,371.71)
Gain on bargain purchase	1,354.90

Assets and liabilities arising from the business acquisition at the acquisition date are as follows:

	Unit: Million Baht
Cash and cash equivalents	1,588.95
Trade accounts receivable	2,480.47
Inventories	2,200.85
Property, plant and equipment (Note 17)	9,549.91
Intangible assets (Note 19)	8.12
Other non-current assets	600.53
Bank overdraft and short-term loans from financial institutions	(2,955.00)
Trade accounts payable	(2,777.93)
Other accounts payable	(182.74)
Long-term loans	(750.00)
Deferred tax liabilities (Note 21)	(583.54)
Provisions for employee benefit (Note 27)	(89.61)
Fair value of net assets	9,090.01
<u>Less</u> Non-controlling interests	(2,363.40)
Fair value of net assets acquired	6,726.61
<u>Less</u> Gain on bargain purchase	(1,354.90)
Total purchase consideration transferred	5,371.71
<u>Less</u> Cash and cash equivalents of subsidiaries	(1,588.95)
Deferred consideration	(1,248.88)
Cash outflow on the business acquisition	2,533.88

43. Business Acquisition (Continued)

Management of the PTTGC Group believes that the acquisition is harmonized with the business strategy of the PTTGC Group that intends to expand the downstream investment and increase market potential in polymer business to satisfy customer's need.

The fair value of total purchase consideration transferred on the acquisition date is Baht 5,371.71 million. The PTTGC Group paid a preliminary cash consideration of Baht 4,122.83 million. The final purchase price was settled with the seller for an additional payment of Baht 1,248.88 million, which will be paid in March 2019.

The PTTGC Group measured non-controlling interests by the ownership instruments' proportionate share in the recognised amounts of the acquiree's identifiable net assets.

As at December 31, 2018, the PTTGC Group is reviewing the fair value of net assets acquired. The aforementioned fair value of the net assets will be revised when the initial purchase price allocation is completed.

44. Montara Divestment

On July 15, 2018, PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEP AAA), a subsidiary of PTTEP, signed the Agreement for the Sale of Montara Assets to divest a 100% stake in the Montara field (block AC/L 7 and AC/L 8), to Jadestone Energy (Eagle) Pty Ltd (Jadestone) with the assets selling value of USD 195 million, the value will be adjusted for the change in working capital until the completion date of the sale.

On September 28, 2018, Jadestone had already fulfilled the Conditions Precedent specified in the agreement. As a result, PTTEP AAA transferred a 99% of legal right and all rights in risk and reward of Montara Assets including its related assets to Jadestone. PTTEP AAA still holds 1% of legal right and, according to the Operator and Transitional Services Agreement, the operatorship transfer to Jadestone is awaiting for approval from National Offshore Petroleum Titles Administrator (NOPTA) and National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), therefore PTTEP AAA is still the operator of Montara. However, if there is any claim regarding Montara oil spill in 2009, PTTEP AAA will be responsible for the claim.

The assets selling value after the change in working capital according to the agreement is USD 113.63 million. During the year, the PTTEP Group had received USD 133.10 million and the difference will be settled gradually in the future and recognized loss from assets divestment of USD 57.77 million (Baht 1,886.23 million) in the consolidated financial statements.

45. Promotional Privileges

The Company has been granted promotional privileges for the following activities from the Board of Investment (BOI) under the Investment Promotion Act, B.E. 2520:

- the Ethane Separation Plant project
- the Fourth Rayong-Kangkoi gas pipeline project
- the Thai-Myanmar onshore gas pipeline project
- the Nakhon Sawan gas pipeline project
- the Nakhon Ratchasima gas pipeline project
- the Fifth onshore gas pipeline project
- the Ratchaburi - Wang Noi 6 gas metering station to Ratchaburi province gas pipeline project
- Expansion of the First onshore gas pipeline project covering Rayong, Chon Buri and Saraburi new laid pipelines.

The promotional privileges include:

- an exemption from import duties on machinery approved by the BOI
- an exemption from corporate income tax on net income from the promoted business for periods of eight years starting from the date on which the income is first derived from such operations.

During the year 2018, the Company has exercised the privileges for the Ethane Separation Plant project.

The sales and service income of the Company from the promoted and non-promoted businesses for the years ended December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Separate financial statements	
	2018	2017
Promoted businesses	27,545.26	126,171.57
Non-promoted businesses	1,383,475.79	971,733.36
Total	1,411,021.05	1,097,904.93

Some subsidiaries received the following promotional privileges from the BOI under the Investment Promotion Act, B.E. 2520.

TOP has been granted privileges for its power and steam generation, petrochemical product production, chemical product production, ethanol product production, marine transportation, offshore crude oil unloading facilities and industrial zone. The promotional privileges include exemption from import duties and tax on the machinery and equipment approved by the BOI, exemption from corporate income tax on the net income from the promoted business for seven to eight years starting from the date on which income is first derived from such operations or eight years from the date on which the income is received subsequent to when the privileges were granted, and a 50% reduction of corporate income tax on the net income from the promoted business for five years starting from the expiry date of the corporate income tax exemption.

45. Promotional Privileges (Continued)

Some subsidiaries received the following promotional privileges from the BOI under the Investment Promotion Act, B.E. 2520. (Continued)

PTTGC has been granted privileges for its production of upstream, intermediate and downstream petrochemical, utilities and production support facilities, jetty for loading and storage of liquid product and transportation by marine vessels, petroleum product production, research and development of polymer products and chemical formula, lab testing services and refinery. The promotional privileges include exemption from import duties and tax on the machinery approved by the BOI, exemption from corporate income tax on the net income from the promoted business up to 100% of its investment excluded the cost of land and working capital for eight years starting from the date on which income is first derived from such operations and a 50% reduction of corporate income tax on the net income from the promoted business for five years starting from the expiry date of the corporate income tax exemption.

GPSC has been granted privileges for its production of electricity, steam, water, chilled water, refuse derived fuel and Li-ion battery. The promotional privileges include exemption from import duties on the machinery approved by the BOI, exemption from corporate income tax on the net income from the promoted business for four or eight years starting from the date on which income is first derived from such operations, and a 50% reduction of corporate income tax on the net income from the promoted business for five years starting from the expiry date of the corporate income tax exemption for some promotional privileges.

IRPC has been granted privileges for its manufacture of Compounded Plastic, the cogeneration and steam power plant project (CHP), Propylene project (PRP), Blown Film project, Recovery from Purge Gas at PP Plant project, EBSM Upgrading for ABS Specialties project (EBSM), Multi Product Pipeline project (MPPL), Polypropylene Resin (PPE) project, High Pressure HDPE Compound project, Investment project in Industrial zone and Upstream Project for Hygiene and Value Added Products (UHV). The promotional privileges include exemption from import duties and tax on materials and necessary parts including machinery approved by the BOI, exemption from corporate income tax on the net income from the promoted business for five to eight years starting from the date on which income is first derived from such operations, a 50% reduction of corporate income tax on the net income from the promoted business for five years starting from the expiry date of the corporate income tax exemption, and double deduction of logistics, electricity and water expenses for a period of ten years since income is first derived from such operations.

PTTLNG has been granted promotional privileges, Category 7.1: Public utilities and basic services, for its liquefied natural gas transportation business. The promotional privileges include exemption from import duties on the machinery approved by the BOI, exemption from corporate income tax on the net income from the promoted business for eight years starting from the date on which income is first derived from such operations, and a 50% reduction of corporate income tax on the net income from the promoted business for five years starting from the expiry date of the corporate income tax exemption.

PTT TANK has been granted promotional privileges, Category 7.1: Public utilities and basic services for its loading/unloading facilities for cargo ship business. The promotional privileges include exemption from import duties on the machinery approved by the BOI, exemption from corporate income tax on the net income from the promoted business up to 100% of its investment for eight years starting from the date on which income is first derived from such operations, and allow to deduct loss carry forward incurred during tax exemption period from net income incurred after tax exemption period for five year starting from expiry date of the corporate income tax exemption.

45. Promotional Privileges (Continued)

Some subsidiaries received the following promotional privileges from the BOI under the Investment Promotion Act, B.E. 2520. (Continued)

PTTGM has been granted promotional privileges Category 6.11: Manufacture of petrochemicals for its manufacture of Polymethyl Methacrylate (PMMA) production business. The promotional privileges include exemption from import duties and tax on the machinery approved by the BOI, exemption from corporate income tax of the net income from the promoted business up to 100% of its investment exclude the cost of land and working capital for eight years starting from the date on which income is first derived from such operations, and a 50% reduction of corporate income tax on the net income from the promoted business for five year starting from the expiry date of the corporate income tax exemption.

As promoted company, the Group must comply with certain terms and conditions prescribed in the promotional certificates.

46. Proceeding regarding the Central Administrative Court's Ordering Temporary Suspension of Projects in Map Ta Phut Area

On June 19, 2009, the Stop Global Warming Association and a group of individuals totaling 43 parties (the Petitioners) filed a complaint with the Central Administrative Court (the Court) as the black case No. 908/2552, against eight government agencies, together with a motion seeking the Court injunction to temporarily suspend all operations and activities of 76 industrial projects in the Map Ta Phut area in Rayong Province.

On September 29, 2009, the Court ordered the temporary injunction by requiring the eight accused government agencies to issue the order to temporarily suspend all 76 projects pending the Court's judgment or order otherwise, except for those projects or activities which received the permits before the effective date of the Constitution of Kingdom of Thailand B.E. 2550 or which were not required to prepare the Environmental Impact Assessment (EIA) reports pursuant to the Ministerial Announcement of Ministry of Natural Resources and Environment dated June 16, 2009. 25 projects of the Group were under the suspension order, and 3 of those 25 projects belonged to the Company.

On October 16, 2009, the Group, as an interested person, submitted a motion to appeal the Court's order to the Supreme Administrative Court.

On December 2, 2009, the Supreme Administrative Court issued an order No. 592/2552 amending the Court's injunction by requiring the eight accused government agencies to order the temporary suspension of all projects or activities listed in the complaint except for 11 projects, which clearly, according to the Supreme Administrative Court, did not severely affect the community but were projects intended to mitigate pollution or only additional installation to the existing projects. Among those 11 projects, 7 of them belonged to the Group, comprising 1 project of the Company and 6 projects of the other companies in the Group. 2 projects of the Company were still under the Court's order to suspend.

46. Proceeding regarding the Central Administrative Court's Ordering Temporary Suspension of Projects in Map Ta Phut Area (Continued)

On December 18, 2009, the public prosecutor submitted the answer rejecting all allegations in the complaint.

On September 2, 2010, the Court rendered a judgment revoking the permit of the projects listed in the complaint which, according to the law, were categorized as project that might severely affect the community and did not comply with the procedures set forth in Section 67 paragraph 2 of the Constitution, B.E. 2550. The revocation was effective as of the date of the judgment. 1 project of the Group is within the scope of the judgment.

On October 1, 2010, the 43 prosecutors appealed the Court's judgment to the Supreme Administrative Court. On December 7, 2010, the eight accused government agencies by the public prosecutors submitted a reply to the appeal. The appeal is currently under the consideration of the Supreme Administrative Court.

47. Commitments and Contingent Liabilities

Details of significant changes in commitments and contingent liabilities are as follows:

47.1 Details of commitments to subsidiaries and joint ventures are as follows:

47.1.1 The Company has provided loans to its subsidiaries with credit limits totalling Baht 87,802.02 million. As at December 31, 2018, the Company made these loans payments to its subsidiaries totalling Baht 40,288.31 million. The remaining credit limits were Baht 47,513.71 million.

47.1.2 The Company entered into the Sponsor Support Agreements with subsidiaries and joint ventures with credit limits equal to the sum of the loan obligations to financial institutions of such subsidiaries and joint ventures. Under these agreements, as at December 31, 2018, the Company had commitments of USD 56.91 million or equivalent to Baht 1,856.11 million.

47.1.3 The Company had obligations under the Shareholder Agreements to pay for ordinary shares in proportion to its shareholding. As at December 31, 2018, the Company had remaining obligations amounting to Baht 6,114.07 million.

47. Commitments and Contingent Liabilities (Continued)

Details of significant changes in commitments and contingent liabilities are as follows (Continued):

- 47.2 Commitments under operating leases - the Group as a lessee, the future minimum lease payments under uncancellable operating leases as at December 31, 2018 and 2017 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
Within 1 year	2,190.36	2,210.19	24.86	84.07
Over 1 year but not over 5 years	4,912.73	5,831.53	155.23	398.81
Over 5 years	25,221.61	7,038.09	481.10	1,419.47
Total	32,324.70	15,079.81	661.19	1,902.35

- 47.3 As at December 31, 2018, the Group had capital commitments of Baht 41,457.06 million in the consolidated financial statements.
- 47.4 As at December 31, 2018, the Group had outstanding letters of credit of Baht 34,841.18 million in the consolidated financial statements and Baht 4,136.73 million in the separate financial statements.
- 47.5 As at December 31, 2018, the Group had contingent liabilities in the form of letter of guarantee amounting to Baht 20,356.74 million in the consolidated financial statements and Baht 73.72 million in the separate financial statements.
- 47.6 A subsidiary entered into a contract to sell a product to the Company and the Company entered into a contract to resell the same product to a listed company. The term of the two contracts was 15 years, expiring on January 31, 2012. Before the expiration of the contract, the subsidiary notified the Company that the contract would not be renewed. Consequently, without product to resell, the Company had to notify the listed company that the contract would also not be renewed. The Company's notice was served to the listed company in accordance with the terms and conditions set forth in the contract. On December 3, 2009, the listed company submitted claims with the Thai Arbitration Institute (the Institute) requesting the Company and the subsidiary, as the seller and the supplier, respectively, to comply with the contracts by continuing to sell the product to the listed company or be jointly liable to pay damages.

On February 10, 2010, the subsidiary submitted motion with the Institute asking to dismiss the claims against it from the case list. The Institute issued an order to dismiss the claims relating to the subsidiary.

The Company forwarded the case to the Office of the Attorney General to submit a defense to the Institute. On April 28, 2010, the public prosecutor submitted the defense with the Institute for the Company. The tribunal finished the witness examination. Consequently, on March 25, 2016, the tribunal ruled that the Company make a partial payment for compensations to the listed company. However, the Company was of the opinion that the arbitral award might be both factually and legally inconsistent. Therefore, the Company could exercise its legal right by filing a motion with the court requesting the arbitral award to be revoked. On June 30, 2016, the Company by the public prosecutor filed a motion to revoke the arbitral award with the Civil Court. Currently, this case is under the consideration of the Civil Court. Subsequently, on December 16, 2016, the listed company submitted a motion with the Civil Court asking for the enforcement of the arbitral award. The Company by the public prosecutor submitted the objection with the Civil Court. Currently, the case is under the consideration of the Civil Court.

47. Commitments and Contingent Liabilities (Continued)

Details of significant changes in commitments and contingent liabilities are as follows: (Continued)

- 47.7 On May 26, 2010, the contractor for an onshore natural gas pipeline construction project (the “Contractor”) submitted claims to the Thai Arbitration Institute (the Institute) seeking overdue payment and damages for the work performed in the aforementioned project from the Company. The Company, however, considered that the submission of the claims was incompliant with the dispute resolution procedure agreed upon the contract. Therefore, the Company filed an opposition to the Contractor’s claim submission with the Institute and reserved right to protest such contractually incompliant claim submission in the arbitration procedure. After the claim submission, the Central Bankruptcy Court ordered the Contractor to be under an absolute receivership which rendered the official receiver to have sole power in any litigation pertaining to the Contractor’s assets. Subsequently, the Contractor’s official receiver has petitioned the Institute to substitute the Contractor in the dispute against the Company. Regarding the Contractor’s bankruptcy case, the Company submitted a motion for receiving a debt payment in accordance with the law as a creditor. With respect to the arbitration process, the Company submitted the defense together with counterclaims seeking damages from the Contractor. Subsequently, the arbitral tribunal rendered an award ordering the Company to partially pay for the Contractor’s claims. However, the Company considered that the arbitral award is materially both factually and legally inconsistent. The Company, therefore, filed a motion to revoke the arbitral award, while the contractor submitted a motion with the Civil Court to enforce the arbitral award. On October 17, 2017, the Civil Court delivered a judgement to enforce the arbitral award whereby some penalty amounts were reduced. However, The Company submitted with the Supreme Court an appeal of the Civil Court’s judgment and, together with the appeal, the Company also placed with the Civil Court a Company’s book bank as a security to stay the enforcement of the judgment as stated in Note 22. Subsequently, the Contractor also submitted with the Supreme Court an appeal of the Civil Court’s judgment. The case is under the consideration of the Supreme Court.

On September 8, 2010, the Contractor by the official receiver submitted another claim to the Institute seeking overdue payment and damages from the Company for the work performed in connection with another pipeline construction project. The Company, however, considered that the submission of the claims was incompliant with the dispute resolution procedure agreed upon the contract. Therefore, the Company filed an opposition to the Contractor’s claim submission with the Institute and reserved the right to protest such contractually incompliant claim submission in the arbitration procedure. In contention against the alleged claims, the Company submitted the defense together with counterclaims seeking damages from the Contractor. Subsequently, the arbitral tribunal was mutually appointed to consider the disputes. On November 30, 2018, the tribunal rendered an award that both claims and counterclaims were dismissed. According to the law, the parties have right to file a motion with the competent court within 90 days from the date of the receipt of the arbitral award, seeking a revocation of the award.

- 47.8 On February 25, 2014, the contractor for an on-shore natural gas pipeline construction project (the “Contractor”) filed a lawsuit against the Company with the Civil Court on the grounds of wrongful termination and breach of contract and claimed for outstanding payment of the work and damages. On the contrary, the Company considered that all of the Company’s actions have been in accordance with the terms and conditions of the contract. Therefore, the Company forwarded the case to the Office of the Attorney General for consideration to arguing the case for the Company and the prosecutor has submitted the answer with the Court. Consequently, the Civil Court ordered the case be transferred to the Central Administrative Court for consideration and judgment because the Civil Court and the Central Administrative Court has the corresponding opinions that this case was an administrative case. The Civil Court transferred this case to the Central Administrative Court. Currently, the case is under the consideration of the Central Administrative Court.

47. Commitments and Contingent Liabilities (Continued)

Details of significant changes in commitments and contingent liabilities are as follows: (Continued)

47.8 (Continued) After the Company terminated the contract with the Contractor, the Company completed an on-shore natural gas pipeline construction project. Subsequently, the Company filed a lawsuit against the Contractor with the Central Administrative Court on the grounds of breach of contract and absent from service and claimed for damages. Currently, the case is under the consideration of the Central Administrative Court.

47.9 On August 26, 2010, PTTEP Australasia (PTTEP AA) received a letter from the Government of Indonesia (Gol) claiming compensation relating to an incident in 2009 when oil and natural gas leaked from a well in PTTEP AA's Montara project in Australian territory in the Timor Sea. PTTEP AA rejected the claim on the basis that the evidence provided by the Gol was considered unproven and unsubstantiated. No verifiable scientific evidence was ever provided to support the claim.

On March 11, 2016, PTTEP AA received a letter from a firm of Australia lawyers representing a group of West Timorese seaweed farmers, notifying PTTEP AA of their intention to commence a legal action for compensation relating to the incident. Subsequently, on August 9, 2016, PTTEP AA was notified of a claim made in the Sydney Registry of the Federal Court of Australia seeking damages on behalf of a group of seaweed farmers (Class Action). The Statement of Claim as filed does not quantify the claim, and no supporting evidence has yet been presented to the court. PTTEP AA has appointed lawyers and is defending the claim.

On July 14, 2017, the Company and PTTEP received the official statement of claim filed by the Ministry of Environment and Forestry on behalf of Gol to the Indonesian Court seeking approximately USD 2.1 billion for damages related to the incident, however, the Company has not been the operator of Montara Project. The Company and two companies of PTTEP Group will proceed to defend against this lawsuit based on the facts and matters of law.

On 6 February 2018, the Ministry of Environment and Forestry of the Republic of Indonesia has filed a request to the court for withdrawal of a lawsuit with the reason to amend the Claim. Therefore, the court has granted the request and ordered to strike the case out of the case-list.

PTTEP considers that the claims from representative of West Timorese seaweed farmers related to Montara oil spill incident remain unproven due to insufficient evidence to support the claim.

47.10 During the third quarter of 2014, the number of people in Rayong filed several lawsuits with the Civil Court and Rayong Provincial Court against PTTGC to claim the extra compensation from oil spill incident and to perform the rehabilitation of the sea and natural environmental recovery. Some cases have been dismissed and some cases have been passed a judgement by the Civil Court on August 25, 2016 ordered PTTGC to compensate for damages, including interest and rehabilitation, of approximately Baht 11.26 million. PTTGC has appealed on February 17, 2017. Subsequently, on 11 May 2018, PTTGC made a compromise agreement with most plaintiffs at the Civil Court. On December 20, 2018, the Appeal Court has passed their judgement according to the compromise contracts which PTTGC has already paid compensation in full amount. For the remaining plaintiffs, the Appeal Court orders PTTGC to pay compensation and interest according to the Civil Court's judgement and reduced the amount of interest.

On September 28, 2018, Rayong Provincial Court has made the judgement ordering PTTGC to pay damage cost with interest by deducting the remedy paid payment approximately Baht 37.74 million of which Baht 24.00 million has been paid and the remaining amount will be paid to Deposit of Property Office.

48. Other Event

48.1 On April 4, 2016, the Ombudsman of Thailand submitted a complaint to the Administrative Court against the Minister of Finance, the Minister of Energy, the Company and other defendants as a black case No. 510/2559, requesting the Court as follows:

- 1) To revoke the Cabinet Resolutions on December 18, 2007 and August 10, 2010.
- 2) To order the Minister of Finance, the Minister of Energy and the Company to conduct a segregate and transfer of net assets according to the plaintiff's allegation as of September 30, 2001 amounting to Baht 68,569.69 million, including other compensations and benefits.
- 3) To revoke the segregate of public assets and the preferential rights to establish the gas pipeline system according to the plaintiff's allegation.

On May 26, 2016, the Administrative Court ordered the Company to submit a defense, responding to the particular issue that was whether the Company completely transferred the assets of the Petroleum Authority of Thailand (the tenth defendant), which were public assets, to the first defendant (the Minister of Finance) in accordance with the Cabinet Resolution on December 18, 2007. The Company had the public prosecutor prepared the statement and additional statement for submission to the Administrative Court. On May 11, 2018, the Administrative Court issued an order to end the fact finding process. Currently, the case is under the consideration of the Administrative Court.

Nevertheless, on December 14, 2007, the Supreme Administrative Court in a red case No. Fo. 35/2550, ordered the defendants to jointly segregate the public assets to the Minister of Finance, in accordance with the judgment. Therefore, on December 18, 2007, the Cabinet acknowledged the aforesaid judgment and assigned the Minister of Finance and the Minister of Energy to jointly segregate the public assets to comply with the judgment. Consequently, on December 26, 2008, the Supreme Administrative Court declared that the defendants had completely complied with the judgment of the Court. Furthermore, the plaintiff and the co-plaintiffs had submitted complaints regarding such segregation of public assets to the Court for four times but the Court ordered to dismiss such complaints and reaffirmed that the judgment of the Supreme Administrative Court in the red case No. Fo. 35/2550 was completed. Consequently, on August 10, 2010, the Cabinet acknowledged the conduct followed the Supreme Administrative Court's judgment in accordance with the proposals of the Minister of Energy and the Minister of Finance.

48.2 On June 19, 2018, the Board of Directors of GPSC approved and proposed that the GPSC's shareholders meeting consider and approve GPSC to acquire the shares and make a tender offer for the entire securities of Glow Energy Public Company Limited (GLOW). GPSC will acquire, directly and indirectly, 69.11% of the total issued shares of GLOW from the Engie Global Developments B.V. (the Seller) totaling approximately Baht 97,559 million (the said purchase price may be decreased in the amount equivalent to the amount of the dividend paid per share should GLOW pay the dividend prior to the fulfilment of the conditions precedent). GPSC has entered into the share purchase agreement with the Seller on June 20, 2018. GPSC's acquisition of the GLOW shares under the aforementioned will occur upon the satisfaction of all the following conditions precedent (a) GPSC is granted approval by its shareholders meeting to acquire the shares of GLOW (b) GPSC is granted relevant approval by the Energy Regulatory Commission (the ERC) with respect to the acquisition of the GLOW shares.

On October 10, 2018, the ERC passed a resolution for disapproving the application of GPSC with respect to the acquisition of shares of GLOW. According to the ERC's resolution, the conditions precedent (b) under the share purchase agreement could not be fulfilled.

48. Other Event (Continued)

48.2 (Continued) On December 18, 2018, GPSC has submitted a new application for a merger with GLOW to ERC. GPSC has restructured the proposed transaction to be explicit for problem-solving in terms of reducing competition in the Map Ta Phut area. Then, on December 26, 2018, ERC announced the approval in principle the merger of GPSC and GLOW, subject to a condition precedent that GLOW must divest its stake, Glow SPP 1 Company Limited (SPP1) before or during the merger process.

GPSC has entered into the agreement for amendment to the Share Purchase Agreement, by including the sale of SPP1 as an additional condition precedent of the Share Purchase Agreement to be in accordance with the resolution of the ERC to be officially granted to GPSC. The additional condition precedent specifies that GPSC shall purchase the Sale Shares and make a tender offer for all of the remaining GLOW shares upon the completion of the sale of SPP1. As such, the condition precedent under the Share Purchase Agreement has not yet been satisfied as at December 31, 2018.

48.3 On August 27, 2018, at the Extraordinary General Meeting of Shareholder of TOP, the shareholders passed an extraordinary resolution for approval the investment in the Clean Fuel Project (CFP) for the purposes of enhancing the competitiveness of TOP. The investment project value was USD 4,825 million or equivalent Baht 160,279 million. TOP is in process of engaging contractors for construction. The project cost includes the investment of Energy Recover Unit (ERU).

48.4 On December 13, 2018, PTTEP Energy Development Company Limited (PTTEP ED), a subsidiary of PTTEP, obtained the exploration and production rights, and also the operatorship of Blocks G1/61 (the Erawan field) and G2/61 (the Bongkot field), in which PTTEP ED holds 60% and 100% participating interests, respectively. The signing in the Production Sharing Contract is expected to be completed within the first quarter of 2019.

49. Events after the Reporting Period

49.1 On November 16, 2018, at the Board of Directors Meeting No. 11/2018 of the Company, the Board passed a resolution to establish Map Ta Phut Air Products Company Limited (MAP), a joint venture company between the Company (49.00%), a company in the Group (2.00%) and Bangkok Industrial Gas Company Limited (BIG) (49.00%). MAP engages in the business of the production and distribution of industrial gas. The Company with a registered capital of Baht 1.00 million. The Company made the share payment amounting to Baht 0.49 million on January 14, 2019.

49.2 On February 21, 2019, at the Board of Directors Meeting No. 2/2019 of the Company, the Board passed a resolution to propose to the Annual General Meeting of the Company's shareholders for approval a dividend payment of Baht 2.00 per share for the year 2018. On October 26, 2018, the Company paid an interim dividend of Baht 0.80 per share as described in Note 42. Accordingly, the remaining dividend of Baht 1.20 per share or approximately Baht 34,276 million will be proposed for approval by the Annual General Meeting of the Company's shareholders for the year 2019.

49.3 The board of directors of the Company approved these financial statements for public issuance on February 21, 2019.

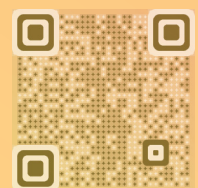
Audit Fee

For the completed accounting period, PTT and its subsidiaries paid Baht 135,509,583 (One hundred thirty-five million five hundred and nine thousand, five hundred and eighty-three Baht) in audit fees to the external auditor's office. For the same period, they paid Baht 32,047,786 (Thirty-two million forty-seven thousand, seven hundred and eighty-six Baht) in non-audit fees for significant services, including the certification for the Global Medium-Term Notes, risk management advisory, comfort letters, professional fees for the certification of financial statements submitted to the Revenue Department, and other certification fees.



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