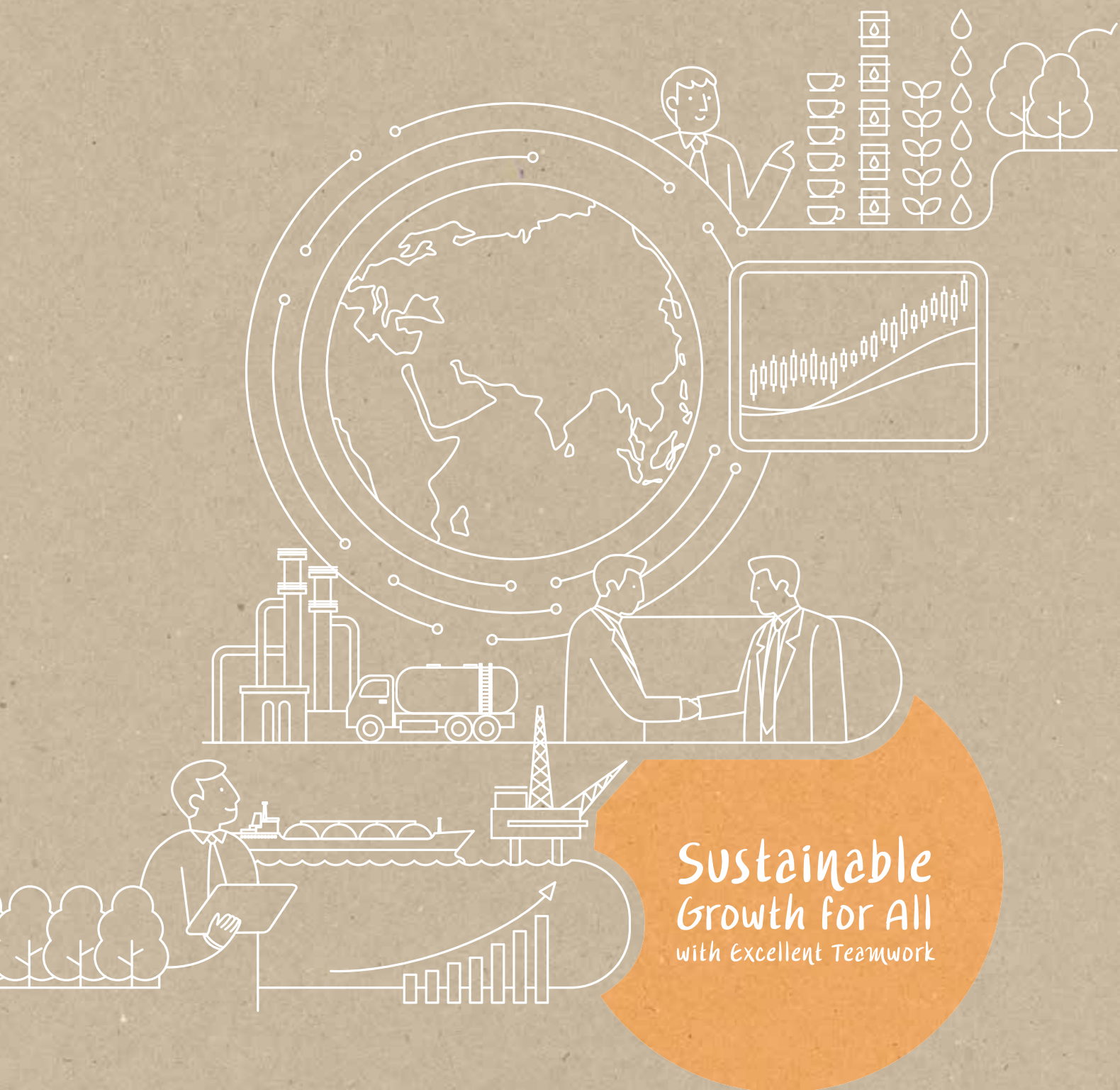




Annual Report 2019 (Financial Report)
PTT Public Company Limited



**Sustainable
Growth for All**
with Excellent Teamwork

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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.

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The Board of Directors has appointed an Audit Committee comprising independent directors to be responsible for reviewing the reliability and correctness of financial reports, evaluating the effectiveness and efficiency of internal control process and governing the effectiveness of internal audit function. 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, 2019. 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 and accurately 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

(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 the separate financial statements of PTT Public Company Limited (the Company), which comprise the consolidated and separate statements of financial position, as at December 31, 2019, 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, and notes to the consolidated and separate financial statements, including a summary of significant accounting policies.

In the State Audit Office of the Kingdom of Thailand's opinion, the above mentioned consolidated and separate financial statements 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, 2019, and their consolidated and separate financial performance and 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 Committee's State Audit Standards and the Federation of Accounting Professions' Code of Ethics for Professional Accountants that are relevant to the State Audit Office of the Kingdom of Thailand's audit of the consolidated and separate financial statements, and has fulfilled other ethical responsibilities in accordance with these requirements. The State Audit Office of the Kingdom of Thailand believes that the audit evidence the State Audit Office of the Kingdom of Thailand has 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 47 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 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. 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

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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 to communicate:

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 18 Property, Plant and Equipment.

The State Audit Office of the Kingdom of Thailand performed significant audit procedures as follow;

1. Obtaining 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. Assessing the qualifications of the Group's internal experts who are responsible for estimating proved reserves and preparing the Group's proved reserves data.

3. Using 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 2018 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 2019.

4. Verifying 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, 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. 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 significant audit procedures as follow;

1. Obtaining 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. Assessing 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. Evaluating 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. Agreeing 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. Validating significant changes in the estimated decommissioning costs incurred during the year and changes that impact the statements of income against supporting evidence.

6. Testing 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. Comparing 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 combination

As disclosed in Note 43.1, Business Acquisition - Glow Energy Public Company Limited (GLOW), Note 43.3, Business Acquisition - Murphy Oil Corporation (Murphy) in Malaysia, and Note 43.5, Business Acquisition - Partex Holding B.V. (Partex), the Group acquired GLOW's business, that generates and supplies electricity, steam and water for industrial, representing 69.11% of GLOW's registered capital, the Group acquired the 100% shareholding interests of Murphy Oil Corporation (Murphy) in Malaysia through the acquisition of 100% shares interests in Murphy's subsidiaries, which are Murphy Sabah Oil Co., Ltd. (Murphy Sabah) and Murphy Sarawak Oil Co., Ltd. (Murphy Sarawak), as well as, the Group acquired the 100% shareholding interests of Partex Holding B.V. (Partex) which operated in a petroleum business, located in Middle East region. According to the acquisition of Murphy and Partex, the Group has to pay the total considerations for the acquisition of Baht 93,000.93 million,

Baht 65,724.27 million, and Baht 21,604.53 million, respectively, with the fair value of the acquired identifiable net assets of Baht 89,003.01 million, Baht 46,873.69 million, and Baht 15,406.56 million, respectively. The Group's management assesses that the participating interests acquired is the business combination according to the definition under Thai Financial Reporting Standard (TFRS) 3, Business Combinations.

According to TFRS 3, Business Combinations, the Group has to recognize and measure the fair value on the acquisition date of the identifiable assets acquired, liabilities assumed, and the considerations transferred (the value of considerations for the acquisition), and recognize the deferred tax assets or liabilities, and goodwill, as well as disclose relevant information in accordance with the TFRS. The Group enlisted an independent valuer to estimate the fair value of the participating interests acquired. The fair value estimation requires the selection of valuation techniques, and various assumptions, which may vary with individual judgement and experience of the valuer. The information which the valuer obtained and used in the fair value calculation 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 significant audit procedures as follow;

1. Examining the Sales and Purchase Agreement of the shares to obtain an understanding in terms and conditions, including any transactions occurred with the management.

2. Examining the evidence of payments and related documents used in transaction recording to assess the appropriateness of the identification of the assets acquired and liabilities assumed, as well as the considerations transferred.

3. Communicating with the auditors of the companies within the Group regarding risks, as well as reviewing their significant audit regarding the recognition and measurement of the assets, liabilities assumed and the considerations transferred (the value of considerations for the acquisition) on the acquisition date as follows;

3.1 Evaluating the use of management's judgement for classification the investment as a purchase of investment in subsidiaries and compliance with the business combinations principle.

3.2 Evaluating the appropriateness of the identifiable assets acquired and liabilities assumed on the acquisition date, as well as evaluating estimation procedure for fair value of net assets acquired that made by the management.

3.3 Assessing the knowledge, ability, independence, qualifications, and past experience of the experts that the management assorted.

3.4 Testing the calculation of fair value of the identifiable assets acquired and liabilities assumed, and testing by inquiring the management for the judgement regarding to the significant assumptions of future cash flow estimation including comparison significant assumptions with related contracts and information from external sources.

3.5 Evaluating discount rates by considering and comparing with companies in the same industry in which are able to refer from general disclosure information.

4. Reviewing 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 is expected to 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, management is responsible for assessing the Group's and the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group and the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's and the Company's financial reporting process.

Auditor's Responsibilities for the Audit of the Consolidated and Separate Financial Statements

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 maintains professional skepticism throughout the audit, the State Audit Office of the Kingdom of Thailand also:

- 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 auditor's report of the State Audit Office of the Kingdom of Thailand 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 auditor's report of the State Audit Office of the Kingdom of Thailand. 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 auditor's report of the State Audit Office of the Kingdom of Thailand 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.

Statement of Financial Position

PTT Public Company Limited and Its Subsidiaries

As at December 31, 2019

Unit: Baht

Consolidated financial statements

Assets	Notes	December 31, 2019	December 31, 2018 (Restated)	January 1, 2018 (Restated)
Current assets				
Cash and cash equivalents	5	292,542,457,953	292,184,322,373	166,189,023,655
Current investments	6	38,263,305,589	142,420,735,568	229,651,255,278
Trade accounts receivable	7	167,641,021,249	174,604,696,553	174,916,243,685
Other accounts receivable	8	49,611,747,735	78,827,069,774	50,602,704,855
Short-term lending loans	9.1	2,669,222,092	1,782,916,135	1,231,329,558
Inventories	11	117,746,964,312	125,279,815,840	121,871,798,713
Materials and supplies	12	34,379,141,870	28,871,647,153	28,942,454,106
Current derivative assets		3,686,309,104	5,097,686,415	1,997,546,512
Other current assets		10,558,543,395	7,894,466,941	6,768,006,749
Total current assets		717,098,713,299	856,963,356,752	782,170,363,111
Non-current assets				
Available-for-sale investments	14	6,687,351,993	10,875,929,781	17,602,408,397
Investments in joint ventures	15.2	49,512,818,297	41,317,061,064	37,937,145,910
Investments in associates	15.3	25,670,169,643	24,368,261,034	21,979,621,626
Other long-term investments	16.1	17,931,829,711	26,970,809,757	27,668,655,084
Long-term lending loans	9.2	12,474,409,002	13,862,709,357	19,078,604,450
Investment properties	17	7,987,227,078	6,583,172,619	7,210,899,284
Property, plant and equipment	18	1,294,979,084,151	1,120,513,021,057	1,082,415,861,982
Goodwill	19	111,933,136,559	53,896,299,825	51,695,037,397
Intangible assets	20	79,967,673,324	34,200,400,854	32,107,682,512
Exploration and evaluation assets	21	80,268,342,040	100,360,331,426	100,901,922,674
Deferred tax assets	22.3	47,611,099,702	28,498,932,833	15,101,219,955
Non-current derivative assets		3,810,602,110	2,079,494,926	3,734,359,338
Other non-current assets	23	28,506,223,083	33,192,551,665	30,925,373,850
Total non-current assets		1,767,339,966,693	1,496,718,976,198	1,448,358,792,459
Total assets		2,484,438,679,992	2,353,682,332,950	2,230,529,155,570

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, 2019

Unit: Baht

Consolidated financial statements

Liabilities and Equity	Notes	December 31, 2019	December 31, 2018 (Restated)	January 1, 2018 (Restated)
Current liabilities				
Bank overdrafts and short-term loans from financial institutions	26	44,440,533,236	25,561,803,923	18,126,630,943
Trade accounts payable		158,301,915,916	160,323,070,746	160,301,286,194
Other accounts payable		80,763,972,530	98,429,474,944	72,994,649,729
Current portion of long-term loans	25, 26	51,782,356,222	63,108,598,300	66,433,929,171
Income tax payable		30,136,899,332	46,487,811,196	24,094,727,080
Short-term provision for decommissioning costs	28	1,289,373,133	1,090,300,309	-
Current derivative liabilities		2,522,074,028	2,545,871,892	4,954,839,016
Other current liabilities	24	10,548,182,486	10,801,967,333	8,958,513,286
Total current liabilities		379,785,306,883	408,348,898,643	355,864,575,419
Non-current liabilities				
Long-term loans	25, 26	562,745,766,480	454,964,315,364	444,919,659,683
Deferred tax liabilities	22.3	56,673,547,421	30,527,618,830	33,438,381,058
Provisions for employee benefit	27	32,590,214,665	23,921,033,707	23,313,066,000
Long-term provision for decommissioning costs	28	90,599,917,383	73,632,219,096	74,865,436,241
Deposits on LPG cylinders		11,656,784,200	11,082,662,040	10,519,247,338
Non-current derivative liabilities		2,702,433,432	668,918,447	2,104,348,790
Other non-current liabilities	29	46,645,091,954	32,971,055,231	37,844,233,080
Total non-current liabilities		803,613,755,535	627,767,822,715	627,004,372,190
Total liabilities		1,183,399,062,418	1,036,116,721,358	982,868,947,609

Statement of Financial Position

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Annual Report 2019 (Financial Report) PTT Public Company Limited

Unofficial Translation

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, 2019

Unit: Baht

Consolidated financial statements

Liabilities and Equity (Continued)	Notes	December 31, 2019	December 31, 2018 (Restated)	January 1, 2018 (Restated)
Equity				
Share capital				
Authorized share capital				
28,562,996,250 ordinary shares				
of Baht 1 each				
(1 January 2018: 2,857,245,725 ordinary				
shares of Baht 10 each)	30.1	28,562,996,250	28,562,996,250	28,572,457,250
Issued and paid-up share capital				
28,562,996,250 ordinary shares				
of Baht 1 each				
(1 January 2018: 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		(36,250,864,803)	(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	1,243,656,319	1,222,675,618	1,199,991,563
Unappropriated		869,016,087,473	837,421,994,002	775,209,114,009
Other components of equity		(16,036,143,473)	3,533,173,443	5,218,737,399
Total equity attributable to owners of the parent		878,604,109,457	874,325,249,311	817,947,591,819
Non-controlling interests		422,435,508,117	443,240,362,281	429,712,616,142
Total equity		1,301,039,617,574	1,317,565,611,592	1,247,660,207,961
Total liabilities and equity		2,484,438,679,992	2,353,682,332,950	2,230,529,155,570

Chansin Treenuchagron
President & Chief Executive Officer

Phannalin Mahawongtikul
Chief Financial Officer

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, 2019

Unit: Baht

Separate financial statements

Assets	Notes	December 31, 2019	December 31, 2018 (Restated)	January 1, 2018 (Restated)
Current assets				
Cash and cash equivalents	5	46,480,809,912	86,204,049,166	38,691,660,939
Current investments	6	15,002,337,892	21,971,964,949	68,056,258,825
Trade accounts receivable	7	111,557,959,067	138,675,854,879	144,265,155,266
Other accounts receivable	8	8,404,192,746	17,314,183,668	16,923,203,980
Short-term lending loans	9.1	21,369,269,521	7,334,315,325	4,648,737,018
Inventories	11	4,797,200,993	10,247,494,259	27,103,531,169
Materials and supplies	12	5,744,178,058	5,540,731,086	5,749,466,246
Current derivative assets		1,089,388,849	-	-
Other current assets		7,332,818,164	4,648,056,425	3,956,768,710
Total current assets		221,778,155,202	291,936,649,757	309,394,782,153
Non-current assets				
Available-for-sale investments	14	2,986,699,279	2,579,555,315	4,533,102,500
Investments in subsidiaries	15.4	335,213,563,656	315,654,139,538	218,929,325,063
Investments in joint ventures	15.5	5,961,911,690	5,927,614,973	5,927,614,973
Investments in associates		-	-	3,173,227,030
Other long-term investments	16.1	4,257,167,950	13,986,905,648	15,164,124,801
Long-term lending loans	9.2	24,981,890,696	32,895,679,795	22,754,737,237
Investment properties	17	3,742,809,674	2,032,718,766	3,851,133,751
Property, plant and equipment	18	273,820,653,535	274,350,952,691	288,795,950,908
Intangible assets	20	13,375,222,267	13,813,942,896	14,403,623,166
Deferred tax assets	22.3	1,256,718,197	-	-
Non-current derivative assets		912,740,713	708,186,115	754,506,988
Other non-current assets	23	1,388,658,118	5,756,487,773	6,695,815,983
Total non-current assets		667,898,035,775	667,706,183,510	584,983,162,400
Total assets		889,676,190,977	959,642,833,267	894,377,944,553



Statement of Financial Position

PTT Public Company Limited and Its Subsidiaries

As at December 31, 2019

Unit: Baht

Separate financial statements

		December 31, 2019	December 31, 2018 (Restated)	January 1, 2018 (Restated)
Liabilities and Equity	Notes			
Current liabilities				
Trade accounts payable		100,570,030,799	120,085,364,132	139,418,539,503
Other accounts payable		22,743,735,200	27,715,747,119	25,092,296,348
Current portion of long-term loans	25, 26	27,602,800,610	26,511,158,464	29,439,944,692
Short-term loans	26	3,487,561,436	3,332,695,376	2,803,042,683
Income tax payable		2,947,212,120	22,063,437,824	3,592,947,307
Current derivative liabilities		-	94,600,356	86,699,923
Other current liabilities	24	3,370,344,316	4,503,619,289	4,565,821,904
Total current liabilities		160,721,684,481	204,306,622,560	204,999,292,360
Non-current liabilities				
Long-term loans	25, 26	93,735,310,442	123,638,958,453	150,115,471,277
Deferred tax liabilities	22.3	-	210,202,677	473,743,077
Provisions for employee benefit	27	7,312,721,428	6,906,650,387	8,877,981,146
Deposits on LPG cylinders		-	-	10,519,247,338
Non-current derivative liabilities		324,316,495	160,953,165	45,185,175
Other non-current liabilities	29	20,275,424,442	19,857,469,279	21,868,611,384
Total non-current liabilities		121,647,772,807	150,774,233,961	191,900,239,397
Total liabilities		282,369,457,288	355,080,856,521	396,899,531,757

Statement of Financial Position

PTT Public Company Limited and Its Subsidiaries

As at December 31, 2019

Unit: Baht

Separate financial statements

Liabilities and Equity (Continued)	Notes	December 31, 2019	December 31, 2018 (Restated)	January 1, 2018 (Restated)
Equity				
Share capital				
Authorized share capital				
28,562,996,250 ordinary shares				
of Baht 1 each				
(1 January 2018: 2,857,245,725 ordinary				
shares of Baht 10 each)	30.1	28,562,996,250	28,562,996,250	28,572,457,250
Issued and paid-up share capital				
28,562,996,250 ordinary shares				
of Baht 1 each				
(1 January 2018: 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
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	1,243,656,319	1,222,675,618	1,199,991,563
Unappropriated		544,005,237,331	541,414,286,420	432,667,781,421
Other components of equity		1,426,466,098	1,293,640,767	2,979,265,871
Total equity		607,306,733,689	604,561,976,746	497,478,412,796
Total liabilities and equity		889,676,190,977	959,642,833,267	894,377,944,553

Statement of Financial Position

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Annual Report 2019 (Financial Report) PTT Public Company Limited

Unofficial Translation

Chansin Treenuchagron
President & Chief Executive Officer

Phannalin Mahawongtikul
Chief Financial Officer

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



Statement of Income

PTT Public Company Limited and Its Subsidiaries

For the Year Ended December 31, 2019

Unit: Baht

		Consolidated financial statements		Separate financial statements		
		2019	2018	2019	2018	
Notes			(Restated)		(Restated)	
Statement of Income	Sales and service income	33	2,219,738,671,119	2,336,154,915,594	1,200,462,897,055	1,411,021,051,033
	Cost of sales and services	35	1,967,529,006,367	2,023,038,549,872	1,144,029,399,068	1,327,673,913,481
	Gross profit		252,209,664,752	313,116,365,722	56,433,497,987	83,347,137,552
	Other income	34	19,979,952,680	16,935,097,726	46,685,267,551	54,224,423,007
	Gain on foreign exchange rates		15,312,831,823	6,353,510,623	7,923,624,559	6,304,992,162
	Profit before expenses		287,502,449,255	336,404,974,071	111,042,390,097	143,876,552,721
	Selling and distribution expenses	35	27,573,729,167	26,653,497,122	10,167,504,226	8,185,037,318
	Administrative expenses	35	65,002,297,170	55,183,564,436	24,614,415,403	20,618,164,425
	Petroleum royalties and remuneration	36	17,882,466,882	16,435,234,907	-	-
	Operating profit		177,043,956,036	238,132,677,606	76,260,470,468	115,073,350,978
016	Share of profit from investments in joint ventures	15.6.1	3,990,793,333	6,461,651,677	-	-
	Share of profit from investments in associates	15.6.2	2,017,196,234	2,053,368,348	-	-
	Profit before finance costs and income taxes		183,051,945,603	246,647,697,631	76,260,470,468	115,073,350,978
Annual Report 2019 (Financial Report) PTT Public Company Limited	Finance costs	37	27,971,463,717	27,627,592,591	6,164,047,845	8,009,448,341
	Profit before income taxes		155,080,481,886	219,020,105,040	70,096,422,623	107,063,902,637
	Income taxes	22.1	32,988,881,950	53,646,552,942	8,439,114,919	12,588,484,038
	Profit for the years from continuing operations		122,091,599,936	165,373,552,098	61,657,307,704	94,475,418,599
	Profit for the year from discontinued operations, net of tax	13	-	-	-	70,761,721,267
	Profit for the years		122,091,599,936	165,373,552,098	61,657,307,704	165,237,139,866
	Profit attributable to					
	Owners of the parent					
	Continuing operations		92,950,604,143	119,647,246,552	61,657,307,704	94,475,418,599
	Discontinued operations, net of tax		-	-	-	70,761,721,267
Unofficial Translation			92,950,604,143	119,647,246,552	61,657,307,704	165,237,139,866
	Non-controlling interests					
	Continuing operations		29,140,995,793	45,726,305,546	-	-
	Discontinued operations, net of tax		-	-	-	-
			29,140,995,793	45,726,305,546	-	-
	Basic earnings per share					
	Continuing operations	32	3.20	4.15	2.16	3.31
	Discontinued operations	32	-	-	-	2.48
			3.20	4.15	2.16	5.79

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, 2019

Unit: Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018 (Restated)	2019	2018 (Restated)
Profit for the years from continuing operations	122,091,599,936	165,373,552,098	61,657,307,704	94,475,418,599
Other comprehensive income (loss)				
Items that will be reclassified subsequently to profit or loss				
Currency translation differences	(27,899,835,334)	(2,588,215,649)	-	-
Gain (loss) on measurements of available-for-sale investments	43,161,764	(881,069,476)	166,031,664	(27,281,381)
Income taxes related to available-for-sale investments	(21,425,435)	410,455,036	(33,206,333)	5,456,277
Gain (loss) on cash flow hedges	(1,182,552,979)	684,960,036	-	-
Income taxes related to cash flow hedges	(92,552,256)	(3,027,287)	-	-
Share of other comprehensive loss of joint ventures and associates	(503,105,474)	(380,456,659)	-	-
Items that will not be reclassified subsequently to profit or loss				
Gain (loss) on remeasurements of defined benefits plans	(1,095,553,888)	946,683,776	1,167,004,596	799,889,519
Income taxes related to remeasurements of defined benefits plans	408,798,991	(183,163,864)	(233,400,919)	(159,977,904)
Share of other comprehensive income (loss) from joint ventures and associates	(97,637,110)	27,573,904	-	-
Other comprehensive income (loss) for the years, net of tax	(30,440,701,721)	(1,966,260,183)	1,066,429,008	618,086,511
Comprehensive income for the years from continuing operations	91,650,898,215	163,407,291,915	62,723,736,712	95,093,505,110
Comprehensive income for the year from discontinued operations, net of tax	-	-	-	69,097,921,267
Total comprehensive income for the years	91,650,898,215	163,407,291,915	62,723,736,712	164,191,426,377
Total comprehensive income attributable to				
Owners of the parent				
Continuing operations	73,509,914,687	118,782,047,402	62,723,736,712	95,093,505,110
Discontinued operations, net of tax	-	-	-	69,097,921,267
	73,509,914,687	118,782,047,402	62,723,736,712	164,191,426,377
Non-controlling interests				
Continuing operations	18,140,983,528	44,625,244,513	-	-
Discontinued operations, net of tax	-	-	-	-
	18,140,983,528	44,625,244,513	-	-

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, 2019

Unit: Baht

Consolidated financial statements

Notes	Equity attributable to owners of the parent											Non-controlling interests	Total equity	
	Issued and paid-up share capital	Premium on ordinary shares	Deficit from the change in the ownership interests in subsidiaries	Retained earnings			Other components of equity				Total equity attributable to owners of the parent			
				Legal reserve	Reserve for self-insurance fund	Unappropriated	Other comprehensive income (loss)			Total other components of equity				
							Currency translation differences	Available-for-sale investments	Cash flow hedges					Share of other comprehensive loss of joint ventures and associates
Balance as at January 1, 2018	28,562,996,250	29,211,131,966	(24,311,625,093)	2,857,245,725	1,199,991,563	775,959,276,682	1,971,688,038	3,259,236,757	74,024,494	(112,215,260)	5,192,734,029	818,671,751,122	429,883,989,506	1,248,555,740,628
Reclassification and adjustment	4	-	-	-	-	(750,162,673)	26,003,370	-	-	-	26,003,370	(724,159,303)	(171,373,364)	(895,532,667)
Balance as at January 1, 2018 after reclassification and adjustment		28,562,996,250	29,211,131,966	(24,311,625,093)	2,857,245,725	775,209,114,009	1,997,691,408	3,259,236,757	74,024,494	(112,215,260)	5,218,737,399	817,947,591,819	429,712,616,142	1,247,660,207,961
Changes in equity for the year														
Reserve for self-insurance fund	31.2	-	-	-	22,684,055	(22,684,055)	-	-	-	-	-	-	-	-
Interests for subordinated capital debentures		-	-	-	-	(1,225,235,598)	-	-	-	-	-	(1,225,235,598)	(651,473,178)	(1,876,708,776)
Income taxes related to subordinated capital debentures		-	-	-	-	101,050,715	-	-	-	-	-	101,050,715	53,729,937	154,780,652
Finance cost from issuance of subordinated capital debentures		-	-	-	-	-	-	-	-	-	-	-	(2,600,765)	(2,600,765)
Dividends paid	42	-	-	-	-	(57,107,862,427)	-	-	-	-	-	(57,107,862,427)	-	(57,107,862,427)
Dividends paid of subsidiaries		-	-	-	-	-	-	-	-	-	-	-	(27,845,037,703)	(27,845,037,703)
Business acquisition of subsidiaries		-	-	-	-	-	-	-	-	-	-	-	2,363,403,595	2,363,403,595
Change in the ownership interests in subsidiaries		-	-	(4,172,342,600)	-	-	-	-	-	-	-	(4,172,342,600)	(5,015,520,260)	(9,187,862,860)
Profit for the year		-	-	-	-	119,647,246,552	-	-	-	-	-	119,647,246,552	45,726,305,546	165,373,552,098
Other comprehensive income (loss) for the year		-	-	-	-	820,364,806	(1,435,038,672)	(409,801,919)	333,274,017	(173,997,382)	(1,685,563,956)	(865,199,150)	(1,101,061,033)	(1,966,260,183)
Balance as at December 31, 2018		28,562,996,250	29,211,131,966	(28,483,967,693)	2,857,245,725	1,222,675,618	837,421,994,002	562,652,736	2,849,434,838	407,298,511	(286,212,642)	3,533,173,443	874,325,249,311	1,317,565,611,592
Balance as at January 1, 2019		28,562,996,250	29,211,131,966	(28,483,967,693)	2,857,245,725	1,222,675,618	838,208,853,447	534,370,409	2,849,434,838	407,298,511	(286,212,642)	3,504,891,116	875,083,826,429	1,318,494,350,324
Reclassification and adjustment	4	-	-	-	-	(786,859,445)	28,282,327	-	-	-	28,282,327	(758,577,118)	(170,161,614)	(928,738,732)
Balance as at January 1, 2019 after reclassification and adjustment		28,562,996,250	29,211,131,966	(28,483,967,693)	2,857,245,725	1,222,675,618	837,421,994,002	562,652,736	2,849,434,838	407,298,511	(286,212,642)	3,533,173,443	874,325,249,311	1,317,565,611,592
Changes in equity for the year														
Reserve for self-insurance fund	31.2	-	-	-	20,980,701	(20,980,701)	-	-	-	-	-	-	-	-
Deferred taxes of surplus from business combination under common control		-	-	-	-	6,500,542	-	-	-	-	-	6,500,542	3,456,420	9,956,962
Redemption of subordinated capital debentures	41	-	-	-	-	(467,640,221)	-	-	-	-	-	(467,640,221)	(32,213,720,233)	(32,681,360,454)
Interests for subordinated capital debentures		-	-	-	-	(1,085,692,828)	-	-	-	-	-	(1,085,692,828)	(825,926,719)	(1,911,619,547)
Income taxes related to subordinated capital debentures		-	-	-	-	61,654,845	-	-	-	-	-	61,654,845	32,782,656	94,437,501
Dividends paid	42	-	-	-	-	(59,978,979,769)	-	-	-	-	-	(59,978,979,769)	-	(59,978,979,769)
Dividends paid of subsidiaries		-	-	-	-	-	-	-	-	-	-	-	(22,112,552,296)	(22,112,552,296)
Business acquisition of subsidiaries	43	-	-	-	-	-	-	-	-	-	-	-	32,105,157,138	32,105,157,138
Change in the ownership interests in subsidiaries		-	-	(7,766,897,110)	-	-	-	-	-	-	-	(7,766,897,110)	(34,321,536,220)	(42,088,433,330)
Increase in share capital of subsidiary		-	-	-	-	-	-	-	-	-	-	-	18,386,501,562	18,386,501,562
Profit for the year		-	-	-	-	92,950,604,143	-	-	-	-	-	92,950,604,143	29,140,995,793	122,091,599,936
Other comprehensive income (loss) for the year		-	-	-	-	128,627,460	(18,961,746,168)	9,305,536	(387,457,536)	(229,418,748)	(19,569,316,916)	(19,440,689,456)	(11,000,012,265)	(30,440,701,721)
Balance as at December 31, 2019		28,562,996,250	29,211,131,966	(36,250,864,803)	2,857,245,725	1,243,656,319	869,016,087,473	2,858,740,374	19,840,975	(515,631,390)	(16,036,143,473)	878,604,109,457	422,435,508,117	1,301,039,617,574

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, 2019

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, 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
Adjustment	-	-	-	-	(401,854,789)	-	(401,854,789)
Balance as at January 1, 2018 after adjustment	28,562,996,250	29,211,131,966	2,857,245,725	1,199,991,563	432,667,781,421	2,979,265,871	497,478,412,796
Changes in equity for the year							
Dividends paid	-	-	-	-	(57,107,862,427)	-	(57,107,862,427)
Reserve for self-insurance fund	-	-	-	22,684,055	(22,684,055)	-	-
Other comprehensive loss from discontinued operations	-	-	-	-	-	(1,663,800,000)	(1,663,800,000)
Profit for the year	-	-	-	-	165,237,139,866	-	165,237,139,866
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	541,414,286,420	1,293,640,767	604,561,976,746
Balance as at January 1, 2019	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
Adjustment	-	-	-	-	(438,551,561)	-	(438,551,561)
Balance as at January 1, 2018 after adjustment	28,562,996,250	29,211,131,966	2,857,245,725	1,222,675,618	541,414,286,420	1,293,640,767	604,561,976,746
Changes in equity for the year							
Dividends paid	-	-	-	-	(59,978,979,769)	-	(59,978,979,769)
Reserve for self-insurance fund	-	-	-	20,980,701	(20,980,701)	-	-
Profit for the year	-	-	-	-	61,657,307,704	-	61,657,307,704
Other comprehensive income for the year	-	-	-	-	933,603,677	132,825,331	1,066,429,008
Balance as at December 31, 2019	28,562,996,250	29,211,131,966	2,857,245,725	1,243,656,319	544,005,237,331	1,426,466,098	607,306,733,689

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, 2019

Unit: Baht

Consolidated financial statements Separate financial statements

	2019	2018 (Restated)	2019	2018 (Restated)
Cash flows from operating activities				
Profit attributable to owners of the parent	92,950,604,143	119,647,246,552	61,657,307,704	165,237,139,866
Adjustment of profit to net cash provided by (used in) operating activities				
Depreciation and amortization	133,204,181,804	123,592,966,745	19,350,137,045	20,225,546,733
(Gain) loss on disposal of assets	31,182,090	2,154,902,333	(191,508,782)	(4,721,245,342)
(Gain) loss on disposal of investments	221,275,460	(299,334)	(1,564,028,226)	(3,673,261,900)
Gain on disposal of discontinued operations	-	-	-	(80,659,172,274)
Gain on bargain purchase	(31,482,857)	(1,354,901,971)	-	-
(Reversal of) loss on impairment of assets	291,120,355	16,833,146	506,848,142	(33,926,202)
(Reversal of) loss on impairment of investments	(434,016,938)	-	7,347,996	22,706,862,123
Share of profit from investments in joint ventures	(3,990,793,333)	(6,461,651,677)	-	-
Share of profit from investments in associates	(2,017,196,234)	(2,053,368,348)	-	-
Profit attributable to non-controlling interests	29,140,995,793	45,726,305,546	-	-
Provision for employee benefit	7,063,158,543	2,487,981,308	1,839,534,053	866,200,264
(Gain) loss on exchange rates	(8,259,060,713)	(809,179,160)	(2,557,930,652)	50,548,585
Unrealized (gain) loss on derivatives	3,123,608,032	(4,032,097,039)	(1,225,180,475)	169,989,298
(Reversal of) allowance for doubtful accounts	(77,020,600)	2,320,284,952	920,415	(22,636,081,165)
Write-off exploration assets	2,368,682,811	21,470,147	-	-
(Reversal of) allowance for loss on decline in value of inventories	(3,079,361,551)	4,217,015,603	65,420,262	252,179,770
Allowance for obsolete materials and supplies	453,008,357	157,216,972	40,302,822	32,955,250
Dividends income	(383,031,136)	(347,322,347)	(29,676,712,760)	(35,265,935,239)
Income taxes	32,988,881,950	53,646,552,942	8,439,114,919	30,796,871,638
Interest income	(7,836,966,421)	(9,435,815,591)	(3,342,143,771)	(3,024,402,378)
Finance costs	27,971,463,717	27,627,592,591	6,164,047,845	8,013,269,693
Others	4,462,664	93,326,065	354,945,076	317,895,230
Profit from operating activities before changes in operating assets and liabilities	303,703,695,936	357,215,059,435	59,868,421,613	98,655,433,950

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, 2019

Unit: Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018 (Restated)	2019	2018 (Restated)
(Increase) decrease in operating assets				
Trade accounts receivable	19,001,930,521	2,430,378,448	27,250,869,944	(15,930,100,711)
Other accounts receivable	19,903,908,602	(16,941,081,482)	9,069,258,034	(13,611,836,950)
Inventories	11,866,201,784	(5,503,049,394)	5,379,178,863	(9,382,918,320)
Materials and supplies	(512,841,370)	(339,304,377)	(137,217,232)	(141,923,476)
Other current assets	(2,264,690,933)	(1,193,783,986)	596,834,211	669,686,381
Other non-current assets	6,910,377,794	(5,765,733,296)	(111,213,792)	(2,553,304,770)
Increase (decrease) in operating liabilities				
Trade accounts payable	(7,439,616,831)	(2,080,698,278)	(19,932,742,937)	9,250,098,045
Other accounts payable	(14,050,557,920)	(77,973,082)	(4,856,296,140)	8,181,472,744
Other current liabilities	(1,955,970,779)	2,860,720,649	(1,133,000,617)	(505,988,331)
Deposits on LPG cylinders	574,122,160	563,414,702	-	177,938,200
Other non-current liabilities	(5,369,946,427)	(16,391,850,009)	128,310,633	393,556,331
	26,662,916,601	(42,438,960,105)	16,253,980,967	(23,453,320,857)
Cash received from operating activities	330,366,612,537	314,776,099,330	76,122,402,580	75,202,113,093
Income tax paid	(65,259,229,065)	(45,370,805,621)	(29,288,868,748)	(12,330,372,203)
Net cash provided by operating activities	265,107,383,472	269,405,293,709	46,833,533,832	62,871,740,890

Statement of Cash Flows

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Unofficial Translation

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, 2019

Unit: Baht

Consolidated financial statements Separate financial statements

	2019	2018 (Restated)	2019	2018 (Restated)
Cash flows from investing activities				
Payment of property, plant and equipment and investment properties	(144,336,347,465)	(108,747,405,008)	(19,013,996,689)	(22,631,738,393)
Payment of intangible assets	(2,861,367,080)	(2,398,008,012)	(197,386,569)	(360,209,801)
Payment of exploration and evaluation assets	(3,700,244,754)	(1,962,665,601)	-	-
Payment of long-term rental contracts on land and building	-	(105,000,000)	-	(105,000,000)
Payment for available-for-sale investments	(241,112,299)	(540,509,638)	(241,112,299)	(203,209,504)
Payment for business acquisition	(164,377,947,967)	(36,464,068,838)	-	-
Payment of investments in subsidiaries	-	-	(20,607,908,492)	(120,635,433,946)
Payment of investments in joint ventures	(4,072,414,141)	(155,360,767)	(34,296,717)	-
Payment of investments in associates	(783,882,750)	(1,368,071,960)	-	-
Payment of short-term lending loans	-	(1,984,409,281)	(33,114,580,995)	(2,500,000,000)
Payment of long-term lending loans	(837,243,815)	(118,546,111)	(30,992,122,156)	(26,310,000,000)
Payment of other long-term investments	(2,855,860,697)	(5,226,943,008)	(1,827,467,081)	(4,597,024,955)
Proceeds from disposals of property, plant and equipment, intangible assets and investment properties	929,635,294	4,646,909,629	1,007,259,109	7,235,425,913
Proceeds from disposals of available-for-sale investments	10,693,125,237	2,944,665,157	-	24,501,220
Proceeds from disposal of discontinued operations	-	-	-	117,203,264,773
Proceeds from disposals of investments in subsidiaries	-	-	2,612,512,600	4,618,593,100
Proceeds from disposals of investments in joint ventures	276,267,877	33,871,046	-	-
Proceeds from disposals of investments in associates	212,663,057	-	-	-
Proceeds from short-term lending loans	269,913,000	1,659,754,291	29,709,927,871	409,068,377
Proceeds from long-term lending loans	3,490,281,246	4,294,182,245	28,115,283,133	36,683,534,122
Proceeds from disposal of other long-term investments	28,289,253	2,740,995,830	-	2,494,600,000
Proceeds from cancellation of leasehold in gas stations	16,679,180	4,712,511	-	1,400,000
Decrease in current investments	108,719,156,318	93,820,520,816	17,760,919,841	49,529,998,963
Interest received	6,424,633,174	8,358,990,106	3,357,868,462	3,500,206,798
Dividends received	4,787,566,316	4,814,106,863	29,676,712,760	35,646,436,864
Net cash provide by (used in) investing activities	(188,218,211,016)	(35,752,279,730)	6,211,612,778	80,004,413,531

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, 2019

Unit: Baht

		Consolidated financial statements		Separate financial statements	
	Notes	2019	2018 (Restated)	2019	2018 (Restated)
Cash flows from financing activities					
Proceeds from issuance of ordinary shares of subsidiaries		18,346,174,140	92,811,501	-	-
Proceeds from short-term loans		-	-	154,866,060	1,564,470,776
Proceeds from long-term loans		174,649,440,702	143,626,648,847	24,031,000,790	-
Proceeds from change in ownership in subsidiaries		3,960,400	4,670,961,898	-	-
Payment for treasury shares		(1,187,603,325)	-	-	-
Repayment of short-term loans		(701,550,500)	-	-	(1,034,818,082)
Repayment of long-term loans		(101,517,722,881)	(136,795,441,261)	(50,044,500,790)	(28,305,510,732)
Repayment of finance lease instalments		(1,358,237,107)	(974,563,334)	(613,345,103)	(658,200,961)
Payment for change in ownership in subsidiaries		(40,806,272,121)	(13,872,690,000)	-	-
Payment for redemption of subordinated capital debentures		(30,750,894,428)	-	-	-
Increase in bank overdrafts and short-term loans from financial institutions		19,910,183,786	4,967,935,595	-	-
Finance costs paid		(25,462,319,325)	(28,147,863,087)	(6,720,225,233)	(10,187,617,565)
Dividend paid		(81,350,824,835)	(85,035,352,791)	(59,978,979,769)	(57,107,862,427)
Net cash used in financing activities		(70,225,665,494)	(111,467,552,632)	(93,171,184,045)	(95,729,538,991)
Effects of exchange rates on cash and cash equivalents		(3,075,298,506)	636,628,646	402,798,181	365,772,797
Currency translation differences		(3,230,072,876)	3,173,208,725	-	-
Net increase (decrease) in cash and cash equivalents		358,135,580	125,995,298,718	(39,723,239,254)	47,512,388,227
Cash and cash equivalents at the beginning of periods		292,184,322,373	166,189,023,655	86,204,049,166	38,691,660,939
Cash and cash equivalents at the end of periods	5	292,542,457,953	292,184,322,373	46,480,809,912	86,204,049,166
Non cash items					
Accounts payable from purchases of property, plant and equipment and investment properties		21,829,487,413	39,104,581,381	4,072,072,617	3,403,535,367
Accounts payable from purchases of intangible assets		212,468,939	268,340,332	91,630,970	39,762,075

Statement of Cash Flows

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Annual Report 2019 (Financial Report) PTT Public Company Limited

Unofficial Translation

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, 2019

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 Company 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.

2. Basis of Financial Statements Preparation (Continued)

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

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 Financial Reporting Standards (TFRSs) 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, 2019

• 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
• 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



3.1 Thai Financial Reporting Standards (TFRSs) 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 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 Thai 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 |
| • 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 |

3.1 Thai Financial Reporting Standards (TFRSs) 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)

- | | |
|---------------------------|------------------------------------------------------------------------------------------------------------------|
| • 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 |
| • 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 |



3.1 Thai Financial Reporting Standards (TFRSs) 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, 2020

- TAS 1 Presentation of Financial Statements
- TAS 2 Inventories
- TAS 7 Statement of Cash Flows
- TAS 8 Accounting Policies, Changes in Accounting Estimates and Errors
- TAS 10 Events after the Reporting Period
- TAS 12 Income Taxes
- TAS 16 Property, Plant and Equipment
- TAS 19 Employee Benefits
- TAS 20 Accounting for Government Grants and Disclosure of Government Assistance
- TAS 21 The Effects of Changes in Foreign Exchange Rates
- TAS 23 Borrowing Costs
- TAS 24 Related Party Disclosures
- TAS 26 Accounting and Reporting by Retirement Benefit Plans
- TAS 27 Separate Financial Statements
- TAS 28 Investments in Associates and Joint Ventures
- TAS 29 Financial Reporting in Hyperinflationary Economies
- TAS 32 Financial Instruments: Presentation

3.1 Thai Financial Reporting Standards (TFRSs) 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, 2020 (Continued)

• TAS 33	Earnings per Share
• TAS 34	Interim Financial Reporting
• TAS 36	Impairment of Assets
• TAS 37	Provisions, Contingent Liabilities and Contingent Assets
• TAS 38	Intangible Assets
• TAS 40	Investment Property
• TAS 41	Agriculture
• TFRS 1	First-time Adoption of International Financial Reporting Standards
• TFRS 2	Share-based Payment
• TFRS 3	Business Combinations
• TFRS 4	Insurance Contracts
• TFRS 5	Non-current Assets Held for Sale and Discontinued Operations
• TFRS 6	Exploration for and Evaluation of Mineral Resources
• TFRS 7	Financial Instruments: Disclosures
• TFRS 8	Operating Segments
• TFRS 9	Financial Instruments
• TFRS 10	Consolidated Financial Statements
• TFRS 11	Joint Arrangements
• TFRS 12	Disclosure of Interests in Other Entities
• TFRS 13	Fair Value Measurement
• TFRS 15	Revenue from Contracts with Customers
• TFRS 16	Lease
• TSIC 10	Government Assistance - No Specific Relation to Operating Activities



3.1 Thai Financial Reporting Standards (TFRSs) 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, 2020 (Continued)

- TSIC 25 Income Taxes - Changes in the Tax Status of an Entity or its Shareholders
- TSIC 29 Service Concession Arrangements: Disclosure
- TSIC 32 Intangible Assets - Web Site Costs
- TFRIC 1 Changes in Existing Decommissioning, Restoration and Similar Liabilities
- TFRIC 5 Rights to Interests arising from Decommissioning, Restoration and Environmental Rehabilitation Funds
- TFRIC 7 Applying the Restatement Approach under TAS 29 Financial Reporting in Hyperinflationary Economies
- TFRIC 10 Interim Financial Reporting and Impairment
- TFRIC 12 Service Concession Arrangements
- TFRIC 14 TAS 19 - The Limit on a Defined Benefit Asset, Minimum Funding Requirements and their Interaction
- TFRIC 16 Hedges of a Net Investment in a Foreign Operation
- TFRIC 17 Distributions of Non-cash Assets to Owners
- TFRIC 19 Extinguishing Financial Liabilities with Equity Instruments
- TFRIC 20 Stripping Costs in the Production Phase of a Surface Mine
- TFRIC 21 Levies
- TFRIC 22 Foreign Currency Transactions and Advance Consideration
- TFRIC 23 Uncertainty over Income Tax Treatments

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

The management of the Group has assessed impacts of the application of the amended Thai Financial Reporting Standards (TFRS), which are applicable to annual reporting periods beginning on or after January 1, 2020. Besides TFRS Groups of Financial Instruments and TFRS 16 - Leases, it is believed that employing the amended TFRS have no significant impact on both the Consolidated Financial Statements and Separate Financial Statements.

TFRS Group of Financial Instruments

- | | |
|------------|-------------------------------------------------------------|
| • 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 |

TFRS Group of Financial Instruments have been set approaches of classification and measurement of financial instruments at fair value or amortized cost, which are determined from types of financial instruments, contractual cash flow characteristics, and business model. The new TFRS also introduces standards in calculating asset impairment, using expected credit loss concept and standards of hedge accounting, including financial instrument presentation and disclosures.

TFRS 16 - Leases

TFRS 16 has been set approaches for the identification, recognition, measurement, presentation and disclosure of leases from both lessees and lessors. Major changed principle is cancellation for lessees to identify the classification between operating leases and financial leases as specified in TAS 17; and lessors should recognized a right of use assets and lease liabilities at the commencement date for all leases, except short-term leases and leases for which the underlying asset is of low value. Accounting by lessors is still required to classify leases as operating or finance according to TAS 17.

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

TFRS 16 - Leases (Continued)

The Group will apply TFRS - group of financial instruments and TFRS 16 - Leases on January 1, 2020, acknowledging the cumulative effects of applying modified retrospective method. However, the Group is assessing impacts of applying such standards.

The Group has subordinated capital debentures reported in equity section as such debentures offering a single payment of principal when the business ceases operations or when the issuer uses the right of call options complying to stated conditions. Moreover, the issuer has the right, at its sole discretion, to defer payment without time limitations and number of times. The overdue payment will be accumulated with no interest. However, according to Paragraph 25 in TAS 32 - Financial Instruments: Presentation, effective for annual reporting periods beginning on or after January 1, 2020. The Group has to classify such debentures as liabilities. Due to conditions in "The indenture of subordinated capital debentures", it can be interpreted as the debentures' holders will have the right to redeem the debentures prior to the liquidation. Owing to the announcement No. 95/2562 of the Federation of Accounting Professions, it allows relaxation in classifying the issued (subordinated) capital debentures and paid-up before December 31, 2019 still to be the part of issuer until December 31, 2022.

On December 31, 2019, the Group has subordinated capital debentures in a total of Baht 6,018.03 million in the consolidated financial statements, which will be classified as non-controlling interests in the equity section in annual reporting periods beginning on or after January 1, 2020.

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, appraisal 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 15.

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 whereby 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 15.



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 15.

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.

3.2.14 Property, Plant and Equipment (Continued)

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	2 - 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.

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, drilling costs will be expensed in the statement of income when incurred, if the exploratory wells have not identified proved reserves or have identified proved reserves but have not been found to be commercially producible.

3.2.14 Property, Plant and Equipment (Continued)

Petroleum Exploration and Production Properties (Continued)

Cost of Properties (Continued)

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.

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.

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

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 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 1 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 Group 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 upon completion and the delivery of promised goods or services to customers at the transaction price which is entitled in exchange for transferring goods or services, in accordance with the principles below.

1. Identify contract(s) with customers
2. Evaluate goods or services in contract(s) and identify separate performance obligations to deliver to customers; it may include implied agreement following to business code of conduct.
3. Determine the reasonable transaction price which the Group expected to be entitled to receive in exchange for transferring promised goods or services to customers, regarding to variable consideration such as discount or fine, non-cash consideration, and significant financial component. The Group shall include the estimated amount of consideration only to which it is highly probable of no significant reversal in cumulative revenue.
4. Allocate the transaction price to distinct performance obligations based on relative standalone selling prices.
5. Recognize revenue when the performance obligation is transferred the promised goods or services to customers. The recognized revenue is the amount allocating to performance obligation. The performance obligation may be satisfied at a point in time. For a performance obligation satisfied over time, the Group would measure progress of the performance obligation in order to recognize the revenue.

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.

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.

3.2.27 Financial Instruments (Continued)

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 2018) "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.

3.2.28 Fair Value Measurement (Continued)

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:

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.

3.2.29 Use of Estimates and Significant Assumptions (Continued)

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.

Exploration Costs

The petroleum exploration and production businesses capitalize drilling costs as assets. They will be 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 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.

3.2.29 Use of Estimates and Significant Assumptions (Continued)

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 based on global oil market prices, 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 which is recoverable amount of value in use. 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. Reclassification and Adjustment

The Group has reclassified and adjusted the investment properties, property, plant and equipment, exploration and evaluation assets from business acquisitions, and other non-current assets in the current year and comparative consolidated financial statements. However, there is no impact on the consolidated statements of income for the year ended December 31, 2019 and consolidated statements of cash flow for the year ended December 31, 2019.

In addition, on December 18, 2019, the Supreme Court rendered a judgment to the Company on an onshore natural gas pipeline construction project as mentioned in Note 46.7. These transactions have impact on the consolidated and separate statements of financial position as at December 31, 2018 and January 1, 2018, consolidated and separate statements of income, consolidated statements of cash flow for the year ended December 31, 2018.

As aforementioned, the effect of increase (decrease) on the consolidated and separate financial statements are as follows:

		Unit: Million Baht	
		Consolidated financial statements	Separate financial statements
		increase (decrease)	increase (decrease)
Statement of financial position as at January 1, 2018			
• Investment properties (Note 17)		977.47	-
• Property, plant and equipment (Note 18)		5,509.96	1,066.02
• Goodwill (Note 19)		5,006.78	-
• Exploration and evaluation assets (Note 21)		(7,857.80)	-
• Other non-current assets		(5,421.41)	-
• Other accounts payable		1,467.87	1,467.87
• Deferred tax liabilities (Note 22.3)		(2,357.34)	-
• Unappropriated retained earnings		(750.16)	(401.85)
• Other components of equity		26.00	-
• Non-controlling interests		(171.37)	-

4. Reclassification and Adjustment (Continued)

Unit: Million Baht

	Consolidated financial statements	Separate financial statements
	increase (decrease)	increase (decrease)
Statement of financial position as at December 31, 2018		
• Investment properties (Note 17)	977.47	-
• Property, plant and equipment (Note 18)	6,338.28	1,029.32
• Goodwill (Note 19)	4,971.38	-
• Exploration and evaluation assets (Note 21)	(7,802.24)	-
• Other non-current assets	(6,286.43)	-
• Other accounts payable	1,467.87	1,467.87
• Deferred tax liabilities (Note 22.3)	(2,340.67)	-
• Unappropriated retained earnings	(786.86)	(438.55)
• Other components of equity	28.28	-
• Non-controlling interests	(170.16)	-
Statement of income for the year ended December 31, 2018		
• Cost of sales	36.70	36.70
• Profit for the year	(36.70)	(36.70)
Statement of comprehensive income for the year ended December 31, 2018		
Items that will be reclassified subsequently to profit or loss		
• Currency translation differences	3.49	-
• Total comprehensive income for the year	3.49	-
Statement of cash flow for the year ended December 31, 2018		
• Net cash provided by operating activities	1,604.30	-
• Net cash used in investing activities	(1,604.30)	-

5. Cash and Cash Equivalents

Cash and cash equivalents as at December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Cash on hand	555.87	1,885.77	10.57	9.77
Call deposits held at banks	192,073.45	119,956.06	36,016.15	40,015.70
Fixed deposits within 3 months	87,461.44	126,019.92	5,008.14	21,237.82
Treasury bills	593.32	16,736.58	-	-
Promissory notes	1,000.00	50.07	-	-
Bonds	5,445.95	24,940.76	5,445.95	24,940.76
Restricted bank cash	575.19	1,087.99	-	-
Other investments	4,837.24	1,507.17	-	-
Total	292,542.46	292,184.32	46,480.81	86,204.05

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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, 2019 bear the interest at rates ranging from 0.00% - 7.00% per annum (December 31, 2018: interest rates ranging from 0.00% - 6.08% per annum).

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6. Current Investments

Current investments as at December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Fixed deposits	17,364.83	103,566.72	1,238.85	7,412.36
Treasury bills	-	398.38	-	398.38
Promissory notes	-	349.10	-	-
Bonds	-	2,293.92	-	1,297.84
Other investments	20,898.48	35,812.62	13,763.49	12,863.38
Total	38,263.31	142,420.74	15,002.34	21,971.96

Current investments as at December 31, 2019 bear the interest at rates ranging from 0.75% - 3.60% per annum (December 31, 2018: interest rates ranging from 0.00% - 3.28% per annum).

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7. Trade Accounts Receivable

Trade accounts receivable as at December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Trade accounts receivable - others	166,557.70	169,681.36	55,462.29	69,440.91
<u>Less</u> Allowance for doubtful accounts	(3,126.99)	(3,083.52)	(1,885.88)	(1,889.06)
Trade accounts receivable - others - net	163,430.71	166,597.84	53,576.41	67,551.85
Trade accounts receivable - related parties - net (Note 10.1)	4,210.31	8,006.86	57,981.55	71,124.00
Total	167,641.02	174,604.70	111,557.96	138,675.85

Aging analysis is as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Within credit terms	161,974.85	171,248.71	108,240.53	137,068.82
Overdue				
- Within 3 months	5,216.34	2,730.43	3,005.71	993.14
- Over 3 - 6 months	82.97	506.99	43.58	517.70
- Over 6 - 12 months	381.51	198.70	249.01	147.44
- Over 12 months	3,112.34	3,046.51	1,905.01	1,837.81
	170,768.01	177,731.34	113,443.84	140,564.91
<u>Less</u> Allowance for doubtful accounts	(3,126.99)	(3,126.64)	(1,885.88)	(1,889.06)
Total	167,641.02	174,604.70	111,557.96	138,675.85

Trade accounts receivable - others as at December 31, 2019 include receivables from government agencies and state enterprises in the consolidated financial statements amounting to Baht 21,957.74 million (December 31, 2018: Baht 20,834.35 million), and in the separate financial statements amounting to Baht 14,679.54 million (December 31, 2018: Baht 17,945.50 million).

8. Other Accounts Receivable

Other accounts receivable as at December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Other accounts receivable	18,649.87	37,906.98	1,660.41	1,473.57
<u>Less</u> Allowance for doubtful accounts	(713.13)	(628.18)	(432.07)	(427.97)
Other accounts receivable	17,936.74	37,278.80	1,228.34	1,045.60
Advance payments	8,546.03	16,199.20	291.65	270.44
Refund receivable from the Oil Stabilization Fund	16,115.89	19,691.94	5,538.52	13,204.37
Current tax assets	5,557.52	3,491.54	-	-
Other accounts receivable - others - net	48,156.18	76,661.48	7,058.51	14,520.41
Other accounts receivable - related parties - net (Note 10.2)	1,009.94	1,709.97	1,099.34	2,440.04
Advance payments - related parties (Note 10.2)	445.63	455.62	246.34	353.73
Total	49,611.75	78,827.07	8,404.19	17,314.18

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.

9. Lending Loans

9.1 Short-term lending loans as at December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Current portion of finance lease receivable - other	1,106.23	700.86	-	-
Current portion of finance lease receivable - related parties (Note 10.2)	4.59	3.95	-	-
Short-term lending loans - others	-	835.97	-	-
Short-term lending loans - related parties	1,558.40	843.83	21,369.27	7,334.32
<u>Less</u> Allowance for doubtful accounts	-	(601.69)	-	-
Short-term lending loans - related parties - net (Note 10.2)	1,558.40	242.14	21,369.27	7,334.32
Total	2,669.22	1,782.92	21,369.27	7,334.32

9.2 Long-term lending loans as at December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Long-term finance lease receivable - others	7,578.47	4,653.33	-	-
Long-term finance lease receivable - related parties (Note 10.3)	50.90	52.71	-	-
Long-term lending loans - others	1,230.39	2,979.62	-	-
Long-term lending loans - related parties	3,614.65	6,177.05	24,981.89	32,895.68
<u>Less</u> Allowance for doubtful accounts	-	-	-	-
Long-term lending loans - related parties - net (Note 10.3)	3,614.65	6,177.05	24,981.89	32,895.68
Total	12,474.41	13,862.71	24,981.89	32,895.68

10. 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:

10.1 Trade accounts receivable - related parties as at December 31, 2019 and 2018

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Subsidiaries	-	-	55,738.66	65,585.72
Joint ventures	2,188.15	3,747.90	1,000.49	2,213.24
Associates	1,055.66	1,318.08	286.88	341.80
Other related parties	966.50	2,984.00	955.52	2,983.24
	4,210.31	8,049.98	57,981.55	71,124.00
<u>Less</u> Allowance for doubtful accounts	-	(43.12)	-	-
Total (Note 7)	4,210.31	8,006.86	57,981.55	71,124.00

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Aging analysis is as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Within credit terms	4,163.60	7,982.56	57,981.38	71,040.94
Overdue				
- Within 3 months	34.53	23.87	0.17	10.06
- Over 3 - 6 months	2.88	-	-	73.00
- Over 6 - 12 months	9.27	-	-	-
- Over 12 months	0.03	43.55	-	-
	4,210.31	8,049.98	57,981.55	71,124.00
<u>Less</u> Allowance for doubtful accounts	-	(43.12)	-	-
Total (Note 7)	4,210.31	8,006.86	57,981.55	71,124.00

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10.2 Other accounts receivable, advance payments, current portion of finance lease receivable, and short-term lending loans - related parties as at December 31, 2019 and 2018

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
<u>Other accounts receivable</u>				
Subsidiaries	-	-	1,061.99	2,420.38
Joint ventures	322.26	416.42	29.09	16.18
Associates	207.52	358.17	6.06	2.91
Other related parties	480.16	1,018.76	2.20	0.57
	1,009.94	1,793.35	1,099.34	2,440.04
<u>Less</u> Allowance for doubtful accounts	-	(83.38)	-	-
Total (Note 8)	1,009.94	1,709.97	1,099.34	2,440.04
<u>Advance payments</u>				
Subsidiaries	-	-	6.38	73.77
Other related parties	445.63	455.62	239.96	279.96
Total (Note 8)	445.63	455.62	246.34	353.73

10.2 Other accounts receivable, advance payments, current portion of finance lease receivable, and short-term lending loans - related parties as at December 31, 2019 and 2018 (Continued)

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
<u>Current portion of finance lease receivable</u>				
Joint ventures (Note 9.1)	4.59	3.95	-	-
<u>Short-term lending loans</u>				
Subsidiaries	-	-	21,369.27	7,334.32
Joint ventures	1,558.40	843.83	-	-
	1,558.40	843.83	21,369.27	7,334.32
<u>Less</u> Allowance for doubtful accounts	-	(601.69)	-	-
Total (Note 9.1)	1,558.40	242.14	21,369.27	7,334.32

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

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Balance as at January 1	242.14	-	2,500.00	-
- Payment for loans granted	-	369.65	33,114.58	2,990.02
- Receipt from loans granted	(224.91)	-	(29,709.93)	(899.08)
- Gain (loss) on exchange rate	(17.23)	7.33	8.08	(19.78)
- Disposal	(575.64)	-	-	-
- Reversal (recognition) of allowance for doubtful accounts	575.64	(134.84)	-	428.84
Balance as at December 31	-	242.14	5,912.73	2,500.00
<u>Add</u> Current portion (Note 10.3)	1,558.40	-	15,456.54	4,834.32
Balance as at December 31 - net	1,558.40	242.14	21,369.27	7,334.32

Short-term lending loans - related parties as at December 31, 2019 in the separate financial statements bear the interest at rates ranging from 1.15% - 3.25% per annum (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).

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10.3 Long-term finance lease receivable and long-term lending loans - related parties as at December 31, 2019 and 2018

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
<u>Long-term finance lease receivable</u>				
Joint ventures (Note 9.2)	50.90	52.71	-	-
<u>Long-term lending loans</u>				
Subsidiaries	-	-	24,981.89	32,895.68
Joint ventures	803.69	3,651.76	-	-
Associates	2,810.96	2,525.29	-	-
	3,614.65	6,177.05	24,981.89	32,895.68
<u>Less</u> Allowance for doubtful accounts	-	-	-	-
Total (Note 9.2)	3,614.65	6,177.05	24,981.89	32,895.68

Details of finance lease receivable - related parties as at December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Finance lease receivable				
- Within 1 year	6.67	6.00	-	-
- Over 1 year but not over 5 years	26.60	24.00	-	-
- Over 5 years	34.00	40.00	-	-
Future finance income	(11.78)	(13.34)	-	-
Total	55.49	56.66	-	-

10.3 Long-term finance lease receivable and long-term lending loans - related parties as at December 31, 2019 and 2018 (Continued)

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

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Balance as at January 1	6,177.05	9,282.31	37,730.00	27,403.48
- Payment for loans granted	837.24	9.95	30,992.12	26,310.00
- Receipt from loans granted	(1,834.84)	(3,212.38)	(28,115.28)	(36,949.24)
- Gain (loss) on exchange rate	(215.66)	98.22	(168.41)	(1,154.76)
- Business acquisition	220.00	-	-	-
- Currency translation differences	(10.74)	(1.05)	-	-
- Reversal of allowance of doubtful accounts	-	-	-	22,120.52
Balance as at December 31	5,173.05	6,177.05	40,438.43	37,730.00
<u>Less</u> Current portion (Note 10.2)	(1,558.40)	-	(15,456.54)	(4,834.32)
Balance as at December 31 - net	3,614.65	6,177.05	24,981.89	32,895.68

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Long-term lending loans - related parties as at December 31, 2019 in the consolidated financial statements bear the interest at rates ranging from 3.00% - 7.38% per annum (December 31, 2018: interest at rates ranging from 3.66% - 6.94% per annum), and in the separate financial statements bear the interest at rates ranging from 2.57% - 4.68% per annum (December 31, 2018: interest at rates ranging from 2.88% - 4.68% per annum).

10.4 Trade accounts payable - related parties as at December 31, 2019 and 2018

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Subsidiaries	-	-	29,990.07	38,012.70
Joint ventures	807.72	1,078.38	245.62	260.85
Associates	337.71	320.34	-	-
Other related parties	4.49	8.51	-	-
Total	1,149.92	1,407.23	30,235.69	38,273.55

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10.5 Other accounts payable, current portion of finance lease liabilities, and short-term loans - related parties as at December 31, 2019 and 2018

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
<u>Other accounts payable</u>				
Subsidiaries	-	-	6,696.00	11,927.90
Joint ventures	58.38	46.58	15.48	7.25
Associates	19.37	24.23	12.12	16.31
Other related parties	51.18	88.86	35.43	57.51
Total	128.93	159.67	6,759.03	12,008.97
<u>Current portion of finance lease liabilities</u>				
Subsidiaries	-	-	0.77	-
Joint venture	374.86	400.42	374.86	400.42
Total	374.86	400.42	375.63	400.42
<u>Short-term loans*</u>				
Subsidiaries	-	-	3,487.56	3,332.70

* 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.

10.6 Long-term finance lease liabilities and long-term loans - related parties as at December 31, 2019 and 2018

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
<u>Long-term finance lease liabilities</u>				
Subsidiaries	-	-	2.98	-
Joint venture	3,180.60	3,841.51	3,180.60	3,841.51
Total	3,180.60	3,841.51	3,183.58	3,841.51
<u>Long-term loans</u>				
Subsidiaries	-	-	23,872.73	-

10.6 Long-term finance lease liabilities and long-term loans - related parties as at December 31, 2019 and 2018 (Continued)

Details of finance lease liabilities - related parties as at December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Finance lease liabilities				
- Within 1 year	422.95	453.54	424.00	453.54
- Over 1 year but not over 5 years	1,688.31	1,815.42	1,691.73	1,815.42
- Over 5 years	1,688.31	2,270.20	1,688.31	2,270.20
Future finance charges	(244.11)	(297.23)	(244.83)	(297.23)
Total	3,555.46	4,241.93	3,559.21	4,241.93

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

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Balance as at January 1	-	-	-	-
- Receipt from loans	-	-	24,031.00	-
- Gain on exchange rate	-	-	(158.27)	-
Balance as at December 31	-	-	23,872.73	-
<u>Less</u> Current portion	-	-	-	-
Balance as at December 31 - net	-	-	23,872.73	-

Long-term loans - related parties as at December 31, 2019 in the separate financial statements bear the interest at rates ranging from 4.95% - 6.38% per annum.

10.7 Revenue and expense transactions carried out with related parties

For the years ended December 31, 2019 and 2018

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Revenues				
<u>Sales and service income</u>				
Subsidiaries	-	-	634,492.33	779,669.46
Joint ventures	23,455.62	26,668.00	12,630.61	14,684.61
Associates	13,679.54	15,619.60	3,595.99	3,508.30
Other related parties	11,885.12	14,117.04	11,868.71	14,104.03
<u>Interest income</u>				
Subsidiaries	-	-	1,834.77	1,183.95
Joint ventures	161.44	280.09	-	-
Associates	170.44	160.11	-	-
<u>Dividend income</u>				
Subsidiaries	-	-	28,896.20	33,810.30
Joint ventures	-	-	657.21	610.12
Associates	-	-	-	684.21
Other related parties	293.00	253.43	116.00	112.00
<u>Other income</u>				
Subsidiaries	-	-	8,103.35	90,701.41
Joint ventures	389.53	311.71	117.72	84.00
Associates	244.43	75.00	18.63	45.94
Other related parties	107.00	47.51	43.47	46.67

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

For the years ended December 31, 2019 and 2018

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Expenses				
<u>Cost of goods purchased and services</u>				
Subsidiaries	-	-	288,485.19	475,921.74
Joint ventures	8,369.60	9,571.74	1,406.76	1,530.35
Associates	3,469.02	3,487.43	0.31	1,126.98
Other related parties	1,335.03	1,294.43	257.36	304.35
<u>Interest expenses</u>				
Subsidiaries	-	-	224.32	35.18
Joint ventures	53.12	58.10	53.12	58.10
<u>Other expenses</u>				
Subsidiaries	-	-	3,878.49	3,739.28
Joint ventures	11.47	166.20	0.03	0.14
Associates	82.09	54.40	4.20	4.52
Other related parties	381.57	408.66	144.13	226.10

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.

10.8 Details of commitments to subsidiaries and joint ventures are stated in Note 46.1.

10.9 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, 2019 and 2018 are as follow:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
<u>Sales</u>				
Subsidiaries	-	-	4,752.72	3,135.86
<u>Purchases</u>				
Subsidiaries	-	-	4,820.16	3,249.95

10.10 Executive remunerations

Detail of executive remunerations for the years ended December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
<u>Directors remuneration</u>				
Meeting remuneration and bonuses	503.67	386.42	64.41	62.35
<u>Managements remuneration</u>				
Salaries, bonuses, and other				
employee benefits	1,230.29	1,100.95	94.67	97.57
Post-employment benefits	56.02	14.52	2.14	2.35
Total (Note 35)	1,789.98	1,501.89	161.22	162.27

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

11. Inventories

Inventories as at December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Oil products	86,698.62	88,625.35	2,492.12	5,653.44
Gas products	2,867.37	4,648.77	2,398.14	4,150.09
Petrochemicals products	25,173.33	32,596.48	33.59	502.44
Others	4,623.42	4,022.72	509.85	512.93
	119,362.74	129,893.32	5,433.70	10,818.90
<u>Less</u> Allowance for decline in value of inventories and obsolescence	(1,615.78)	(4,613.50)	(636.50)	(571.41)
Total	117,746.96	125,279.82	4,797.20	10,247.49

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, 2019 in the consolidated financial statements amounting to Baht 24,732.99 million (December 31, 2018: Baht 26,382.19 million), and in the separate financial statements amounting to Baht 802.20 million (December 31, 2018: Baht 853.07 million). These amounts were net of allowance for net realizable value.

The cost of inventories recognized as expenses and included in cost of sales for the years ended December 31, 2019 and 2018 comprise:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Cost of sales	1,891,038.67	1,734,967.60	1,140,733.49	1,567,916.35
Allowance for (reversal of) decline in value of inventories and obsolescence	(2,997.72)	4,211.19	65.09	242.13
Total	1,888,040.95	1,739,178.79	1,140,798.58	1,568,158.48

12. Materials and Supplies

Materials and supplies as at December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Spare parts, equipment and others	36,269.15	30,390.29	5,838.42	5,594.67
<u>Less</u> Allowance for obsolescence	(1,890.01)	(1,518.64)	(94.24)	(53.94)
Total	34,379.14	28,871.65	5,744.18	5,540.73

13. The Restructuring of the Oil Business Unit

On June 18, 2018, the Company and PTT Oil and Retail Business Public Co., Ltd. (OR) 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 OR. The Company has commenced the process of transferring various assets and liabilities, and shares of related companies to OR since July 1, 2018. The business transfer price is Baht 117,203.26 million. On June 28, 2018, OR made the initial payment of Baht 85,366.92 million to the Company. Then, OR 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 OR, 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.

On February 28, 2019, the Company and OR successfully executed the memorandum for the revision of the Business Transfer Agreement for 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. In cases where the registration process is not completed within December 31, 2019, the Company and OR will consider the best solution in order to achieve their interests.

On January 12, 2020, the Company and OR successfully executed the memorandum for the revision of the Business Transfer Agreement for 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, 2020. This Agreement is effective on January 1, 2020. As at December 31, 2019, some assets and contracts have not yet been transferred.

13. 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 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 year ended December 31, 2018 are as follows:

	Unit: Million Baht	
	Separate financial statements	
	2018	
Statement of income		
Sales and service income	288,790.50	
Cost of sales and services	(271,949.15)	071
Gross profit	16,841.35	
Other income	2,432.59	
Gain on foreign exchange rates	285.71	
Profit before expenses	19,559.65	
Selling and distribution expenses	(7,424.75)	
Administrative expenses	(3,820.15)	
Profit before finance costs and income taxes	8,314.75	
Finance costs	(3.82)	
Profit before income taxes	8,310.93	
Income taxes	(1,967.25)	
Profit for the year from discontinued operations, net of tax	6,343.68	
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 year from discontinued operations, net of tax	70,761.72	

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

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

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

Unit: Million Baht

	Separate financial statements
	2018
Statement of comprehensive income	
Items that may be reclassified to profit or loss in subsequent periods	
Loss on measurement of available-for-sale investments	(2,079.75)
Income taxes related to available-for-sale investments	415.95
Other comprehensive loss for the year from discontinued operations, net of tax	(1,663.80)*

* 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 year ended December 31, 2018 are as follows:

Unit: Million Baht

	Separate financial statements
	2018
Net cash provided by operating activities	1,273.75
Net cash used in investing activities	(3,563.77)
Net cash used in the discontinued operations	(2,290.02)

14. Available-for-sale Investments

14.1 Details of available-for-sale investments as at December 31, 2019 and 2018

Unit: Million Baht

Company name	Country of Incorporation	Business	Ownership interest (%)		Consolidated financial statements		Separate financial statements		Dividends income	
			2019	2018	2019	2018	2019	2018	2019	2018
<u>Investments in Equity Securities</u>										
The Company										
Dhipaya Insurance Public Co., Ltd. (TIP)	Thailand	Insurance	13.33	13.33	312.00	312.00	312.00	312.00	116.00	112.00
PTTEP Group										
Wentworth Resources Limited (WRL)	Canada	Oil and natural gas exploration	1.18	1.18	33.59	34.91	-	-	0.32	-
OR Group										
Bangkok Aviation Fuel Services Public Co., Ltd. (BAFS)	Thailand	Aircraft refuelling services	7.06	7.06	24.00	24.00	-	-	61.65	56.70
IRPC Group										
Bangkok Union Insurance Public Co., Ltd. (BUI)	Thailand	Insurance	0.35	0.35	2.35	2.35	-	-	-	-
TPI Polene Public Co., Ltd. (TPIPL)	Thailand	Property, construction and petrochemicals	0.14	0.14	64.86	64.86	-	-	1.43	0.62
PTTGM Group										
Xanadu Mines Ltd. (XML)	Mongolia	Mineral exploration	3.46	3.80	221.28	238.13	-	-	-	-
Total					658.08	676.25	312.00	312.00		
<u>Investment in Debt Securities</u>										
PTTGC Group										
Debt Securities Available for Sale (in Private Fund) (DSAFS)	Thailand	Private Fund			1,481.91	5,967.16	-	-	-	-
Total					1,481.91	5,967.16	-	-		





14.1 Details of available-for-sale investments as at December 31, 2019 and 2018 (Continued)

Unit: Million Baht

Company name	Country of Incorporation	Business	Ownership interest (%)		Consolidated financial statements		Separate financial statements		Dividends income	
			2019	2018	2019	2018	2019	2018	2019	2018
<u>Investments in Mutual Funds</u>										
The Company										
Corporate Venture Capital Fund (CVC)	United States of America/ England/ Japan/ Netherlands	Mutual fund			627.59	386.48	627.59	386.48	-	-
The Group										
CIMB - PRINCIPAL Energy and Petrochemical Index Fund (CIMB - PRINCIPAL EPIF)*	Thailand	Mutual fund			854.03	854.03	254.03	254.03	21.70	8.68
Vayupak Fund 1 (VAYU1)**	Thailand	Mutual fund			14.64	15.00	10.00	10.00	0.09	0.09
Total					1,496.26	1,255.51	891.62	650.51		
Total available-for-sale investments before changes in value of investments					3,636.25	7,898.92	1,203.62	962.51		
Allowance for changes in value					3,086.73	3,015.36	1,783.08	1,617.05		
<u>Less</u> Allowance for impairment					(35.63)	(38.35)	-	-		
Total					6,687.35	10,875.93	2,986.70	2,579.56	201.19	178.09

* Held by the Company, PTTGC Group and TOP Group

** Held by the Company, PTTLNG, EnCo, PTTRTC, PTT TANK Group, PTTNGD Group, OR Group, PTTT Group and PTTER Group

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

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
As at January 1,	10,875.93	17,602.41	2,579.56	4,533.10
- Additional investments	241.11	177.49	241.11	177.49
- Reclassifications	-	(3,284.29)	-	-
- Disposal of investments	(4,485.58)	(2,737.43)	-	(24.00)
- Unrealized gain (loss) on available-for-sale investments	60.26	(880.56)	166.03	(2,107.03)
- Currency translation differences	(4.37)	(1.69)	-	-
As at December 31,	6,687.35	10,875.93	2,986.70	2,579.56



15. Investments in Subsidiaries, Joint Ventures and Associates

15.1 Details of subsidiaries and joint operations of the subsidiaries

Company name	Country of Incorporation	Business	Ownership interest (%)	
			2019	2018
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
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 Company Limited (PTTEP IH)	Cayman Islands	Petroleum	100.00	100.00

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

Company name	Country of Incorporation	Business	Ownership interest (%)	
			2019	2018
Subsidiaries of PTTEP Group: (Continued)				
PTTEP Southwest Vietnam Pipeline Company Limited (PTTEP SVPC)	Cayman Islands	Gas transmission pipelines	100.00	100.00
PTTEP FLNG Holding Company Limited (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
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

* On August 24, 2017, PTTEP approved for the registration for the dissolution of PTTEP FH. It is currently in process of dissolution.



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

Company name	Country of Incorporation	Business	Ownership interest (%)	
			2019	2018
Subsidiaries of PTTEP Group: (Continued)				
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
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
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

* On May 22, 2017, PTTEP approved for the registration for the dissolution of CEMROL and CEKL. They are currently in process of dissolution.

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

Company name	Country of Incorporation	Business	Ownership interest (%)	
			2019	2018
Subsidiaries of PTTEP Group: (Continued)				
PTTEP Energy Holding (Thailand) Company Limited (PTTEP EH)	Thailand	Petroleum	100.00	100.00
PTTEP Energy Development Company Limited (PTTEP ED)	Thailand	Petroleum	100.00	100.00
EP-Tech Ventures Holding Company Limited (EP-Tech)	Thailand	Petroleum related Technology	100.00	100.00
AI and Robotics Ventures Company Limited (ARV)	Thailand	Technology	100.00	100.00
PTTEP MENA Limited (PTTEP MENA)	Hong Kong	Petroleum	100.00	100.00
PTTEP Sabah Oil Limited (PTTEP SBO)	Bahamas	Petroleum	100.00	-
PTTEP Sarawak Oil Limited (PTTEP SKO)	Bahamas	Petroleum	100.00	-
Partex Holding B.V. (PHBV)	Netherlands	Petroleum	100.00	-
Partex Oil and Gas (Holdings) Corporation (POGHC)	Cayman Islands	Petroleum	100.00	-
Partex (Kazakhstan) Corporation (PKC)	Cayman Islands	Petroleum	100.00	-
Partex (Angola) Corporation (PANG)	Cayman Islands	Petroleum	100.00	-
Partex (Brazil) Corporation (PBC)	Cayman Islands	Petroleum	100.00	-
Partex Gas Corporation (PGC)	Panama	Petroleum	100.00	-
Partex Services Corporation (PSC)	Panama	Human resource support	100.00	-
Participations and Explorations Corporation (PEC)	Panama	Petroleum	100.00	-
Partex (Oman) Corporation (POC)	Panama	Petroleum	100.00	-
Partex Services Portugal - Serviços para a Indústria Petrolífera, S.A. (PSP)	Portugal	Human resource support	100.00	-
Partex Brasil Ltda. (PBL)	Brazil	Petroleum	100.00	-
Partex Brasil Operações Petrolíferas Ltda (PBO)	Brazil	Human resource support	100.00	-



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

Company name	Country of Incorporation	Business	Ownership interest (%)	
			2019	2018
Subsidiary of PTTNGD Group:				
Amata Natural Gas Distribution Co., Ltd. (AMATA NGD)	Thailand	Natural gas	80.00	80.00
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	100.00
Glow Energy Public Company Limited (GEN) (Former: GLOW)	Thailand	Production and distribution of electricity	99.83	-
GPSC Holding (Thailand) Co., Ltd. (GHT) (Former: ENGIE Holding (Thailand) Co., Ltd. (EHT))	Thailand	Holding company	100.00	-
Energy Recovery Unit Co., Ltd. (ERU)	Thailand	Production and distribution of electricity	100.00	-
Glow Company Limited (GCO)	Thailand	Consultant management service for related companies	100.00	-

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

Company name	Country of Incorporation	Business	Ownership interest (%)	
			2019	2018
Subsidiaries of GPSC Group: (Continued)				
Glow SPP 2 Company Limited (GSPP2)	Thailand	Production and distribution of electricity power and steam for industrial	100.00	-
Glow SPP 3 Company Limited (GSPP3)	Thailand	Production and distribution of electricity power, steam and water for industrial	100.00	-
Glow SPP 11 Company Limited (GSPP11)	Thailand	Production and distribution of electricity power and water for industrial	100.00	-
Glow IPP 3 Company Limited (GIPP3)	Thailand	Development of electricity power production project	100.00	-
Glow IPP 2 Holding Company Limited (GIPP2)	Thailand	Investing in other companies	100.00	-
Houay Ho Thai Company Limited (HHTC)	Thailand	Investing in other companies	49.00	-
Glow IPP Company Limited (GIPP)	Thailand	Production and distribution of electricity to EGAT	95.00	-
GHECO-One Company Limited (GHECO1)	Thailand	Production and distribution of electricity power to EGAT	65.00	-
Houay Ho Power Company Limited (HHPC)	Lao	Production and distribution of electricity power to EGAT and EDL	67.25	-
Glow Energy Myanmar Company Limited (GEMM)	Myanmar	Technical consultants for electricity businesses	100.00	-



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

Company name	Country of Incorporation	Business	Ownership interest (%)	
			2019	2018
Subsidiaries of OR 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)	Thailand	Blending and bottling of lube oil	100.00	100.00
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	100.00
PTT Oil Myanmar Co., Ltd. (PTTOM)	Myanmar	Business services	100.00	100.00
PTT (Lao) Co., Ltd. (PTT Lao)	Lao	Oil marketing	100.00	100.00
PTTOR China (Shanghai) Co., Ltd. (PTTOR China)	China	Lube products	100.00	100.00
PTTOR Singapore Pte. Ltd. (PTTORSG)	Singapore	Retail business	100.00	100.00
PTTOR International Holdings (Thailand) Company Limited (THHOLDCO)	Thailand	Investing in other companies	100.00	-
PTTOR International Holdings (Singapore) Pte. Ltd. (SGHOLDCO)	Singapore	Investing in other companies	100.00	-
Subsidiary of PTTT Group:				
PTT International Trading DMCC (PTTT DMCC)	United Arab Emirates	International oil trading	100.00	100.00
Subsidiaries of PTTGC Group:				
PTT Phenol Co., Ltd. (PPCL)	Thailand	Manufacturing and distributing petrochemical products	100.00	100.00
GC Maintenance & Engineering Co., Ltd. (GCME)	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

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

Company name	Country of Incorporation	Business	Ownership interest (%)	
			2019	2018
Subsidiaries of PTTGC Group: (Continued)				
NPC Safety and Environmental Service Co., Ltd. (NPCSE)	Thailand	Safety and environmental services	100.00	100.00
GC Styrenics Co., Ltd. (GCS)	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)	Thailand	Manufacturing and distributing petrochemical products	100.00	100.00
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
Auria BioChemicals Co., Ltd. (AURIA)**	Thailand	Research and development of bio-based chemicals	-	100.00
PTTGC International Private Limited (GC Inter)	Singapore	Holding and operating international business	100.00	100.00

* The liquidation process was completed on January 18, 2019.

** The liquidation process was completed on April 4, 2019.



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

Company name	Country of Incorporation	Business	Ownership interest (%)	
			2019	2018
Subsidiaries of PTTGC Group: (Continued)				
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
GC Treasury Co., Ltd. (GCTC)	Thailand	Financial service management for the group	100.00	100.00
GC Logistics Solutions Co., Ltd. (GCL)	Thailand	Transportation, warehouse and bagging packing management of polyethylene	100.00	100.00
GC Marketing Solutions Co., Ltd. (GCM)	Thailand	Development, marketing and distributing polymers products, by products 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)	United States of America	Research and development of bio-based chemicals	100.00	100.00
PTTGC America Corporation (AMERICACORP)	United States of America	Holding and operating international business	100.00	100.00

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

Company name	Country of Incorporation	Business	Ownership interest (%)	
			2019	2018
Subsidiaries of PTTGC Group: (Continued)				
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
GCM Polymer Trading DMCC (GCM DMCC) (Former: Polymer Marketing DMCC (PM DMCC))	United Arab Emirates	Distributing polymer products and other polymers-related products	100.00	100.00
GC Marketing Solutions Vietnam Company Limited (GCM Vietnam) (Former: Polymer Marketing Vietnam Company Limited (PM Vietnam))	Vietnam	Distributing polymer products and other polymers-related products	100.00	100.00
GC Estate Co., Ltd. (GCEC)	Thailand	Real estate development for rent and to invest in petrochemical and related industries	100.00	100.00



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

Company name	Country of Incorporation	Business	Ownership interest (%)	
			2019	2018
Subsidiaries of PTTGC Group: (Continued)				
GC Ventures Co., Ltd. (GCV)	Thailand	Invest in form of Corporate Venture Capital (CVC)	100.00	100.00
GC Ventures America Corporation (GCVA)	United States of America	Invest in form of Corporate Venture Capital (CVC) outside Thailand	100.00	100.00
GC Marketing Solutions Myanmar Company Limited (GCM Myanmar) (Former: Polymer Marketing Myanmar Company Limited (PM Myanmar))	Myanmar	Distributing polymer products and other polymers-related products	100.00	100.00
GC-M PTA Company Limited (GCM PTA) (Former: Siam Mitsui PTA Co., Ltd. (SMPC))	Thailand	Manufacturing and distributing petrochemical products	74.00	74.00
Thai PET Resin Co., Ltd. (TPRC)	Thailand	Manufacturing and distributing petrochemical products	74.00	74.00
GGC Biochemicals Co., Ltd. (GGC Biochemicals)	Thailand	Holding and operating in Thailand	100.00	100.00
GC Logistics Solutions (Vietnam) Co., Ltd. (GCLSVN)	Vietnam	Logistics, warehouse management and polyethylene resin containment	100.00	-
PT GCM Marketing Solutions Indonesia (GCMINDONESIA)	Indonesia	Distribution of polymers products and other polymers-related products	67.00	-

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

Company name	Country of Incorporation	Business	Ownership interest (%)	
			2019	2018
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
Sapthip Co., Ltd. (SAPTHIP)	Thailand	Ethanol products manufacturing and distribution	50.00	50.00



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

Company name	Country of Incorporation	Business	Ownership interest (%)	
			2019	2018
Subsidiaries of TOP Group: (Continued)				
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	99.99
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	99.99	99.99
PT.Tirta Surya Raya (PTSR)	Indonesia	Distribution of solvent and chemical products	67.00	-

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

Company name	Country of Incorporation	Business	Ownership interest (%)	
			2019	2018
Subsidiaries of TOP Group: (Continued)				
TOP Venture Company Limited (TVT)	Thailand	Invest in Corporate Venture Capital (CVC) and/or Startups business	99.99	-
TOP Ventures Hong Kong Limited (TVHK)	Hongkong	Invest in Corporate Venture Capital (CVC) and/or Startups business	100.00	-
TOP Ventures America LLC (TVUSLLC)	United States of America	Invest in Corporate Venture Capital (CVC) and/or Startups business	100.00	-
Subsidiaries of IRPC Group:				
Thai ABS Co., Ltd. (TABS)*	Thailand	Manufacturing and sales of plastic resin	-	99.99
IRPC A&L Company Limited (IRPCAL)	Thailand	Distributing petrochemical products	57.48	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 Technology Company Limited (TECHIRPC)	Thailand	Vocational school	99.99	99.99
R. Solution Co., Ltd. (IRPCS)**	Thailand	Service for security	-	99.50
I-polymer Company Limited (IPOL)	Thailand	Distributing plastic resin and chemical products via E-Commerce system	55.00	99.99

* In the second quarter of 2019, IRPC disposed all of the investment in TABS.

** In the first quarter of 2019, IRPC disposed all of the investment in IRPCS.



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

Company name	Country of Incorporation	Business	Ownership interest (%)	
			2019	2018
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	95.82
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
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

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

Company name	Country of Incorporation	Business	Ownership interest (%)	
			2019	2018
Subsidiaries of PTTGM Group: (Continued)				
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
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
Global Management Holding Co., Ltd. (GMH)	Thailand	Domestic investment	100.00	-
Siam Management Holding Co., Ltd. (SMH)	Thailand	Domestic investment	100.00	-
PT Sentika Mitra Persada (SMP)	Indonesia	Coal mines	100.00	-
PT Mutiara Kapuas (MK)	Indonesia	Coal mines	100.00	-
Subsidiaries of PTTGE Group:				
Sabran Brothers Pte. Ltd. (Sabran)***	Singapore	Investing in other companies	-	100.00
PTT Green Energy (Thailand) Co., Ltd. (PTTGE TH)	Thailand	Management services for PTTGE Group	100.00	100.00

* Completely closed PT Makassar Prima Coal on August 15, 2019.

** Under liquidation process.

*** The Board of Directors of the Company passed a resolution to approve Sabran closed, consistent with the restructuring policy of the Group. Sabran was completely closed on November 14, 2019.

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

Company name	Country of Incorporation	Business	Ownership interest (%)	
			2019	2018
Subsidiary of BSA Group:				
Sport Services Alliance Co., Ltd. (SSS) (Former: SSA)	Thailand	Football club management	100.00	100.00
Business Professional Solutions Co., Ltd. (BPS)	Thailand	Business management	100.00	100.00
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
Groupement Bir Seba (GBRS)	Algeria	Petroleum	35.00	35.00
Natuna 2 B.V. (Natuna 2)	Netherlands	Petroleum	50.00	50.00
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
Petroleum Development Oman LLC (PDO)	Oman	Petroleum	2.00	-
Abu Dhabi Gas Industries Limited (ADGP)	United Arab Emirates	Petroleum	2.00	-
Private Oil Holdings Oman Limited (POHOL)	England	Petroleum	5.00	-

15.2 Details of investments in joint ventures in the consolidated financial statements as at December 31, 2019 and 2018

Unit: Million Baht

			Consolidated financial statements							
Company name	Country of Incorporation	Business	Ownership interest (%)		Cost method		Equity method		Dividends income	
			2019	2018	2019	2018	2019	2018	2019	2018
Joint Ventures										
The Company										
Trans Thai-Malaysia (Thailand) Co., Ltd. (TTM(T))	Thailand	Natural gas	50.00	50.00	4,341.80	4,341.80	4,124.60	4,360.08	438.52	408.13
Trans Thai-Malaysia (Malaysia) Sdn. Bhd. (TTM(M))	Malaysia	Natural gas	50.00	50.00	1,001.31	1,001.31	1,096.73	1,287.38	199.99	182.33
District Cooling System and Power Plant Co., Ltd. (DCAP)	Thailand	Generation and supply of electricity and chilled water	35.00	35.00	584.50	584.50	985.60	936.03	18.70	19.67
PTTEP Group										
Erawan 2 FSO Bahamas Limited (Erawan 2)	Bahamas	FSO rental services	13.11	13.11	470.43	506.26	545.78	565.02	77.31	95.26
APICO LLC (APICOLLC)	United States of America	Petroleum	72.82	-	3,938.96	-	3,841.17	-	196.99	-
Oman LNG LLC (OLNG)	Oman	Petroleum	2.00	-	2,501.44	-	2,408.86	-	95.29	-
GPSC Group										
Thai Solar Renewable Co., Ltd. (TSR)	Thailand	Invest in other company	40.00	40.00	1,697.00	1,697.00	1,579.05	1,638.80	404.37	382.43
Nam Lik 1 Power Co., Ltd. (NL1PC)	Laos	Generate and supply electricity	40.00	40.00	494.33	427.63	554.92	463.49	-	-
Nava Nakorn Electricity Generating Co., Ltd. (NNEG)	Thailand	Generate and supply electricity	30.00	30.00	488.40	488.40	482.37	536.28	120.00	108.00
PTTGC Group										
Thai Ethoxylate Co., Ltd. (TEX)	Thailand	Manufacturing and distributing of petrochemical products	50.00	50.00	210.00	210.00	584.84	735.69	222.60	91.35
Emery Oleochemicals (M) Sdn. Bhd. (EOM)	Malaysia	Manufacturing and distributing of biochemical products	50.00	50.00	4,965.77	4,965.77	4,494.76	4,519.32	-	-
Emery Specialty Chemicals Sdn. Bhd. (ESC)	Malaysia	Manufacturing and distributing of chemical specialties	50.00	50.00	407.04	407.04	-	-	-	-
NatureWorks LLC (NTR)	United States of America	Manufacturing and distributing of bioplastic products	50.00	50.00	4,793.33	4,793.33	3,274.20	2,842.40	316.09	321.00





15.2 Details of investments in joint ventures in the consolidated financial statements as at December 31, 2019 and 2018 (Continued)

Unit: Million Baht

			Consolidated financial statements							
			Ownership interest (%)		Cost method		Equity method		Dividends income	
Company name	Country of Incorporation	Business	2019	2018	2019	2018	2019	2018	2019	2018
Joint Ventures (Continued)										
PTTGC Group (Continued)										
PTT MCC Biochem Co., Ltd. (PTTMCC)	Thailand	Petrochemicals	50.00	50.00	930.12	930.12	176.14	214.68	-	-
PTT Asahi Chemicals Co., Ltd. (PTTAC)	Thailand	Petrochemicals	50.00	50.00	6,909.41	6,909.41	10,877.75	9,569.39	-	-
HMC Polymers Co., Ltd. (HMC)	Thailand	Petrochemicals	41.44	41.44	9,117.12	9,117.12	12,337.39	12,885.23	827.86	1,242.21
GGC KTIS Bioindustrial Company Limited (GKBI)	Thailand	Manufacturing and distributing of biofuel	50.00	-	523.75	-	512.34	-	-	-
Revolve Group Limited (RGL)	England	Manufacturing and distributing of chemical	49.00	-	269.54	-	195.53	-	-	-
TOP Group										
TOP-NTL Pte. Ltd. (TOP-NTL)	Singapore	Fund management services	50.00	50.00	0.25	0.25	17.96	15.80	-	-
TOP-NTL Shipping Trust (TOP-NTL(BT))	Singapore	Investing in other companies	50.00	50.00	24.05	24.05	73.54	67.29	-	-
TOP-NYK MarineOne Pte. Ltd. (TOP-NYK)	Singapore	Marine transportation services	50.00	50.00	273.88	273.88	404.89	432.28	-	34.00
TOP Nautical Star Co., Ltd. (TOP-NS)	Thailand	Storage and marine transportation services	35.00	35.00	52.50	52.50	119.93	110.19	-	-
IRPC Group										
IRPC Polyol Co., Ltd. (IRPCP)	Thailand	Manufacturing and sales of chemical products for polyurethanes	50.00	50.00	150.00	150.00	-	45.92	-	-
WHA Industrial Estate Rayong Co., Ltd. (WHA IER)	Thailand	Industrial estate development	40.00	40.00	260.00	65.00	257.28	64.50	-	-

15.2 Details of investments in joint ventures in the consolidated financial statements as at December 31, 2019 and 2018 (Continued)

Unit: Million Baht

Company nameCountry of IncorporationBusiness			Consolidated financial statements							
			Ownership interest (%)		Cost method		Equity method		Dividends income	
			2019	2018	2019	2018	2019	2018	2019	2018
Joint Ventures (Continued)										
PTTGM Group										
OGP Energy Solutions Company Limited (OGPS)	Thailand	Energy management and energy-related services	40.00	40.00	55.46	38.23	41.79	27.29	-	-
FEE (Bru) Pte. Ltd. (FEEBRU)	Singapore	Coal mines	35.00	35.00	198.23	213.32	124.73	134.23	-	-
PTTGE Group										
Chancellor Oil Pte. Ltd. (Chancellor)*	Singapore	Investing in other companies	-	77.56	-	2,949.98	-	1,288.56	-	-
OR Group										
Brighter PTT Oil and Retail Business Company Limited (BOR)	Myanmar	Investing in oil market and retail business	51.00	-	7.15	-	6.34	-	-	-
Brighter Energy Company Limited (BE)	Myanmar	Warehousing and distribution of petroleum	35.00	-	494.14	-	486.83	-	-	-
The Group										
Map Ta Phut Air Products Company Limited (MAP) (The Company holds 49.00% shareholding)	Thailand	Production and distribution of industrial gas	51.00	-	35.63	-	32.23	-	-	-
					45,195.54 (348.23)	40,146.90 (3,163.31)	49,637.55 (124.73)	42,739.85 (1,422.79)		
Less Allowance for impairment										
Total					44,847.31	36,983.59	49,512.82	41,317.06	2,917.72	2,884.38

* On April 30, 2019, PTTGE sold all investment in Chancellor.



15.3 Details of investments in associates in the consolidated financial statements as at December 31, 2019 and 2018

Unit: Million Baht

			Consolidated financial statements							
Company name	Country of Incorporation	Business	Ownership interest (%)		Cost method		Equity method		Dividends income	
			2019	2018	2019	2018	2019	2018	2019	2018
Associates										
PTTEP Group										
PTTEP AP Group's associates*	Australia	Airbase services	50.00	50.00	45.16	48.59	149.90	231.54	-	-
Leismer Aerodrome Limited (LAL)	Canada	Air transportation	32.00	32.00	128.31	131.78	115.66	125.65	-	-
GPSC Group										
Bangpa-in Cogeneration Co., Ltd. (BIC)	Thailand	Generate and supply electricity	25.00	25.00	923.75	923.75	866.26	879.02	131.87	81.15
Xayaburi Power Co., Ltd. (XPCL)	Laos	Generate and supply electricity	25.00	25.00	6,993.51	6,672.53	6,727.87	6,168.79	-	-
Eastern Seaboard Clean Energy Company Limited (ESCE)	Thailand	Studying, generating and supply electricity for industrial use including generating electricity from renewable energy	33.33	-	339.27	-	332.90	-	-	-
OR Group										
FST Aviation Services Limited (FST)	Hong Kong	Aircraft refuelling services	25.00	25.00	0.69	0.72	1.20	1.30	-	-
Petro Asia (Thailand) Co., Ltd. (PAT)	Thailand	Oil marketing	35.00	35.00	131.25	131.25	8.87	-	-	-
PTTGC Group										
PT Indo Thai Trading (ITT)**	Indonesia	Petrochemicals	-	49.00	-	125.28	-	220.27	-	-
Vinythai Plc. (VNT)	Thailand	Petrochemicals	24.98	24.98	3,297.39	3,297.39	5,641.76	5,130.10	384.85	266.43
Thai Eastern Topseeds Oil Co., Ltd. (TETSO)	Thailand	Petrochemicals	30.00	30.00	66.60	66.60	28.17	57.06	-	-
S.P. Petpack Inter Group Co., Ltd. (SPPETPACK)	Thailand	Petrochemicals	25.00	25.00	50.00	50.00	48.94	45.84	-	-
Kuraray GC Advanced Materials Co., Ltd. (KGC)	Thailand	Manufacturing of chemical specialties	33.40	33.40	670.51	470.10	629.40	469.52	-	-

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

** On July 31, 2019, a subsidiary of PTTGC Group sold all investment in ITT.

15.3 Details of investments in associates in the consolidated financial statements as at December 31, 2019 and 2018 (Continued)

Unit: Million Baht

Country of Incorporation Business			Consolidated financial statements							
			Ownership interest (%)		Cost method		Equity method		Dividends income	
			2019	2018	2019	2018	2019	2018	2019	2018
Associates (Continued)										
TOP Group										
T.I.M Ship Management Co., Ltd. (TIM)	Thailand	Marine transportation services	33.33	33.33	1.00	1.00	2.73	-	-	-
Ubon Bio Ethanol Co., Ltd. (UBE)	Thailand	Manufacturing and distributing of ethanol	21.28	21.28	769.55	769.55	809.71	818.57	-	-
IRPC Group										
UBE Chemicals (Asia) Public Co., Ltd. (UCHA)	Thailand	Manufacturing and sales of petrochemical products	25.00	25.00	5,299.82	5,299.82	4,916.85	5,113.63	99.34	34.91
PTTER Group										
East Mediterranean Gas Company S.A.E. (EMG)	Egypt	Natural gas transmission pipelines	25.00	25.00	14,741.74	15,864.11	11,864.45	12,767.76	-	-
PTT TANK Group										
Gulf MTP LNG Terminal Co., Ltd. (GMTP)	Thailand	Boat picking up service, Unloading and storage of liquefied natural gas, as well as transforming from liquid to gas	30.00	-	262.50	-	262.73	-	-	-
The Group										
Thai Petroleum Pipeline Co., Ltd. (THAPPLINE) (OR Group holds 40.53% shareholding)	Thailand	Oil transmission pipelines	49.21	49.21	3,952.72	3,952.72	5,113.05	5,086.82	860.37	831.28
Eastern Fluid Transport Co., Ltd. (EFT) (PTTGC Group holds 22.65% shareholding)	Thailand	Infrastructure	37.65	22.65	3.77	2.27	14.17	20.15	21.08	7.48
Less Allowance for impairment					37,677.54 (14,872.99)	37,807.46 (15,995.36)	37,534.62 (11,864.45)	37,136.02 (12,767.76)		
Total					22,804.55	21,812.10	25,670.17	24,368.26	1,497.51	1,221.25



15.4 Details of investments in subsidiaries in the separate financial statements as at December 31, 2019 and 2018

Unit: Million Baht

			Separate financial statements					
			Ownership interest		Cost method		Dividends income	
			(%)					
Company name	Country of Incorporation	Business	2019	2018	2019	2018	2019	2018
Subsidiaries								
PTT Exploration and Production Public Co., Ltd. (PTTEP)	Thailand	Petroleum exploration and production	65.29	65.29	71,390.42	71,390.42	14,255.23	11,663.37
PTT LNG Co., Ltd. (PTTLNG)	Thailand	Natural gas	100.00	100.00	22,422.34	18,913.89	2,117.14	1,728.87
PTT Natural Gas Distribution Co., Ltd. (PTTNGD)	Thailand	Natural gas	58.00	58.00	418.14	418.14	986.00	1,160.00
PTT Global LNG Co., Ltd. (PTTGL) (The Group holds 100% shareholding)	Thailand	Investing in LNG business	50.00	50.00	5,210.72	5,210.72	-	-
Energy Complex Co., Ltd. (EnCo) (The Group holds 100% shareholding)	Thailand	Real estate development for rent	50.00	50.00	900.00	900.00	69.90	64.00
PTT Energy Solutions Co., Ltd. (PTTES) (The Group holds 100% shareholding)	Thailand	Technical and operational services	40.00	40.00	62.50	62.50	-	-
Global Power Synergy Public Co., Ltd. (GPSC) (The Group holds 75.23% shareholding)	Thailand	Generation and supply of electricity, steam and water for industries	22.81	22.58	22,024.95	4,949.93	439.75	422.83
PTT Oil and Retail Business Public Co., Ltd. (OR) (Former: PTTOR)	Thailand	Management services and oil marketing	100.00	100.00	90,000.00	90,000.00	-	-
PTT Tank Terminal Co., Ltd. (PTT TANK)	Thailand	Terminal and warehouse	100.00	100.00	2,500.37	2,500.37	120.00	121.00
PTT International Trading Pte. Ltd. (PTTT)	Singapore	International trading	100.00	100.00	2.50	2.50	8.09	38.21
PTT International Trading London Limited (PTTT LDN)	England	International trading	100.00	100.00	347.75	347.75	10.85	-
PTT Global Chemical Public Co., Ltd. (PTTGC) (The Group holds 48.42% shareholding)	Thailand	Petrochemicals and refining	47.92	48.18	46,933.98	47,426.03	7,581.07	9,301.33

15.4 Details of investments in subsidiaries in the separate financial statements as at December 31, 2019 and 2018 (Continued)

Unit: Million Baht

			Separate financial statements					
Company name	Country of Incorporation	Business	Ownership interest		Cost method		Dividends income	
			(%)					
			2019	2018	2019	2018	2019	2018
Subsidiaries (Continued)								
Thai Oil Public Co., Ltd. (TOP) (The Group holds 48.03% shareholding)	Thailand	Oil refining	47.53	48.03	11,016.30	11,132.20	2,096.29	5,225.83
IRPC Public Co., Ltd. (IRPC) (The Group holds 48.05% shareholding)	Thailand	Petrochemicals and refining	47.55	48.05	41,899.40	42,339.93	883.77	3,829.68
Thai Oil Power Co., Ltd. (TP) (The Group holds 100% shareholding)	Thailand	Generation and supply of electricity and steam	26.00	26.00	2,304.76	2,304.76	237.45	182.65
PTT Energy Resources Co., Ltd. (PTTER)	Thailand	Investment consulting in energy and mining business	100.00	100.00	33,702.67	33,702.67	-	-
PTT Global Management Co., Ltd. (PTTGM)	Thailand	Domestic and international investment	100.00	100.00	54,428.65	54,404.22	-	-
PTT Green Energy Pte. Ltd. (PTTGE)	Singapore	Investing in palm oil business	100.00	100.00	12,403.10	12,403.10	-	-
PTT Regional Treasury Center Pte. Ltd. (PTTRTC)	Singapore	Treasury services	100.00	100.00	31.40	31.40	39.61	-
PTT Treasury Center Co., Ltd. (PTT TCC)	Thailand	Treasury services	100.00	100.00	20.00	20.00	-	-
Business Services Alliance Co., Ltd. (BSA)	Thailand	Management services	100.00	100.00	0.50	0.50	33.45	55.00
PTT Digital Solutions Co., Ltd. (PTT DIGITAL) (The Group holds 100% shareholding)	Thailand	Information technology and communication services	20.00	20.00	30.00	30.00	17.60	16.40
					418,050.45	398,491.03		
Less Allowance for impairment					(82,836.89)	(82,836.89)		
Total					335,213.56	315,654.14	28,896.20	33,809.17



15.5 Details of investments in joint ventures in the separate financial statements as at December 31, 2019 and 2018

Unit: Million Baht

			Separate financial statements					
			Ownership interest		Cost method		Dividends income	
			(%)					
Company name	Country of Incorporation	Business	2019	2018	2019	2018	2019	2018
Joint Ventures								
Trans Thai-Malaysia (Thailand) Co., Ltd. (TTM(T))	Thailand	Natural gas	50.00	50.00	4,341.80	4,341.80	438.52	408.13
Trans Thai-Malaysia (Malaysia) Sdn. Bhd. (TTM(M))	Malaysia	Natural gas	50.00	50.00	1,001.31	1,001.31	199.99	182.33
District Cooling System and Power Plant Co., Ltd. (DCAP)	Thailand	Generation and supply of electricity and chilled water	35.00	35.00	584.50	584.50	18.70	19.67
Map Ta Phut Air Products Company Limited (MAP) (The Group holds 51.00% shareholding)	Thailand	Production and distribution of industrial gas	49.00	-	34.30	-	-	-
Total					5,961.91	5,927.61	657.21	610.13

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

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

		Unit: Million Baht	
	2019	2018	
As at January 1,	41,317.06	37,937.15	
- Share of profit from investments in joint ventures	3,990.79	6,461.65	
- Dividend income	(2,917.71)	(2,884.38)	
- Additional investments	5,666.51	155.36	
- Business acquisitions (Note 43.5)	2,502.52	-	
- Reclassifications	-	104.79	
- Disposal of investments	(2,822.29)	(5.68)	
- Reversal of loss on impairment	2,822.29	-	
- Share capital reduction	-	(33.87)	
- Share of other comprehensive loss of joint ventures	(987.71)	(412.37)	
- Currency translation differences	(58.64)	(5.59)	
As at December 31,	49,512.82	41,317.06	

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

	Unit: Million Baht	
	2019	2018
As at January 1,	24,368.26	21,979.62
- Share of profit from investments in associates	2,017.20	2,053.37
- Dividend income	(1,497.51)	(1,221.25)
- Additional investments	783.88	1,368.07
- Business acquisitions (Note 43.1)	330.03	-
- Reclassifications	-	131.15
- Disposal of investments	(212.12)	-
- Share of other comprehensive income (loss) of associates	(88.45)	58.36
- Currency translation differences	(31.12)	(1.06)
As at December 31,	25,670.17	24,368.26

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

	Unit: Million Baht	
	2019	2018
As at January 1,	321,581.75	228,030.17
- Additional investments	20,642.20	120,635.44
- Disposal of investments	(1,048.48)	(4,508.24)
- Loss on impairment	-	(22,706.87)
- Reversal of loss on impairment	-	131.25
As at December 31,	341,175.47	321,581.75

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

Statements of financial position as at December 31, 2019 and 2018

Unit: Million Baht

	2019					2018				
	TTM(T)	TTM(M)	DCAP	PTTAC	HMC	TTM(T)	TTM(M)	DCAP	PTTAC	HMC
Current assets	4,842.76	2,353.64	1,024.00	5,158.25	7,509.71	5,101.82	2,322.60	1,045.57	6,063.62	9,017.95
Non-current assets	11,276.34	3,694.31	2,263.64	21,186.05	25,477.63	13,367.07	4,599.63	2,419.54	21,710.38	26,441.47
Current liabilities	(1,400.26)	(780.85)	(466.42)	(1,428.39)	(5,364.59)	(1,583.90)	(856.05)	(716.28)	(1,415.41)	(4,826.40)
Non-current liabilities	(6,469.64)	(3,073.64)	(5.22)	(3,160.40)	(5,186.35)	(8,164.82)	(3,491.44)	(74.45)	(7,219.80)	(6,876.61)
Net assets (100%)	8,249.20	2,193.46	2,816.00	21,755.51	22,436.40	8,720.17	2,574.74	2,674.38	19,138.79	23,756.41
Group's share of net assets	4,124.60	1,096.73	985.60	10,877.75	9,297.64	4,360.08	1,287.38	936.03	9,569.39	9,844.66
Adjustment	-	-	-	-	3,039.75	-	-	-	-	3,040.57
Carrying amount of interest in joint ventures	4,124.60	1,096.73	985.60	10,877.75	12,337.39	4,360.08	1,287.38	936.03	9,569.39	12,885.23

Statements of income for the years ended December 31, 2019 and 2018

Unit: Million Baht

	2019					2018				
	TTM(T)	TTM(M)	DCAP	PTTAC	HMC	TTM(T)	TTM(M)	DCAP	PTTAC	HMC
Revenue*	3,067.96	665.04	2,776.51	13,941.63	27,557.12	3,038.23	740.81	2,686.63	18,753.80	32,416.09
Expenses	(1,946.64)	(306.19)	(2,531.19)	(11,329.33)	(25,723.51)	(2,022.33)	(351.00)	(2,423.65)	(12,726.66)	(27,855.97)
Profit before taxes	1,121.32	358.85	245.32	2,612.30	1,833.61	1,015.90	389.81	262.98	6,027.14	4,560.12
Income taxes	(91.53)	(16.96)	(49.42)	4.41	(177.48)	(143.23)	(143.78)	(52.83)	1.33	(557.89)
Net profit	1,029.79	341.89	195.90	2,616.71	1,656.13	872.67	246.03	210.15	6,028.47	4,002.23

* Including gain (loss) on foreign exchange rate





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

Statements of financial position as at December 31, 2019 and 2018

Unit: Million Baht

	2019			2018		
	THAPPLINE	XPCL	UCHA	THAPPLINE	XPCL	UCHA
Current assets	4,763.87	2,857.48	5,879.94	4,547.65	841.16	6,917.07
Non-current assets	6,727.03	126,999.51	8,406.22	6,861.20	124,116.66	8,393.98
Current liabilities	(544.04)	(4,662.70)	(815.03)	(603.69)	(1,946.53)	(1,264.01)
Non-current liabilities	(205.89)	(98,263.33)	(155.16)	(117.48)	(98,414.20)	(85.63)
Net assets (100%)	10,740.97	26,930.96	13,315.97	10,687.68	24,597.09	13,961.41
Group's share of net assets	5,285.63	6,732.74	3,328.99	5,259.90	6,149.27	3,490.35
Adjustment	(172.58)	(4.87)	1,587.86	(173.08)	19.52	1,623.28
Carrying amount of interest in associates	5,113.05	6,727.87	4,916.85	5,086.82	6,168.79	5,113.63

Statements of income for the years ended December 31, 2019 and 2018

Unit: Million Baht

	2019			2018		
	THAPPLINE	XPCL	UCHA	THAPPLINE	XPCL	UCHA
Revenue*	3,635.95	3,154.42	10,380.63	3,584.99	-	16,074.77
Expenses	(1,349.17)	(2,104.48)	(10,775.22)	(1,279.49)	(100.14)	(14,850.97)
Profit (loss) before taxes	2,286.78	1,049.94	(394.59)	2,305.50	(100.14)	1,223.80
Income taxes	(457.08)	-	72.83	(461.26)	-	(179.99)
Net profit (loss)	1,829.70	1,049.94	(321.76)	1,844.24	(100.14)	1,043.81

* Including gain (loss) on foreign exchange rate

15.9 Significant events during the year ended December 31, 2019

PTTLNG

On February 15, 2019, at the Board of Directors Meeting of PTT LNG Co., Ltd. (PTTLNG) No. 2/2019, the Board passed a resolution to approve the call up of remaining additional share capital of Baht 1,069.00 million. The Company made the additional payment on April 22, 2019.

On June 17, 2019, at the Board of Directors Meeting of PTTLNG No. 6/2019, the Board passed a resolution to approve the call up of remaining additional share capital of Baht 1,865.40 million. The Company made the additional payment on August 9, 2019.

On November 29, 2019, at the Board of Directors Meeting of PTTLNG No. 12/2019, the Board passed a resolution to approve the call up of remaining additional share capital of Baht 574.05 million. The Company made the additional payment on December 30, 2019.

PTTGM

On April 1, 2019, at the Extraordinary General Meeting of the shareholders of PTT Global Management Co., Ltd. (PTTGM) No. 1/2019, the shareholders passed an extraordinary resolution to increase 40,300 authorized share capital at Baht 100.00 per share amounting to Baht 4.03 million. The Company made the additional payment amounting to Baht 1.43 million on April 29, 2019.

On April 25, 2019, at the 2019 Annual General Meeting of PTTGM, the shareholders passed a resolution to increase 120,000 authorized share capital at Baht 100.00 per share amounting to Baht 12.00 million. The Company made the additional payment amounting to Baht 3.00 million on May 7, 2019.

On October 24, 2019, at the Extraordinary General Meeting of the shareholders of PTTGM No. 3/2019, the shareholders passed a resolution to increase 200,000 authorized share capital at Baht 100.00 per share amounting to Baht 20.00 million. The Company made the additional payment on November 29, 2019.

15.9 Significant events during the year ended December 31, 2019 (Continued)

PTTGC

On March 25, 2019, at the Board of Directors Meeting of the Company No. 3/2019, the Board passed a resolution to approve the procedure of shareholding management in the Group's affiliates. During the year, the Company sold 22.54 million ordinary shares in PTT Global Chemical Public Co., Ltd. (PTTGC), amounting to Baht 1,427.01 million. The Company recognized gain on disposal of investments amounting to Baht 934.95 million in the separate financial statements. The shares were sold to a subsidiary of the Group, therefore, there is no impact on the consolidated financial statements.

On May 27, 2019, at the Board of Directors Meeting of PTTGC, the Board approved a share repurchase program for financial management purpose not exceeding the amount of 50.00 million shares, or approximately 1.1% of the total issued shares, with the maximum amount of Baht 3,000.00 million. On December 9, 2019, PTTGC has repurchased the shares under the program totalling 22.30 million shares, or approximately 0.50% of issued share and paid-up capital, at a total cost of Baht 1,187.60 million.

The result of the investments disposal and shares repurchasing, causing the Company's equity interest in PTTGC decrease to 47.92%.

TOP

On March 25, 2019, at the Board of Directors Meeting of the Company No. 3/2019, the Board passed a resolution to approve the procedure of shareholding management in the Group's affiliates. During the year, the Company sold 10.20 million ordinary shares in Thai Oil Public Co., Ltd. (TOP), amounting to Baht 658.31 million, causing its equity interest in TOP decrease to 47.53%. The Company recognized gain on disposal of investments amounting to Baht 542.41 million in the separate financial statements. The shares were sold to a subsidiary of the Group, therefore, there is no impact on the consolidated financial statements.

IRPC

On March 25, 2019, at the Board of Directors Meeting of the Company No. 3/2019, the Board passed a resolution to approve the procedure of shareholding management in the Group's affiliates. During the year, the Company sold 102.17 million ordinary shares in IRPC Public Co., Ltd. (IRPC), amounting to Baht 527.20 million, causing its equity interest in IRPC decrease to 47.55%. The Company recognized gain on disposal of investments amounting to Baht 86.67 million in the separate financial statements. The shares were sold to a subsidiary of the Group, therefore, there is no impact on the consolidated financial statements.

15.9 Significant events during the year ended December 31, 2019 (Continued)

GPSC

On July 26, 2019, at the Board of Directors Meeting of the Company No. 7/2019, the Board passed a resolution to increase authorized share capital of Global Power Synergy Public Co., Ltd. (GPSC) by purchasing ordinary shares by the existing shareholders in proportion to their holdings by way of Rights Offering and Excess Rights of 304.91 million shares, at Baht 56.00 per share amounting to Baht 17,075.02 million. The Company made the additional payment on October 4, 2019.

The result of the ordinary shares purchase, causing the Company's equity interest in GPSC increase to 22.81%.

MAP

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

On April 23, 2019, at the Extraordinary General Meeting of the shareholders of MAP No. 2/2019, the shareholders passed a resolution to approve the call up of additional share capital of Baht 33.81 million. The Company made the additional payment on April 29, 2019.

15.10 Material non-controlling interests

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

Company name	Country of Incorporation	Non-controlling interests Shareholding (%)	
		2019	2018
PTT Exploration and Production Public Co., Ltd. (PTTEP)	Thailand	34.71	34.71
Thai Oil Public Co., Ltd. (TOP)	Thailand	51.97	51.97
IRPC Public Co., Ltd. (IRPC)	Thailand	51.95	51.95
PTT Global Chemical Public Co., Ltd. (PTTGC)	Thailand	51.58	51.82
Global Power Synergy Public Co., Ltd. (GPSC)	Thailand	24.77	25.00



15.10 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, 2019 and 2018

Unit: Million Baht

	2019					2018				
	PTTEP	TOP	IRPC	PTTGC	GPSC	PTTEP	TOP	IRPC	PTTGC	GPSC
Current assets	142,124.52	134,676.29	44,267.61	104,494.27	38,919.32	186,783.42	164,743.46	46,917.65	144,310.01	12,163.88
Non-current assets	527,339.48	148,849.69	134,578.12	348,020.12	213,015.49	448,303.91	103,870.15	136,348.55	324,945.33	52,196.15
Current liabilities	(61,841.11)	(38,666.70)	(45,706.56)	(53,033.14)	(36,706.40)	(80,663.14)	(38,020.05)	(48,895.93)	(73,858.25)	(4,727.37)
Non-current liabilities	(250,564.18)	(121,267.49)	(48,896.09)	(105,885.90)	(106,311.74)	(164,360.80)	(104,232.20)	(46,398.81)	(91,914.88)	(17,383.76)
Net assets	357,058.71	123,591.79	84,243.08	293,595.35	108,916.67	390,063.39	126,361.36	87,971.46	303,482.21	42,248.90
Owners of the parent	229,181.82	57,456.38	40,412.40	138,009.38	75,232.07	229,698.21	58,397.70	42,229.46	142,641.24	29,919.00
Non-controlling interests	127,876.89	66,135.41	43,830.68	155,585.97	33,684.60	160,365.18	67,963.66	45,742.00	160,840.97	12,329.90

15.10 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, 2019 and 2018

Unit: Million Baht

	2019					2018				
	PTTEP	TOP	IRPC	PTTGC	GPSC	PTTEP	TOP	IRPC	PTTGC	GPSC
Revenue*	195,796.31	369,385.42	243,440.28	423,292.72	68,635.26	174,432.71	392,200.76	282,815.92	529,734.02	25,880.89
Expenses	(126,042.07)	(361,629.61)	(245,115.37)	(409,974.87)	(62,386.95)	(114,462.13)	(379,848.83)	(273,572.84)	(486,477.09)	(21,748.89)
Profit (loss) before income taxes	69,754.24	7,755.81	(1,675.09)	13,317.85	6,248.31	59,970.58	12,351.93	9,243.08	43,256.93	4,132.00
Income taxes	(20,951.70)	(1,239.41)	778.67	(649.36)	(247.49)	(23,764.29)	(1,982.79)	(1,146.59)	(2,985.96)	(242.79)
Net profit (loss)	48,802.54	6,516.40	(896.42)	12,668.49	6,000.82	36,206.29	10,369.14	8,096.49	40,270.97	3,889.21
Other comprehensive income (loss)	(24,950.59)	(185.79)	(1,019.52)	(1,841.68)	(902.88)	(2,929.13)	(161.55)	(1.30)	268.34	(55.09)
Total comprehensive income (loss)	23,851.95	6,330.61	(1,915.94)	10,826.81	5,097.94	33,277.16	10,207.59	8,095.19	40,539.31	3,834.12
Owners of the parent	15,572.08	2,928.54	(934.38)	4,922.14	2,681.58	21,725.46	4,788.58	3,873.95	19,454.10	2,478.21
Non-controlling interests	8,279.87	3,402.07	(981.56)	5,904.67	2,416.36	11,551.70	5,419.01	4,221.24	21,085.21	1,355.91
Total dividend paid to non-controlling interests	7,579.30	2,282.08	983.26	8,732.67	1,753.03	6,200.60	5,597.24	4,152.43	10,437.75	468.22

* Including gain (loss) on foreign exchange rate





15.10 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, 2019 and 2018

Unit: Million Baht

	2019					2018				
	PTTEP	TOP	IRPC	PTTGC	GPSC	PTTEP	TOP	IRPC	PTTGC	GPSC
Net cash provided by operating activities	109,165.77	12,775.00	7,720.82	30,168.05	17,338.06	104,710.90	18,544.52	17,848.87	52,024.71	5,849.84
Net cash provided by (used in) investing activities	(103,769.44)	23,680.90	(6,151.96)	(41,773.00)	(82,124.26)	5,102.58	(25,913.14)	(6,133.88)	(31,237.25)	(3,358.35)
Net cash provided by (used in) financing activities	(17,180.75)	8,129.24	(870.39)	(6,460.64)	77,927.38	(55,685.33)	25,380.10	(11,522.20)	(27,397.36)	(718.26)
Others	(6,287.50)	(3,446.89)	-	161.85	(52.19)	(354.06)	406.56	-	(75.45)	(25.03)
Net increase (decrease) in cash and cash equivalents	(18,071.92)	41,138.25	698.47	(17,903.74)	13,088.99	53,774.09	18,418.04	192.79	(6,685.35)	1,748.20

16. Other Long-term Investments

16.1 Details of other long-term investments as at December 31, 2019 and 2018

Unit: Million Baht

Company name	Country of Incorporation	Business	Cost/ Cost amortized							
			Ownership interest (%)		Consolidated financial statements		Separate financial statements		Dividends income	
			2019	2018	2019	2018	2019	2018	2019	2018
<u>Long-term Investments in equity securities</u>										
The Company										
Petro Asia (Sanshui) Co., Ltd. (PA (Sanshui))	China	Oil marketing	25.00	25.00	6.06	6.06	6.06	6.06	-	-
Petro Asia (Maoming) Co., Ltd. (PA (Maoming))	China	Oil marketing	20.00	20.00	14.83	14.83	14.83	14.83	-	-
Baania (Thailand) Co., Ltd. (Baania)	Thailand	Integrated online real estate platform	2.89	3.57	10.00	10.00	10.00	10.00	-	-
Colour Vision International Co., Ltd. (Corpus)	Thailand	Finished yarn production	-	0.48	-	0.60	-	0.60	-	-
HG Robotics Co., Ltd. (HG Robotics)	Thailand	Autonomous and robotics solutions	9.49	9.49	18.50	18.50	18.50	18.50	-	-
InnoSpace (Thailand) (InnoSpace)	Thailand	Investment in other companies	19.42	-	25.00	-	25.00	-	-	-
PTTEP Group										
Mozambique LNG1 Company Pte. Ltd. (MZ LNG1)*	Singapore	Petroleum	-	8.50	-	6.90	-	-	-	-
Moz LNG1 Holding Company Ltd. (HOLDCO)*	United Arab Emirates	Petroleum	8.50	-	8.97	-	-	-	-	-
PTTGL Group										
Petronas LNG 9 Sdn. Bhd. (PL9SB)	Malaysia	LNG liquefaction	10.00	10.00	8,987.40	9,671.67	-	-	-	-
GPSC Group										
24M Technologies, Inc. (24M)	United States of America	Research and development in battery	29.50	29.50	1,066.15	1,005.80	-	-	-	-
Ratchaburi Power Co., Ltd. (RPCL)	Thailand	Generate and supply electricity	15.00	15.00	888.75	888.75	-	-	177.00	135.00

* On May 7, 2019, a subsidiary in PTTEP Group has transferred its participating interests in MZ LNG1 to participating interests in HOLDCO.



16.1 Details of other long-term investments as at December 31, 2019 and 2018 (Continued)

Unit: Million Baht

Cost/ Cost amortized																		
											Ownership interest (%)		Consolidated financial statements		Separate financial statements		Dividends income	
Company name	Country of Incorporation	Business	2019	2018	2019	2018	2019	2018	2019	2018								
Long-term Investments in equity securities (Continued)																		
OR Group																		
Intoplane Services Co., Ltd. (IPS)	Thailand	Aircraft refuelling services	16.67	16.67	0.02	0.02	-	-	-	-								
Fuel Pipeline Transportation Co., Ltd. (FPT)*	Thailand	Oil transmission pipelines	-	-	0.02	0.02	-	-	-	-								
PTTT Group																		
KIC Oil Terminal Sdn. Bhd. (KOT)	Malaysia	Logistics services	10.00	10.00	105.95	114.02	-	-	-	-								
Kadriah Integrated Facilities Sdn. Bhd. (KIF)	Malaysia	Logistics services	10.00	10.00	43.91	47.25	-	-	-	-								
Kadriah I Ltd. (K I)	Malaysia	Logistics services	10.00	10.00	220.69	237.49	-	-	-	-								
Kadriah II Ltd. (K II)	Malaysia	Logistics services	10.00	10.00	58.99	63.48	-	-	-	-								
ICE Futures Abu Dhabi Holdings Limited (IFAD)	United Arab Emirates	Investment in other companies	1.00	-	30.15	-	-	-	-	-								
PTTGC Group																		
Alliance Petrochemical Investment (Singapore) Pte. Ltd. (API)	Singapore	Investment in other companies	-	-	-	-	-	-	-	6.43								
Exeltium SAS (EXS)	France	Electricity business	4.00	4.00	238.22	282.88	-	-	-	-								
TPBI & Myanmar Star Co., Ltd. (TPBIMS)	Myanmar	Manufacturing and distributing of polymer products	10.00	10.00	15.88	15.88	-	-	-	-								
IRPC Group																		
TPI EOEG Co., Ltd. (TPIE)	Thailand	Finance service	36.31	36.31	828.94	828.94	-	-	-	-								
TPI Holding Co., Ltd. (TPIH)	Thailand	Investment in other companies	35.01	35.01	1,415.90	1,415.90	-	-	-	-								
Pornchai Enterprises Co., Ltd. (PEC)	Thailand	Real estate for rent	23.65	23.65	1,118.95	1,118.95	-	-	-	-								
Thai Special Steel Industries Public Co.,Ltd. (TSSI)	Thailand	Steel wire manufacturing	16.24	16.24	673.35	673.35	-	-	-	-								

* As at December 31, 2019 and 2018, the Group holds 0.0000090% of ownership interest, totaling 66 shares, amounting to Baht 22,220.00.

16.1 Details of other long-term investments as at December 31, 2019 and 2018 (Continued)

Unit: Million Baht

					Cost/ Cost amortized						
Company name	Country of Incorporation	Business	Ownership interest (%)		Consolidated financial statements		Separate financial statements		Dividends income		
			2019	2018	2019	2018	2019	2018	2019	2018	
<u>Long-term Investments in equity securities (Continued)</u>											
IRPC Group (Continued)											
Rayong Acetylene Co., Ltd. (RAC)	Thailand	Industrial gas manufacturing	13.04	13.04	15.00	15.00	-	-	-	-	
DIA Polyacrylate Co., Ltd. (DIA)	Thailand	Plastic resin manufacturing	3.65	3.65	8.50	8.50	-	-	0.69	-	
Guangzhou Saiju Performance Polymet Ltd. (GZSJ)	China	E-Commerce	15.00	-	600.38	-	-	-	-	-	
The Group											
Sarn Palung Social Enterprise Co., Ltd. (SPSE)*	Thailand	Social enterprise	100.00	100.00	9.94	2.49	2.00	0.50	-	-	
Others			-	-	327.11	43.22	-	-	-	-	
Long-term investments in equity securities						16,737.56	16,490.50	76.39	50.49		
<u>Less</u> Allowance for impairment						(3,487.20)	(3,954.52)	(20.89)	(14.14)		
Total						13,250.36	12,535.98	55.50	36.35	177.69	141.43
<u>Long-term investments in debt securities</u>											
The Company											
Bangkok Dusit Medical Services Public Co., Ltd. (BDMS)	Thailand	Health care services			-	420.37	-	420.37	-	-	
Indorama Ventures Public Co., Ltd. (IVL)	Thailand	Petrochemicals and chemicals			-	500.00	-	500.00	-	-	
The Commercial Bank (P.S.Q.C.) (CBQ)	Qatar	Banking			-	6,456.96	-	6,456.96	-	-	
Emirates NBD (ENBD)	United Arab Emirates	Banking			2,098.37	4,519.87	2,098.37	4,519.87	-	-	
The Siam Cement Public Co., Ltd. (SCC)	Thailand	Property and Construction			-	103.36	-	103.36	-	-	
Thai Beverage Public Co., Ltd. (TBEV)	Thailand	Manufacturing and distributing of food and beverage			1,400.00	300.00	1,400.00	300.00	-	-	

* Held by the Company 20%, PTTEP Group, PTTGC Group, TOP Group, IRPC Group 15% each and GPSC Group, OR Group 10% each.



16.1 Details of other long-term investments as at December 31, 2019 and 2018 (Continued)

Unit: Million Baht

Company name	Country of Incorporation	Business	Ownership interest (%)		Cost/ Cost amortized					
					Consolidated financial statements		Separate financial statements		Dividends income	
			2019	2018	2019	2018	2019	2018	2019	2018
<u>Long-term investments in debt securities (Continued)</u>										
The Company (Continued)										
Bangchak Corporation Public Co., Ltd. (BCP)	Thailand	Energy & Utilities			-	500.00	-	500.00	-	-
Charoen Pokphand Foods Public Co., Ltd. (CPF)	Thailand	Food & Beverage			-	1,150.00	-	1,150.00	-	-
Gulf Energy Development Public Co., Ltd. (GULF)	Thailand	Energy & Utilities			203.30	-	203.30	-	-	-
BTS Group Holdings Public Co., Ltd. (BTSG)	Thailand	Transportation & Logistics			500.00	-	500.00	-	-	-
The Group										
Others					479.80	484.27	-	-	-	-
Total					4,681.47	14,434.83	4,201.67	13,950.56	-	-
Grand total					17,931.83	26,970.81	4,257.17	13,986.91	177.69	141.43

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

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Long-term investments in equity securities				
As at January 1,	12,535.98	12,512.43	36.35	7.89
- Additional investments	1,029.45	203.03	26.50	28.50
- Reclassifications	-	179.64	-	-
- Disposal of investments	(7.19)	(290.24)	(0.60)	(0.04)
- Reversal of (loss on) impairment	434.62	-	(6.75)	-
- Currency translation differences	(742.50)	(68.88)	-	-
Long-term investments in equity securities as at December 31,	13,250.36	12,535.98	55.50	36.35
Long-term investments in debt securities as at December 31,	4,681.47	14,434.83	4,201.67	13,950.56
Total other long-term investments as at December 31,	17,931.83	26,970.81	4,257.17	13,986.91

Notes to Financial Statements

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16.3 Significant events during the year ended December 31, 2019

SPSE

On May 14, 2019, at the Board of Directors Meeting of Sarn Palung Social Enterprise Co., Ltd. (SPSE) No. 2/2019, the Board passed a resolution to approve the call up of remaining share capital of Baht 1.50 million. The Company made the payment on June 28, 2019.

InnoSpace

On August 15, 2019, at the Board of Directors Meeting of the Company No. 8/2019, the Board passed a resolution to support the development of innovation, entrepreneurs and startups in Thailand. On September 9, 2019, the Company signed on the shareholders agreement to invest in InnoSpace (Thailand) (InnoSpace) with the amount of Baht 100.00 million, totalling 100,000 shares at Baht 1,000.00 per share. The Company made payment totalling Baht 25.00 million on October 21 and November 15, 2019, respectively.

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17. 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, 2018					
Cost	5,202.33	2,374.80	-	4.77	7,581.90
Reclassification and adjustment (Note 4)	977.47	-	-	-	977.47
<u>Less</u> Accumulated depreciation	-	(1,081.52)	-	-	(1,081.52)
Allowance for impairment of assets	(266.95)	-	-	-	(266.95)
Net book value	5,912.85	1,293.28	-	4.77	7,210.90
For the year ended December 31, 2018					
Beginning net book value	4,935.38	1,293.28	-	4.77	6,233.43
- Reclassification and adjustment (Note 4)	977.47	-	-	-	977.47
Beginning net book value after reclassification and adjustment	5,912.85	1,293.28	-	4.77	7,210.90
- 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	5,354.65	1,224.94	3.58	-	6,583.17
As at December 31, 2018					
Cost	4,593.38	2,342.43	3.69	-	6,939.50
Reclassification and adjustment (Note 4)	977.47	-	-	-	977.47
<u>Less</u> Accumulated depreciation	-	(1,117.49)	(0.11)	-	(1,117.60)
Allowance for impairment of assets	(216.20)	-	-	-	(216.20)
Net book value	5,354.65	1,224.94	3.58	-	6,583.17

17. 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, 2019					
Beginning net book value	4,377.18	1,224.94	3.58	-	5,605.70
- Reclassification and adjustment (Note 4)	977.47	-	-	-	977.47
Beginning net book value after reclassification and adjustment	5,354.65	1,224.94	3.58	-	6,583.17
- Additions	6.42	12.05	0.02	-	18.49
- Reclassifications	1,769.37	45.60	-	-	1,814.97
- Disposals - net	(464.01)	(1.21)	-	-	(465.22)
- Depreciation for the year	-	(115.67)	(0.37)	-	(116.04)
- Reversal of loss on impairment	151.86	-	-	-	151.86
Ending net book value	6,818.29	1,165.71	3.23	-	7,987.23
As at December 31, 2019					
Cost	6,882.63	2,365.58	3.71	-	9,251.92
<u>Less</u> Accumulated depreciation	-	(1,199.87)	(0.48)	-	(1,200.35)
Allowance for impairment of assets	(64.34)	-	-	-	(64.34)
Net book value	6,818.29	1,165.71	3.23	-	7,987.23

17. 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, 2018				
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
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)
- Disposals 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. 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, 2019				
Beginning net book value	1,644.64	388.08	-	2,032.72
- Reclassifications	1,769.37	(0.09)	-	1,769.28
- Disposals - net	-	(20.64)	-	(20.64)
- Depreciation for the year	-	(38.55)	-	(38.55)
Ending net book value	3,414.01	328.80	-	3,742.81
As at December 31, 2019				
Cost	3,414.01	1,174.72	-	4,588.73
<u>Less</u> Accumulated depreciation	-	(845.92)	-	(845.92)
Net book value	3,414.01	328.80	-	3,742.81



18. Property, Plant and Equipment

Details of property, plant and equipment are as follows:

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
As at January 1, 2018								
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
Reclassification and adjustment (Note 4)	(977.47)	-	8,849.67	-	-	-	-	7,872.20
<u>Less</u> Accumulated depreciation	-	(150,417.72)	(407,753.27)	(580,556.01)	(26,775.94)	(15,552.03)	-	(1,181,054.97)
Accumulated depreciation - Reclassification and adjustment (Note 4)	-	-	(2,362.24)	-	-	-	-	(2,362.24)
Allowance for impairment of assets	(99.65)	(707.51)	(3,227.56)	(40,207.92)	(13,872.72)	(546.36)	(1,711.51)	(60,373.23)
Net book value	37,292.06	137,688.42	561,671.97	258,909.59	12,560.60	7,753.85	66,539.37	1,082,415.86

18. 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	1,076,905.90
- Reclassification and adjustment (Note 4)	(977.47)	-	6,487.43	-	-	-	-	5,509.96
Beginning net book value after reclassification and adjustment	37,292.06	137,688.42	561,671.97	258,909.59	12,560.60	7,753.85	66,539.37	1,082,415.86
- Business acquisition	1,922.60	337.47	7,353.87	43,209.77	-	-	70.18	52,893.89
- Additions	4,527.66	2,120.71	3,638.68	33,350.65	1,496.71	1,201.51	72,132.13	118,468.05
- Borrowing costs	-	-	-	-	-	-	1,314.84	1,314.84
- Reclassifications	2,564.16	6,944.18	35,303.37	1,675.88	101.48	4,349.88	(51,113.05)	(174.10)
- Disposals - net	-	(477.45)	(1,070.90)	(13,098.15)	(56.51)	(344.40)	(213.97)	(15,261.38)
- Depreciation for the year	-	(11,496.03)	(44,075.33)	(59,490.77)	(1,537.65)	(2,099.31)	-	(118,699.09)
- Reversal of (loss on) impairment	-	40.30	818.69	-	-	-	(41.62)	817.37
- Currency translation differences	(16.30)	(95.85)	(340.99)	(2,477.49)	(88.81)	(2.42)	(64.57)	(3,086.43)
- Others	-	-	1,824.01	-	-	-	-	1,824.01
Ending net book value	46,290.18	135,061.75	565,123.37	262,079.48	12,475.82	10,859.11	88,623.31	1,120,513.02





18. 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
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	2,398,780.60
Reclassification and adjustment (Note 4)	(977.47)	-	10,530.81	-	-	-	-	9,553.34
<u>Less</u> Accumulated depreciation	-	(160,113.91)	(462,814.33)	(586,991.28)	(28,130.33)	(16,334.64)	-	(1,254,384.49)
Accumulated depreciation - Reclassification and adjustment (Note 4)	-	-	(3,215.06)	-	-	-	-	(3,215.06)
Allowance for impairment of assets	(99.65)	(662.74)	(3,209.36)	(10,861.42)	(13,774.62)	(17.09)	(1,596.49)	(30,221.37)
Net book value	46,290.18	135,061.75	565,123.37	262,079.48	12,475.82	10,859.11	88,623.31	1,120,513.02

18. 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, 2019								
Beginning 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
- Reclassification and adjustment (Note 4)	(977.47)	-	7,315.75	-	-	-	-	6,338.28
Beginning net book value after reclassification and adjustment	46,290.18	135,061.75	565,123.37	262,079.48	12,475.82	10,859.11	88,623.31	1,120,513.02
- Business acquisition (Note 43)	648.51	303.67	74,255.30	64,256.13	395.31	13.49	207.01	140,079.42
- Additions	957.23	3,485.62	6,061.54	42,792.16	1,345.61	1,127.89	98,616.74	154,386.79
- Borrowing costs	-	-	-	-	-	-	3,517.52	3,517.52
- Reclassifications	(72.75)	7,915.07	31,200.52	30,843.54	100.33	645.25	(43,179.23)	27,452.73
- Disposals - net	(0.29)	(133.89)	(311.39)	(1,078.36)	(41.06)	(189.73)	(44.64)	(1,799.36)
- Depreciation for the year	-	(11,600.83)	(48,329.86)	(61,750.25)	(2,017.92)	(2,263.83)	-	(125,962.69)
- Reversal of (loss on) impairment	27.10	154.36	(612.14)	-	-	(0.03)	-	(430.71)
- Currency translation differences	(121.15)	(420.88)	(1,473.52)	(19,448.27)	(883.26)	(20.47)	(410.09)	(22,777.64)
Ending net book value	47,728.83	134,764.87	625,913.82	317,694.43	11,374.83	10,171.68	147,330.62	1,294,979.08





18. 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
As at December 31, 2019								
Cost	47,801.38	302,477.99	1,166,627.33	933,235.17	52,262.94	28,221.21	148,833.28	2,679,459.30
<u>Less</u> Accumulated depreciation	-	(167,200.77)	(537,817.83)	(605,447.77)	(28,088.03)	(18,032.41)	-	(1,356,586.81)
Allowance for impairment of assets	(72.55)	(512.35)	(2,895.68)	(10,092.97)	(12,800.08)	(17.12)	(1,502.66)	(27,893.41)
Net book value	47,728.83	134,764.87	625,913.82	317,694.43	11,374.83	10,171.68	147,330.62	1,294,979.08

As at December 31, 2019, the Group had pledged assets amounting to Baht 78,983.48 million (December 31, 2018: Baht 50,740.55 million.)

18. 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 improvements	Machinery and equipment	Other assets	Construction in progress	Total
As at January 1, 2018						
Cost	11,030.38	47,075.51	383,419.77	15,128.11	20,237.17	476,890.94
Adjustment (Note 4)	-	-	1,467.87	-	-	1,467.87
<u>Less</u> Accumulated depreciation	-	(19,098.62)	(158,630.96)	(11,342.11)	-	(189,071.69)
Accumulated depreciation -						
Adjustment (Note 4)	-	-	(401.85)	-	-	(401.85)
Allowance for impairment of assets	-	(53.00)	(36.32)	-	-	(89.32)
Net book value	11,030.38	27,923.89	225,818.51	3,786.00	20,237.17	288,795.95
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
- Adjustment (Note 4)	-	-	1,066.02	-	-	1,066.02
Beginning net book value after adjustment	11,030.38	27,923.89	225,818.51	3,786.00	20,237.17	288,795.95
- 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)
- Disposals 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)	(15,112.35)	(1,432.90)	-	(18,384.55)
- Reversal of loss on impairment	-	26.44	-	-	-	26.44
Ending net book value	7,371.17	23,324.86	216,348.44	6,554.14	20,752.34	274,350.95
As at December 31, 2018						
Cost	7,371.17	38,360.19	369,986.08	17,819.69	20,752.34	454,289.47
Adjustment (Note 4)	-	-	1,467.87	-	-	1,467.87
<u>Less</u> Accumulated depreciation	-	(15,008.77)	(154,630.64)	(11,265.55)	-	(180,904.96)
Accumulated depreciation -						
Adjustment (Note 4)	-	-	(438.55)	-	-	(438.55)
Allowance for impairment of assets	-	(26.56)	(36.32)	-	-	(62.88)
Net book value	7,371.17	23,324.86	216,348.44	6,554.14	20,752.34	274,350.95

18. 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 improvements	Machinery and equipment	Other assets	Construction in progress	Total
For the year ended December 31, 2019						
Beginning net book value	7,371.17	23,324.86	215,319.12	6,554.14	20,752.34	273,321.63
- Adjustment (Note 4)	-	-	1,029.32	-	-	1,029.32
Beginning net book value after adjustment	7,371.17	23,324.86	216,348.44	6,554.14	20,752.34	274,350.95
- Additions	8.62	91.61	251.57	431.04	19,817.16	20,600.00
- Borrowing costs	-	-	-	-	995.92	995.92
- Reclassifications	(1,720.92)	879.97	6,947.55	303.78	(9,499.34)	(3,088.96)
- Disposals - net	(0.13)	(292.79)	(66.15)	(47.25)	(394.02)	(800.34)
- Depreciation for the year	-	(1,708.83)	(14,573.18)	(1,459.33)	-	(17,741.34)
- Loss on impairment	-	(6.16)	(489.39)	(0.03)	-	(495.58)
Ending net book value	5,658.74	22,288.66	208,418.84	5,782.35	31,672.06	273,820.65
As at December 31, 2019						
Cost	5,658.74	38,795.75	378,010.70	18,386.39	31,672.06	472,523.64
<u>Less</u> Accumulated depreciation	-	(16,474.37)	(169,066.15)	(12,604.01)	-	(198,144.53)
Allowance for impairment of assets	-	(32.72)	(525.71)	(0.03)	-	(558.46)
Net book value	5,658.74	22,288.66	208,418.84	5,782.35	31,672.06	273,820.65

Borrowing costs were capitalized as a part of costs of property, plant and equipment. During the year, the Group used capitalization rates ranging from 0.85% - 5.25% per annum (2018: 1.10% - 5.67% per annum).

18. Property, Plant and Equipment (Continued)

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

As at December 31, 2019 and 2018, 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	
	2019	2018	2019	2018
Cost	10,806.99	10,664.03	9,537.43	9,516.59
<u>Less</u> Accumulated depreciation	(5,429.42)	(4,849.07)	(4,893.69)	(4,406.14)
Net book value	5,377.57	5,814.96	4,643.74	5,110.45

19. Goodwill

Movements of goodwill are as follows:

Unit: Million Baht

	Consolidated financial statements	
	2019	2018
Net book value as at January 1,	48,924.92	46,688.26
- Reclassification and adjustment (Note 4)	4,971.38	5,006.78
Net book value as at January 1, after reclassification and adjustment	53,896.30	51,695.04
- Business acquisition (Note 43)	61,151.61	2,521.18
- Reclassification	205.36	-
- Currency translation differences	(3,320.13)	(319.92)
Net book value as at December 31,	111,933.14	53,896.30

20. 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, 2018				
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 of assets	-	(837.23)	(21.85)	(859.08)
Net book value	9,135.38	18,204.75	4,767.55	32,107.68
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	10.54	3.37	-	13.91
- Additions	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	23,154.90	33,816.97	10,348.07	67,319.94
<u>Less</u> Accumulated amortization	(12,821.16)	(14,595.60)	(4,936.79)	(32,353.55)
Allowance for impairment of assets	-	(744.14)	(21.85)	(765.99)
Net book value	10,333.74	18,477.23	5,389.43	34,200.40

20. 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, 2019				
Beginning net book value	10,333.74	18,477.23	5,389.43	34,200.40
- Business acquisition (Note 43)	138.92	45,360.16	1,124.87	46,623.95
- Addition	1,343.85	573.07	1,256.58	3,173.50
- Reclassifications	559.13	2,162.14	(548.94)	2,172.33
- Disposals - net	(2.26)	-	(95.72)	(97.98)
- Amortization for the year	(2,331.18)	(2,748.34)	(534.28)	(5,613.80)
- Currency translation differences	(172.34)	(74.14)	(244.25)	(490.73)
Ending net book value	9,869.86	63,750.12	6,347.69	79,967.67
As at December 31, 2019				
Cost	24,860.92	82,886.51	11,675.47	119,422.90
<u>Less</u> Accumulated amortization	(14,991.06)	(18,444.89)	(5,305.93)	(38,741.88)
Allowance for impairment of assets	-	(691.50)	(21.85)	(713.35)
Net book value	9,869.86	63,750.12	6,347.69	79,967.67

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20. 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, 2018				
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
For the year ended December 31, 2019				
Beginning net book value	2,537.23	11,276.71	-	13,813.94
- Additions	246.82	3.00	-	249.82
- Reclassifications	773.72	18.82	-	792.54
- Disposals - net	(27.29)	-	-	(27.29)
- Amortization for the year	(925.66)	(528.13)	-	(1,453.79)
Ending net book value	2,604.82	10,770.40	-	13,375.22
As at December 31, 2019				
Cost	8,131.08	20,151.00	-	28,282.08
<u>Less</u> Accumulated amortization	(5,526.26)	(9,380.60)	-	(14,906.86)
Net book value	2,604.82	10,770.40	-	13,375.22

21. 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, 2018			
Cost	166,614.27	847.84	167,462.11
Reclassification and adjustment (Note 4)	(7,857.80)	-	(7,857.80)
<u>Less</u> Allowance for impairment of assets	(58,539.28)	(163.11)	(58,702.39)
Net book value	100,217.19	684.73	100,901.92
For the year ended December 31, 2018			
Beginning net book value	108,074.99	684.73	108,759.72
- Reclassification and adjustment (Note 4)	(7,857.80)	-	(7,857.80)
Beginning net book value after reclassification and adjustment	100,217.19	684.73	100,901.92
- 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	(824.03)	(13.73)	(837.76)
Ending net book value	99,682.95	677.38	100,360.33
As at December 31, 2018			
Cost	160,814.99	839.34	161,654.33
Reclassification and adjustment (Note 4)	(7,802.24)	-	(7,802.24)
<u>Less</u> Allowance for impairment of assets	(53,329.80)	(161.96)	(53,491.76)
Net book value	99,682.95	677.38	100,360.33

21. 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, 2019			
Beginning net book value	107,485.19	677.38	108,162.57
- Reclassification and adjustment (Note 4)	(7,802.24)	-	(7,802.24)
Beginning net book value after reclassification and adjustment	99,682.95	677.38	100,360.33
- Business acquisition (Note 43)	15,607.92	27.38	15,635.30
- Additions	3,700.24	27.46	3,727.70
- Reclassifications	(30,914.47)	-	(30,914.47)
- Disposals - net	(2,043.21)	-	(2,043.21)
- Currency translation differences	(6,442.37)	(54.94)	(6,497.31)
Ending net book value	79,591.06	677.28	80,268.34
As at December 31, 2019			
Cost	131,643.14	827.78	132,470.92
<u>Less</u> Allowance for impairment of assets	(52,052.08)	(150.50)	(52,202.58)
Net book value	79,591.06	677.28	80,268.34

22. 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 its subsidiaries	20
Corporate income tax in foreign countries	1 - 80
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
Petroleum Income tax in foreign countries*	38

* The petroleum income tax rate for marginal field which are approved to the tax reduction incentive to 25% tax rate.

22.1 Income taxes recognized in the statements of income for the years ended December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Current tax:				
Current tax	48,568.51	67,814.56	10,203.25	12,806.19
Adjustments in respect of current tax of previous year	(1,176.02)	1,495.93	(30.61)	(215.60)
	47,392.49	69,310.49	10,172.64	12,590.59
Deferred tax:				
Change in temporary differences	(13,574.05)	(15,204.04)	(1,733.53)	(2.11)
Tax effect of currency translation on tax base	(829.56)	(459.90)	-	-
	(14,403.61)	(15,663.94)	(1,733.53)	(2.11)
Total	32,988.88	53,646.55	8,439.11	12,588.48

22.2 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	
	2019	2018	2019	2018
Profit before income taxes from continuing operations	155,080.48	219,056.80	70,096.42	107,100.60
Profit before income taxes from discontinued operations	-	-	-	88,970.10
Profit before income taxes	155,080.48	219,056.80	70,096.42	196,070.70
Adjustment (Note 4)	-	(36.70)	-	(36.70)
Profit before income taxes after adjustment	155,080.48	219,020.10	70,096.42	196,034.00
Tax calculated at a tax rate of 20%	31,016.10	43,804.02	14,019.28	39,206.80
Tax effect of:				
Income not subject to tax	(4,382.39)	(8,616.73)	(5,935.34)	(8,563.77)
Non-deductible expenses	1,902.70	15,681.81	342.59	471.55
Expenses deductible at a greater amount	(418.89)	(471.64)	(81.76)	(92.88)
(Gain) loss from the entities not subject to tax	902.54	(128.74)	-	-
Adjustment in respect of prior period	(1,176.02)	1,495.93	(30.61)	(215.60)
Share of profit from investment in joint ventures and associates	(1,082.88)	(1,731.67)	-	-
Tax credit on petroleum royalty	(15,693.36)	(14,561.41)	-	-
Tax credit on foreign corporate income tax	-	(375.26)	-	-
Differences in tax rate	21,824.85	11,904.42	-	-
Deferred tax on functional currency	(829.56)	(459.90)	-	-
Effect from the restructuring of the Oil Business Unit (Note 13)	-	6,032.97	-	-
Others	925.79	1,072.75	124.95	(9.24)
Total income taxes	32,988.88	53,646.55	8,439.11	30,796.86
<u>Less</u> Income taxes of discontinued operations	-	-	-	(18,208.38)
Income taxes	32,988.88	53,646.55	8,439.11	12,588.48

22.3 Movements in deferred taxes are as follows:

Unit: Million Baht

Consolidated financial statements											
									As at December 31, 2019		
	Net balance as at January 1, 2019	Reclassification and Adjustment (Note 4)	Net balance after reclassification and adjustment	Profit (loss)	Other comprehensive income (loss)	Business acquisition (Note 43)	Currency translation differences	Others	Net balance	Deferred tax assets	Deferred tax liabilities
Property, plant and equipment	(58,068.11)	2,340.67	(55,727.44)	8,589.12	-	(21,632.13)	3,912.54	(22.37)	(64,880.28)	11,154.78	(76,035.06)
Intangible assets	7,153.63	-	7,153.63	(203.44)	-	(9,035.08)	3.14	(0.25)	(2,082.00)	6,846.09	(8,928.09)
Investments	70.36	-	70.36	14.56	-	-	-	-	84.92	84.92	-
Available-for-sale investments	(333.37)	-	(333.37)	0.01	(21.43)	-	0.01	-	(354.78)	42.96	(397.74)
Trade and other accounts receivable	(4,082.88)	-	(4,082.88)	747.20	-	-	2.23	-	(3,333.45)	464.27	(3,797.72)
Inventories	(39.21)	-	(39.21)	210.81	-	-	(0.01)	-	171.59	211.31	(39.72)
Loans	(128.50)	-	(128.50)	(257.65)	-	-	-	0.18	(385.97)	-	(385.97)
Provisions for employee benefit	5,854.70	-	5,854.70	1,569.56	408.80	80.37	(186.67)	3.66	7,730.42	7,730.42	-
Provision for decommissioning costs	26,911.88	-	26,911.88	2,313.46	-	3,448.68	(1,992.88)	-	30,681.14	30,681.14	-
Cumulative loss carried forward	10,394.14	-	10,394.14	975.46	82.05	15.34	(592.79)	-	10,874.20	10,874.20	-
Tax effect of currency translation on tax base	2,482.96	-	2,482.96	830.04	-	-	(225.39)	-	3,087.61	3,123.51	(35.90)
Others	5,415.04	-	5,415.04	(385.52)	64.28	4,348.21	(276.32)	178.46	9,344.15	10,767.03	(1,422.88)
Total before set-off of taxes	(4,369.36)	2,340.67	(2,028.69)	14,403.61	533.70	(22,774.61)	643.86	159.68	(9,062.45)	81,980.63	(91,043.08)
Set-off of taxes									-	(34,369.53)	34,369.53
Net deferred tax assets (liabilities)									(9,062.45)	47,611.10	(56,673.55)





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

Unit: Million Baht

Consolidated financial statements											
									As at December 31, 2018		
	Net balance as at January 1, 2018	Reclassification and Adjustment (Note 4)	Net balance after reclassification and adjustment	Profit (loss)	Other comprehensive income (loss)	Business acquisition	Currency translation differences	Others	Net balance	Deferred tax assets	Deferred tax liabilities
Property, plant and equipment	(57,969.58)	2,357.34	(55,612.24)	4,448.29	-	(3,870.02)	(693.47)	-	(55,727.44)	8,920.09	(64,647.53)
Intangible assets	18.17	-	18.17	7,136.72	-	-	(1.26)	-	7,153.63	7,299.68	(146.05)
Investments	55.75	-	55.75	14.61	-	-	-	-	70.36	70.36	-
Available-for-sale investments	(743.83)	-	(743.83)	-	410.46	-	-	-	(333.37)	14.79	(348.16)
Trade and other accounts receivable	(3,137.13)	-	(3,137.13)	(945.90)	-	-	0.30	(0.15)	(4,082.88)	481.37	(4,564.25)
Inventories	177.41	-	177.41	(217.73)	-	1.54	-	(0.43)	(39.21)	216.19	(255.40)
Loans	(140.50)	-	(140.50)	12.00	-	-	-	-	(128.50)	-	(128.50)
Provisions for employee benefit	6,001.54	-	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	-	19,992.74	3,093.89	-	4,003.69	(178.44)	-	26,911.88	26,911.88	-
Cumulative loss carried forward	7,029.89	-	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	-	2,265.76	(29.39)	-	-	(1.89)	(2,234.48)	-	-	-
Tax effect of currency translation on tax base	2,041.88	-	2,041.88	459.91	-	-	(18.83)	-	2,482.96	2,511.42	(28.46)
Others	3,713.40	-	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)	2,357.34	(18,337.16)	15,663.94	311.25	2,410.58	149.44	(2,226.74)	(2,028.69)	69,003.60	(71,032.29)
Set-off of taxes									-	(40,504.67)	40,504.67
Net deferred tax assets (liabilities)									(2,028.69)	28,498.93	(30,527.62)

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

Unit: Million Baht

Separate financial statements						
	As at December 31, 2019					
	Net balance as at January 1, 2019	Profit (loss)	Other comprehensive loss	Net balance	Deferred tax assets	Deferred tax liabilities
Property, plant and equipment	(587.69)	157.97	-	(429.72)	-	(429.72)
Intangible assets	135.74	2.20	-	137.94	137.94	-
Investments	54.89	-	-	54.89	54.89	-
Available-for-sale investments	(323.40)	-	(33.21)	(356.61)	-	(356.61)
Trade and other accounts receivable	(2,008.02)	1,679.13	-	(328.89)	420.52	(749.41)
Inventories	70.68	(13.66)	-	57.02	57.02	-
Loans	(90.53)	(245.03)	-	(335.56)	-	(335.56)
Provisions for employee benefit	1,381.33	314.60	(233.40)	1,462.53	1,462.53	-
Others	1,156.80	(161.68)	-	995.12	996.76	(1.64)
Total before set-off of taxes	(210.20)	1,733.53	(266.61)	1,256.72	3,129.66	(1,872.94)
Set-off of taxes				-	(1,872.94)	1,872.94
Net deferred tax assets (liabilities)				1,256.72	1,256.72	-



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

Unit: Million Baht

	Separate financial statements					
	Net balance			As at December 31, 2018		
	as at January 1, 2018	Profit (loss)	Other comprehensive (loss)	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)
Provisions 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)

23. Other Non-current Assets

Details of other non-current assets as at December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018 (Reclassification)	2019	2018
Long-term other accounts receivable	1,433.93	1,375.95	45.24	8.39
Advance payments and deferred charge	9,650.46	16,283.11	1,062.72	1,176.88
Advance payments for gas purchases	-	-	82.59	61.83
Decommissioning fund	7,154.48	5,247.82	-	-
Others*	10,267.35	10,285.67	198.11	4,509.39
Total	28,506.22	33,192.55	1,388.66	5,756.49

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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.

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As at December 31, 2019, advance payments for gas purchases comprise the balance of advance payments made for gas purchases from the Sirikit gas fields in Thailand, for the untaken-up gas volumes in 2017 - 2018.

* 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 judgment. During the year, the Company records this restricted bank cash as other current assets.

24. Other Current Liabilities

Details of other current liabilities as at December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Undue output VAT	3,762.68	4,945.93	2,975.26	4,364.83
Provision for remuneration for the renewal of petroleum production	2,348.14	2,890.32	-	-
Others	4,437.36	2,965.72	395.08	138.79
Total	10,548.18	10,801.97	3,370.34	4,503.62

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25. Long-term Loans

Details of long-term loans as at December 31, 2019 and 2018 are as follows:

Current portion of long-term loans

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Loans - Baht currency	20,796.77	12,344.94	1,000.00	-
Loans - foreign currencies	3,525.16	2,439.19	-	-
Debentures - Baht currency	26,118.00	47,504.98	26,118.00	26,000.00
Finance leases liabilities	1,342.43	819.49	484.80	511.16
Total	51,782.36	63,108.60	27,602.80	26,511.16

Long-term loans

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Loans - Baht currency	118,469.88	118,096.85	-	1,000.00
Loans - foreign currencies	44,347.33	21,304.70	23,872.73	6,830.15
Debentures - Baht currency	204,024.66	147,477.25	57,583.70	83,715.20
Debentures - foreign currencies	188,176.39	163,462.61	8,806.94	27,969.16
Finance leases liabilities	7,727.51	4,622.90	3,471.94	4,124.45
Total	562,745.77	454,964.31	93,735.31	123,638.96

25. Long-term Loans (Continued)

Original currency of loans and debentures in foreign currencies as at December 31, 2019 and 2018 as follows:

Current portion of long-term loans

Unit: Million

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Loans - foreign currencies				
- USD	109.17	47.74	-	-
- EURO	1.20	10.92	-	-
- JPY	408.57	408.57	-	-
- LAK	12,855.64	12,855.64	-	-
- VND	28,879.60	228,506.04	-	-

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Long-term loans and debentures

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Unit: Million

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Loans - foreign currencies				
- USD	1,026.18	219.80	575.05	-
- EURO	149.14	141.01	-	-
- JPY	29,341.05	29,749.62	23,000.00	23,000.00
- LAK	25,711.28	38,566.93	-	-
- VND	216,857.20	-	-	-
Debentures - foreign currencies				
- USD	6,239.28	5,020.33	290.36	857.56

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25. Long-term Loans (Continued)

Long-term loans, including the current portion, outstanding as at December 31, 2019 and 2018 can be classified by types of interest rate as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Floating interest rate	173,324.03	143,045.16	-	-
Fixed interest rate	441,204.10	375,027.75	121,338.11	150,150.12
Total	614,528.13	518,072.91	121,338.11	150,150.12

Interest rates charged on long-term loans as at December 31, 2019 and 2018 are as follows:

Unit: % per annum

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Loans - Baht currency	1.50 - 7.83	1.22 - 7.83	7.83	7.83
Loans - foreign currencies				
- USD	1.89 - 5.00	1.00 - 6.00	5.00 - 6.38	-
- EURO	1.65 - 2.50	2.50	-	-
- JPY	1.50 - 4.45	1.50 - 4.45	4.95	4.45
- LAK	4.75	4.75	-	-
- VND	6.40	6.40	-	-
Debentures - Baht currency	1.97 - 6.80	2.21 - 6.80	3.50 - 6.80	3.50 - 6.80
Debentures - foreign currencies				
- USD	3.50 - 6.35	3.63 - 6.51	4.50 - 5.88	4.50 - 5.88
Finance leases liabilities	1.10 - 10.73	1.15 - 12.00	1.15 - 8.28	1.15 - 8.28

25.1 Loans

Loans - Baht currency

As at December 31, 2019, detail of long-term loan in Baht currency of the Company which is secured by the Ministry of Finance 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, 2019, details of long-term loans from financial institutions in Baht currency of the subsidiaries are as follows:

Currency	Principal (unit: million)	Interest rate percent (per annum)	Repayment terms
THB	10,000	6M FDR plus margin	Principal is repayable every 6 months, totalling 24 instalments, commencing in December 2017.
THB	169	Fixed rate	Principal is repayable every 6 months, totalling 29 instalments, commencing in June 2017.
THB	3,500	6M THBFIX 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 17 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	4,000	Fixed rate	Principal is repayable at the end of contract in May 2023.
THB	9,960	3M THBFIX plus margin	Principal is repayable every 6 months, totalling 33 instalments, commencing in October 2008.
THB	3,700	3M THBFIX plus margin	Principal is repayable every 6 months, totalling 10 instalments, commencing in July 2015.
THB	3,000	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	4,000	6M FDR plus margin	Principal is repayable every 6 months, totalling 12 instalments, commencing in December 2018.
THB	10,000	6M FDR plus margin	Principal is repayable every 6 months, totalling 12 instalments, commencing in June 2016.





25.1 Loans (Continued)

Loans - Baht currency (Continued)

As at December 31, 2019, details of long-term loans from financial institutions in Baht currency of the subsidiaries are as follows: (Continued)

Currency	Principal (unit: million)	Interest rate percent (per annum)	Repayment terms
THB	15,000	6M FDR plus margin	Principal is repayable every 6 months, totalling 10 instalments, commencing in November 2020.
THB	450	6M THBFIX plus margin	Principal is repayable every 3 months, totalling 14 instalments, commencing in April 2023.
THB	2,500	6M FDR plus margin	Principal is repayable every 6 months, totalling 10 instalments, commencing in March 2022.
THB	3,000	6M FDR plus margin	Principal is repayable every 6 months, totalling 10 instalments, commencing in January 2023.
THB	3,000	6M FDR plus margin	Principal is repayable every 6 months, totalling 10 instalments, commencing in June 2023.
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	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	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 December 2023.
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	575	3M BIBOR plus margin	Principal is repayable every 3 months, totalling 13 instalments, commencing in September 2019.
THB	700	3M BIBOR plus margin	Principal is repayable every 3 months, totalling 16 instalments, commencing in March 2016.
THB	1,000	Fixed rate	Principal is repayable every 3 months, totalling 16 instalments, commencing in September 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	500	Fixed rate	Principal is repayable every 3 months, totalling 13 instalments, commencing in January 2021.
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, 2019, details of long-term loans from financial institutions in Baht currency of the subsidiaries are as follows: (Continued)

Currency	Principal (unit: million)	Interest rate percent (per annum)	Repayment terms
THB	6,004	3M THBFIX plus margin	Principal is repayable every 6 months, totalling 20 instalments, commencing in February 2021.
THB	500	Fixed rate	Principal is repayable every 3 months, totalling 10 instalments, commencing in June 2019.
THB	500	6M THBFIX 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 THBFIX 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	24,000	6M FDR plus margin	Principal is repayable every 6 months, totalling 17 instalments, commencing in September 2020.
THB	5,400	THBFIX 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 THBFIX 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	504	THBFIX plus margin	Principal is repayable as the conditions specified in the contract.
THB	56	MLR minus discount	Principal is repayable every 6 months, totalling 8 instalments, commencing in December 2019.
THB	44	MLR minus discount	Principal is repayable every 6 months, totalling 10 instalments, commencing in June 2020.





25.1 Loans (Continued)

Loans - foreign currency

As at December 31, 2019, details of long-term loans from a subsidiary in foreign currency of the Company are as follows:

Currency	Principal (unit: million)	Interest rate percent (per annum)	Repayment terms
USD	245	Fixed rate	Principal is repayable at the end of contract in August 2035.
USD	330	Fixed rate	Principal is repayable at the end of contract in October 2042.
JPY	23,000	Fixed rate	Principal is repayable at the end of contract in April 2036.

As at December 31, 2019, details of long-term loans from financial institutions in foreign currency of the subsidiaries are as follows:

Currency	Principal (unit: million)	Interest rate percent (per annum)	Repayment terms
USD	86	6M USD-LIBOR plus margin	Principal is repayable at the end of contract in February 2022.
USD	82	6M LIBOR plus margin	Principal is repayable every 6 months, totalling 18 instalments, commencing in June 2015.
USD	460	3M LIBOR plus margin	Principal is repayable every 6 months, totalling 33 instalments, commencing in October 2012.
USD	200	LIBOR plus margin	Principal is repayable every 6 months, totalling 9 instalments, commencing in June 2020.
USD	480	6M LIBOR plus margin	Principal is repayable at the end of contract in October 2024.
USD	120	6M LIBOR plus margin	Principal is repayable at the end of contract in October 2024.
USD	100	6M LIBOR plus margin	Principal is repayable every 6 months, totalling 10 instalments, commencing in March 2016.

25.1 Loans (Continued)

Loans - foreign currency (Continued)

As at December 31, 2019, details of long-term loans from financial institutions in foreign currency of the subsidiaries are as follows: (Continued)

Currency	Principal (unit: million)	Interest rate percent (per annum)	Repayment terms
EURO	180	3M EURIBOR plus margin	Principal is repayable every 12 months, totalling 6 instalments, commencing in 2021.
JPY	7,900	JPY-LIBOR plus margin	Principal is repayable every 6 months, totalling 37 instalments, commencing in May 2018.
JPY	23,000*	Fixed rate	Principal is repayable at the end of contract in April 2036.
LAK	81,500	Fixed rate	Principal is repayable every 3 months, totalling 20 instalments, commencing in March 2018.
VND	310,791	Fixed rate	Principal is repayable every 6 months, totalling 18 instalments, commencing in July 2019.

* Guaranteed by the Company which the maximum liability under the guarantee will be capped at an amount equal to 125% of the principal or equivalent to JPY 28,750.00 million.

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, 2019, 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	22,000	1,000	6 years 11 months 19 days	4.75	Interest is repayable every 6 months and mature in November 2020.
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, 2019, 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	9,387	1,000	15	Year 1 - 6 : 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, 2019, 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 every 6 months and mature in September 2021.
THB	1,500	1,000	7	2.82	Interest is repayable every 6 months and mature in September 2024.
THB	5,555	1,000	10	5.00	Interest is repayable every 6 months and mature in August 2021.
THB	4,000	1,000	10	3.95	Interest is repayable every 6 months and mature in September 2025.
THB	3,000	1,000	10	2.81	Interest is repayable every 6 months and mature in May 2026.
THB	2,000	1,000	3	1.97	Interest is repayable every 6 months and mature in November 2022.
THB	5,000	1,000	5	2.24	Interest is repayable every 6 months and mature in November 2024.
THB	6,000	1,000	7	2.52	Interest is repayable every 6 months and mature in November 2026.
THB	8,000	1,000	10	2.86	Interest is repayable every 6 months and mature in November 2029.
THB	7,500	1,000	12	3.15	Interest is repayable every 6 months and mature in November 2031.
THB	6,500	1,000	15	3.25	Interest is repayable every 6 months and mature in November 2034.
THB	6,890	1,000	7	4.96	Interest is repayable every 6 months and mature in May 2021.
THB	11,400	1,000	15	4.82	Interest is repayable every 6 months and mature in June 2029.
THB	15,000	1,000	3	2.26	Interest is repayable every 6 months and mature in June 2022.
THB	10,000	1,000	7	4.50	Interest is repayable every 6 months and mature in August 2021.
THB	1,500	1,000	5	2.20	Interest is repayable every 6 months and mature in September 2024.
THB	7,000	1,000	7	2.43	Interest is repayable every 6 months and mature in September 2026.
THB	1,500	1,000	10	2.75	Interest is repayable every 6 months and mature in September 2029.

25.2 Debentures (Continued)

Debentures - Baht currency (Continued)

As at December 31, 2019, the detail of unsecured, unsubordinated debentures with the debenture holders' early redemption right of the subsidiaries in Baht currency is 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.
THB	10,000	1,000	5	2.90	Interest is repayable every 6 months and mature in August 2024.
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	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 - foreign currency

As at December 31, 2019, 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	53	1,000	30	5.875	Interest is repayable every 6 months and mature in August 2035.
USD	241	1,000	30	4.50	Interest is repayable every 6 months and mature in October 2042.

As at December 31, 2019, 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 repayable every 6 months and mature in April 2021.
USD	490	1,000	30	6.35	Interest is repayable every 6 months and mature in June 2042.
USD	504	1,000	10	4.25	Interest is repayable every 6 months and mature in September 2022.
USD	496	1,000	4	4.25	Interest is repayable every 6 months and mature in September 2022.

25.2 Debentures (Continued)

Debentures - foreign currency (Continued)

As at December 31, 2019, the detail of unsecured, unsubordinated debentures with the debenture holders' early redemption right of the subsidiaries in foreign currency are as follows:

Currency	Principal (unit: million)	Par value (per share)	Period (years)	Interest rate percent (per annum)	Repayment terms
USD	650	1,000	40	3.903	Interest is repayable every 6 months and mature in December 2059.
USD	245*	1,000	15	5.875	Interest is repayable every 6 months and mature in August 2035.
USD	330**	1,000	23	4.50	Interest is repayable every 6 months and mature in October 2042.
USD	216	1,000	10	3.625	Interest is repayable every 6 months and mature in January 2043.
USD	172	1,000	30	4.875	Interest is repayable 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 repayable every 6 months and mature in January 2043.
USD	400	1,000	10	4.625	Interest is repayable 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.
USD	565	1,000	30	3.50	Interest is repayable every 6 months and mature in October 2049.

* Guaranteed by the Company which the maximum liability under the guarantee will be capped at an amount equal to 125% of the principal or equivalent to approximately USD 306.19 million.

** Guaranteed by the Company which the maximum liability under the guarantee will be capped at an amount equal to 125% of the principal or equivalent to approximately USD 412.61 million.

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



25.3 Finance leases liabilities

Details of finance leases liabilities as at December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Finance leases liabilities				
- Within 1 year	1,728.97	928.78	560.31	588.63
- Over 1 year but not over 5 years	4,982.44	2,679.59	2,017.26	2,138.29
- Over 5 years	4,060.17	2,270.20	1,688.31	2,270.20
Future finance charges	(1,701.64)	(436.18)	(309.14)	(361.51)
Present value of finance leases liabilities	9,069.94	5,442.39	3,956.74	4,635.61
Present value of finance leases liabilities				
- Current liabilities	1,342.43	819.49	484.80	511.16
- Non-current liabilities	7,727.51	4,622.90	3,471.94	4,124.45
Total	9,069.94	5,442.39	3,956.74	4,635.61

25.4 Maturities of long-term loans as at December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements					
	2019					
	Baht Currency Loans	Foreign Currency Loans	Baht Currency Debentures	Foreign Currency Debentures	Finance Leases Liabilities	Total
Within 1 year	20,796.77	3,525.16	26,118.00	-	1,342.43	51,782.36
Over 1 year but not over 5 years	71,903.85	30,705.03	137,686.69	66,340.34	4,079.36	310,715.27
Over 5 years	46,566.03	13,642.30	66,337.97	121,836.05	3,648.15	252,030.50
Total	139,266.65	47,872.49	230,142.66	188,176.39	9,069.94	614,528.13

25.4 Maturities of long-term loans as at December 31, 2019 and 2018 are as follows: (Continued)

Unit: Million Baht

Consolidated financial statements						
2018						
	Baht Currency Loans	Foreign Currency Loans	Baht Currency Debentures	Foreign Currency Debentures	Finance Leases Liabilities	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

Unit: Million Baht

Separate financial statements						
2019						
	Baht Currency Loans	Foreign Currency Loans	Baht Currency Debentures	Foreign Currency Debentures	Finance Leases Liabilities	Total
Within 1 year	1,000.00	-	26,118.00	-	484.80	27,602.80
Over 1 year but not over 5 years	-	-	53,583.70	-	1,838.92	55,422.62
Over 5 years	-	23,872.73	4,000.00	8,806.94	1,633.02	38,312.69
Total	1,000.00	23,872.73	83,701.70	8,806.94	3,956.74	121,338.11

Unit: Million Baht

Separate financial statements						
2018						
	Baht Currency Loans	Foreign Currency Loans	Baht Currency Debentures	Foreign Currency Debentures	Finance Leases Liabilities	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



26. Changes in Liabilities Arising from Financing Activities

Changes in liabilities arising from financing activities are as follows:

Unit: Million Baht

Consolidated financial statements									
	As at January 1, 2019	Cash flows from financing		Non-cash items					As at December 31, 2019
		Additions	Repayments	Finance leases liabilities - additions	(Gain) loss on exchange rates	Currency translation differences	Business acquisition (Note 43)	Others	
Bank overdrafts and short-term loans									
from financial institutions*	25,561.80	134,671.61	(114,761.43)	-	(27.60)	(965.66)	-	(38.19)	44,440.53
Short-term loans	-	-	(701.55)	-	-	-	701.55	-	-
Loans - Baht currency	130,441.79	16,989.03	(16,932.09)	-	-	-	8,725.38	42.54	139,266.65
Loans - foreign currencies	23,743.89	32,754.84	(16,363.83)	-	(845.39)	(1,494.28)	11,071.30	(994.04)	47,872.49
Debentures - Baht currency	194,982.23	69,898.20	(50,698.40)	-	1,725.96	(1,843.72)	16,301.86	(223.47)	230,142.66
Debentures - foreign currencies	163,462.61	55,007.37	(17,523.40)	-	(7,685.59)	(5,196.84)	-	112.24	188,176.39
Finance lease liabilities	5,442.39	-	(1,358.24)	509.04	(249.48)	(99.96)	4,631.07	195.12	9,069.94
Total	543,634.71	309,321.05	(218,338.94)	509.04	(7,082.10)	(9,600.46)	41,431.16	(905.80)	658,968.66

* As at December 31, 2019 and 2018, the bank overdrafts and short-term loans from financial institutions bear interest at rates ranging from 1.00% to 4.75% per annum.

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

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

Unit: Million Baht

Separate financial statements							
	As at January 1, 2019	Cash flows from financing		Non-cash items			As at December 31, 2019
		Additions	Repayments	Finance leases liabilities - additions	Gain on exchange rates	Others	
Short-term loans - related party	3,332.70	240.49	(85.63)	-	-	-	3,487.56
Loans - Baht currency	1,000.00	-	-	-	-	-	1,000.00
Loans - foreign currencies	6,830.15	24,031.00	(6,507.60)	-	(480.82)	-	23,872.73
Debentures - Baht currency	109,715.20	-	(26,013.50)	-	-	-	83,701.70
Debentures - foreign currencies	27,969.16	-	(17,523.40)	-	(1,902.48)	263.66	8,806.94
Finance leases liabilities	4,635.61	-	(613.35)	127.25	(252.08)	59.31	3,956.74
Total	153,482.82	24,271.49	(50,743.48)	127.25	(2,635.38)	322.97	124,825.67



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	
	2019	2018	2019	2018
As at January 1	23,921.03	23,313.07	6,906.65	8,877.98
Service cost	1,983.76	1,817.43	527.17	643.16
Past service cost	4,218.86	95.51	1,068.50	-
Interest cost	679.92	600.11	222.18	236.74
Actuarial (gain) loss from provisions for post-employment benefit	1,095.55	(946.68)	(1,167.00)	(799.89)
Actuarial (gain) loss from provisions for other long-term employee benefit	180.63	(25.07)	21.68	(13.70)
Actual payment	(1,023.07)	(969.83)	(266.46)	(236.52)
Business acquisition (Note 43)	1,609.69	89.61	-	-
Disposal of assets and discontinued operations	-	(10.04)	-	(1,801.12)
Others	3.93	-	-	-
Currency translation differences	(80.09)	(43.08)	-	-
As at December 31	32,590.21	23,921.03	7,312.72	6,906.65

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

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Loss from experience adjustments	639.73	335.61	0.23	493.17
(Gain) loss from changes in financial assumptions	1,584.90	(1,371.90)	(369.02)	(1,293.06)
(Gain) loss from changes in demographic assumptions	(1,129.08)	89.61	(798.21)	-
Total	1,095.55	(946.68)	(1,167.00)	(799.89)

27. Provisions for Employee Benefit (Continued)

Expenses recognized in the statements of income and comprehensive income for the years ended December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Cost of sales and services	2,529.26	809.99	331.10	141.63
Selling and distribution expenses	383.74	168.28	76.96	115.44
Administrative expenses	4,093.41	1,494.87	1,429.33	606.78
Management remuneration	56.76	14.84	2.14	2.35
Other comprehensive (gain) loss	1,095.55	(946.68)	(1,167.00)	(799.89)
Total	8,158.72	1,541.30	672.53	66.31

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

	Annual percentage rate	
	2019	2018
Discount rate	1.18 - 7.15	1.73 - 8.15
Inflation rate	0.00 - 5.00	0.00 - 6.50
Employee turnover rate	0.00 - 70.00	0.00 - 70.00
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, 2019 and 2018 are as follows:

Unit: Million Baht

	Increase (decrease) in present value of the provisions	
	2019	2018
Discount rate		
Increase 1%	(3,916.23)	(3,086.77)
Decrease 1%	4,942.54	4,115.71

Weighted average duration of the provisions for post-employment benefit of the Group for the years ended December 31, 2019 is 18.14 years (for the year ended December 31, 2018: 18.75 years).

The Labor Protection Act (No. 7) B.E. 2562 has been announced in the Royal Thai Government Gazette on April 5, 2019 and will be effective after 30 days from the date announced in the Royal Thai Government Gazette. This 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 latest wage rate. This change affects the Group, except the Company, which is covered by the State Enterprise Labour Relations Act, B.E. 2543.

Subsequently, the State Enterprise Labour Relations Committee, by virtue of State Enterprise Labour Relations Act, B.E. 2543, had issued the Announcement of the State Enterprise Labor Relations Committee for Minimum Standards of Employment Conditions in State Enterprises (No. 4) which has been announced in the Royal Thai Government Gazette on September 26, 2019 and will be effective in the next day after the date announced in the Royal Thai Government Gazette. This Announcement of the State Enterprise Labor Relations Committee additional legal severance pay rates in the event of termination and retirement 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 latest wage rate. This change affects the Company since the Company is covered by this Act.

Consequently, these changes are considered an amendment to post-employment benefits plan, and result in the increase of Baht 4,218.86 million in provision for employee benefits liabilities in the consolidated financial statements and Baht 1,068.50 million in the separate financial statements. The Group has recorded the effects of these changes 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		
	2019	2018
As at January 1	74,722.52	74,865.44
- Business acquisition (Note 43)	10,367.26	8,007.39
- Additional provision	13,647.21	4,223.32
- Use during the year	(454.27)	(729.43)
- Reversal of non-occurred provision	(587.84)	(5,336.16)
- Disposals	-	(5,631.24)
- Currency translation differences	(5,805.59)	(676.80)
As at December 31	91,889.29	74,722.52
- Current portion	(1,289.37)	(1,090.30)
- Long-term portion	90,599.92	73,632.22

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29. Other Non-current Liabilities

Other non-current liabilities as at December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Long-term other accounts payable	4,457.77	3,603.00	4,148.10	3,490.10
Provision for remuneration for the renewal of petroleum production	5,752.11	7,744.52	-	-
Long-term liability: Make-up	10,782.35	10,782.35	10,782.35	10,782.35
Deferred revenue	19,130.34	6,609.13	4,969.25	5,244.77
Others	6,522.52	4,232.06	375.72	340.25
Total	46,645.09	32,971.06	20,275.42	19,857.47

Long-term liability (Make-up) arises from the difference amount 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.

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30. Share Capital

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, 2018	1	28,562,996,250	28,562,996,250
As at December 31, 2019	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, 2018	28,562,996,250	28,562,996,250	29,211,131,966	57,774,128,216
As at December 31, 2019	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	
	2019	2018	2019	2018
Balance as at January 1	1,222.68	1,199.99	1,222.68	1,199.99
Appropriated during the year	20.98	22.69	20.98	22.69
Balance as at December 31	1,243.66	1,222.68	1,243.66	1,222.68

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, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018 (Reclassification)	2019	2018 (Reclassification)
Profit attributable to owners of the parent from continuing operations	92,950,604,143	119,647,246,552	61,657,307,704	94,475,418,599
Adjustment of profit	(1,491,678,204)	(1,124,184,883)	-	-
Profit for calculation of earnings per share from continuing operations	91,458,925,939	118,523,061,669	61,657,307,704	94,475,418,599
Profit for calculation of earnings per share from discontinued operations	-	-	-	70,761,721,267
Total profit	91,458,925,939	118,523,061,669	61,657,307,704	165,237,139,866
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)	3.20	4.15	2.16	3.31
Earnings per share from discontinued operations (Baht/share)	-	-	-	2.48
Earnings per share (Baht/share)	3.20	4.15	2.16	5.79

33. Sales and Service Income

Details of sales and service income for the years ended December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Oil products	1,362,258.64	1,440,216.43	665,455.01	862,501.80
Gas products	406,176.68	405,644.09	503,552.88	495,125.46
Petrochemicals products	348,250.81	423,744.74	26,467.05	49,693.12
Mining products	15,078.02	20,527.20	-	-
Non-oil businesses	17,272.74	15,914.60	416.55	300.76
Utilities	60,121.36	21,413.26	-	0.75
Services	9,159.22	7,732.32	3,814.26	1,696.63
Others	1,421.20	962.28	757.15	1,702.53
Total	2,219,738.67	2,336,154.92	1,200,462.90	1,411,021.05

Sales and services income for the years ended December 31, 2019 and 2018 include sales to government agencies and state enterprises amounting to Baht 132,609.09 million and Baht 111,936.72 million in the consolidated financial statements, and Baht 90,606.14 million and Baht 79,998.69 million in the separate financial statements, respectively.

34. Other Income

Details of other income for the years ended December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Transportation income	4,921.71	3,667.94	6,916.45	5,074.53
Dividend income	383.03	347.32	29,676.71	34,534.25
Interest income	7,836.97	9,435.82	3,342.14	3,013.86
Compensation for loan interest on advance payments for gas purchases	(2.32)	(2.20)	(2.32)	(2.20)
Gain (loss) on disposal of assets and investments	(252.46)	(2,154.60)	1,759.09	8,398.04
Gain (loss) on derivatives	(417.40)	(2,369.19)	1,225.18	(575.85)
Others	7,510.42	8,010.01	3,768.02	3,781.79
Total	19,979.95	16,935.10	46,685.27	54,224.42

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.

35. Expenses by Nature

Details of expenses by nature for the years ended December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018 (Restated)	2019	2018 (Restated)
Changes in finished goods and work in process	9,260.72	(6,446.60)	5,447.31	(5,569.11)
Goods purchased and raw materials used	1,736,549.42	1,829,951.29	1,106,202.44	1,302,747.62
Executive remunerations (Note 10.10)	1,789.98	1,501.89	161.22	162.27
Staff costs	60,823.22	51,285.46	9,865.35	8,387.47
Outsourcing	12,906.63	11,132.93	6,097.12	3,744.17
Transportation	19,289.32	17,511.16	6,940.73	5,058.57
Depreciation and amortization	133,204.18	123,592.97	19,350.14	18,652.95
Repairment	19,284.71	15,394.38	2,984.52	2,634.09
Utilities	13,488.16	12,451.88	11,812.36	11,109.06
Rental fees and property insurance premium	10,359.62	9,240.47	2,341.93	2,301.46
Petroleum exploration expenses	3,950.74	1,481.06	-	-
(Reversal of) doubtful accounts	(77.02)	2,320.28	0.92	(22,646.38)
(Reversal of) loss on impairment of assets and investments	(142.90)	16.83	514.20	22,706.87
Others	39,418.25	35,441.61	7,093.08	7,188.08
Total	2,060,105.03	2,104,875.61	1,178,811.32	1,356,477.12

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36. Petroleum Royalties and Remuneration

Details of petroleum royalties and remuneration for the years ended December 31, 2019 and 2018 are as follows:

Unit: Million Baht

Consolidated financial statements		
	2019	2018
Petroleum royalties	17,312.40	16,435.23
Special remuneration benefits	570.07	-
Total	17,882.47	16,435.23

37. Finance Costs

Details of finance costs for the years ended December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Interest expenses:				
Loans	7,696.07	6,659.17	510.34	415.45
Debentures	13,976.53	15,883.08	5,160.49	7,211.49
Finance leases liabilities	252.50	92.92	81.34	70.93
Others	4,432.60	3,881.90	0.21	0.02
Other finance costs	1,613.76	1,110.52	411.67	311.56
Total	27,971.46	27,627.59	6,164.05	8,009.45

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 groups based on types of products and services. The major segments of the Group are as follows:

38. Operating Segments (Continued)

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.

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.

Technology and Engineering Group

The Group conducts innovation, digital, technology, engineering, the production and distribution of electricity, steam and water for industrial purpose, and the project management of the Group. This includes seeking the business opportunities for the sustainability of the Group.

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

The Group changed the operating segment by detaching Technology and Engineering from the Other business segment in order to reflect the business operations and internal Group reporting. In addition, The Group reclassified and adjusted as described in Note 4. The Group therefore reorganized the operating segment information of 2018 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, 2019

Unit: Million Baht

	Upstream petroleum and natural gas			Downstream petroleum						
	Petroleum exploration and production	Natural gas	Coal	Oil	International trading	Petrochemicals and Refining	Technology and Engineering	Others	Elimination	Total
Sales - others	36,329.66	349,411.22	15,078.02	575,776.68	596,179.89	594,595.85	52,173.87	193.48	-	2,219,738.67
- related parties	154,723.07	152,699.51	301.93	3,890.78	488,849.61	381,553.85	20,511.34	3,210.05	(1,205,740.14)	-
Net sales	191,052.73	502,110.73	15,379.95	579,667.46	1,085,029.50	976,149.70	72,685.21	3,403.53	(1,205,740.14)	2,219,738.67
Gross profit (loss)*	166,295.97	83,075.64	5,044.87	37,503.29	2,844.37	67,334.75	20,098.88	(166.15)	(6,821.05)	375,210.57
EBITDA	136,853.63	71,406.65	3,731.46	17,893.81	(136.09)	45,282.58	18,489.28	(3,003.85)	(1,545.27)	288,972.20
Depreciation and amortization expenses	(62,810.84)	(18,923.61)	(2,437.48)	(4,109.28)	(118.00)	(35,222.68)	(9,229.25)	(353.04)	-	(133,204.18)
Segment operating profit (loss)	74,042.79	52,483.04	1,293.98	13,784.53	(254.09)	10,059.90	9,260.03	(3,356.89)	(1,545.27)	155,768.02
Share of profit (loss) from investments in joint ventures and associates	119.97	682.44	(5.50)	902.52	-	3,402.91	905.65	-	-	6,007.99
Others	0.35	(2,611.40)	(13.44)	89.26	(29.93)	1,171.23	71.92	(134.45)	-	(1,456.46)
Unallocated revenue and expenses:										
Interest income										7,836.97
Loss on derivatives										(417.40)
Gain on foreign exchange rate										15,312.83
EBIT										183,051.95
Profit for the year										122,091.60

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

38. Operating Segments (Continued)

Consolidated financial statements

As at December 31, 2019

Unit: Million Baht

	Upstream petroleum and natural gas			Downstream petroleum						
	Petroleum exploration and production	Natural gas	Coal	Oil	International trading	Petrochemicals and Refining	Technology and Engineering	Others	Elimination	Total
Segment assets	607,842.39	406,650.15	25,658.57	135,286.18	75,971.30	775,737.42	253,761.78	80,736.80	-	2,361,644.59
Inter-company assets	18,994.71	14,652.72	917.73	5,132.53	44,531.92	27,491.98	4,643.75	45,519.53	(161,884.87)	-
Investments in joint ventures and associates	7,061.37	5,253.56	41.79	5,616.29	-	45,681.02	11,528.96	-	-	75,182.99
Total segment assets	633,898.47	426,556.43	26,618.09	146,035.00	120,503.22	848,910.42	269,934.49	126,256.33	(161,884.87)	2,436,827.58
Non-allocated assets										47,611.10
Total assets										<u>2,484,438.68</u>
Segment liabilities	270,802.27	75,323.46	3,189.89	69,651.06	96,500.40	354,575.40	126,926.71	129,756.32	-	1,126,725.51
Inter-company liabilities	632.50	32,453.09	2,633.51	42,668.99	9,762.01	52,975.89	10,584.54	9,918.16	(161,628.69)	-
Total segment liabilities	271,434.77	107,776.55	5,823.40	112,320.05	106,262.41	407,551.29	137,511.25	139,674.48	(161,628.69)	1,126,725.51
Non-allocated liabilities										56,673.55
Total liabilities										<u>1,183,399.06</u>
Capital expenditure	48,255.29	24,867.09	2,035.38	10,381.86	154.65	73,159.04	6,390.26	586.09	(1,005.65)	164,824.01





38. Operating Segments (Continued)

Consolidated financial statements

For the year ended December 31, 2018

Unit: Million Baht

	Upstream petroleum and natural gas			Downstream petroleum						
	Petroleum exploration and production	Natural gas	Coal	Oil	International trading	Petrochemicals and Refining	Technology and Engineering	Others	Elimination	Total
Sales - others	24,848.91	346,496.13	20,527.20	594,808.16	661,512.22	673,931.56	13,895.55	135.19	-	2,336,154.92
- related parties	146,960.25	143,052.68	-	6,255.59	577,608.87	458,148.48	16,128.28	2,732.71	(1,350,886.86)	-
Net sales	171,809.16	489,548.81	20,527.20	601,063.75	1,239,121.09	1,132,080.04	30,023.83	2,867.90	(1,350,886.86)	2,336,154.92
Gross profit (loss)*	149,826.56	106,024.30	9,182.22	33,672.26	5,322.09	118,323.25	7,348.44	(398.60)	(2,638.19)	426,662.33
EBITDA	126,842.63	94,083.75	7,444.80	15,270.93	2,701.46	97,820.92	7,878.25	(2,225.16)	1,578.32	351,395.90
Depreciation and amortization expenses	(60,141.43)	(18,032.99)	(1,928.95)	(4,316.17)	(110.21)	(34,898.87)	(3,861.00)	(303.35)	-	(123,592.97)
Segment operating profit (loss)	66,701.20	76,050.76	5,515.85	10,954.76	2,591.25	62,922.05	4,017.25	(2,528.51)	1,578.32	227,802.93
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)	124.17	(44.63)	-	(3,090.39)
Unallocated revenue and expenses:										
Interest income										9,435.82
Loss on derivatives										(2,369.19)
Gain on foreign exchange rate										6,353.51
EBIT										246,647.70
Profit for the year										165,373.55

* Gross profit (loss) 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						
	Petroleum exploration and production	Natural gas	Coal	Oil	International trading	Petrochemicals and Refining	Technology and Engineering	Others	Elimination	Total
Segment assets	585,364.40	414,805.70	27,195.61	126,978.19	77,049.54	815,640.67	69,186.31	143,277.66	-	2,259,498.08
Inter-company assets	24,184.24	21,277.41	329.60	8,513.94	42,484.39	29,233.93	4,472.01	42,202.59	(172,698.11)	-
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	610,470.84	441,757.86	27,525.21	140,580.26	119,533.93	888,252.42	84,280.74	185,480.25	(172,698.11)	2,325,183.40
Non-allocated assets										28,498.93
Total assets										2,353,682.33
Segment liabilities	216,808.23	91,177.23	4,192.10	71,704.14	91,809.07	341,388.31	22,556.47	165,953.55	-	1,005,589.10
Inter-company liabilities	502.99	39,427.53	91.59	45,538.49	13,963.28	55,406.04	3,872.70	14,494.62	(173,297.24)	-
Total segment liabilities	217,311.22	130,604.76	4,283.69	117,242.63	105,772.35	396,794.35	26,429.17	180,448.17	(173,297.24)	1,005,589.10
Non-allocated liabilities										30,527.62
Total liabilities										1,036,116.72
Capital expenditure	36,778.18	21,656.80	1,876.49	8,170.56	82.55	54,294.83	8,093.19	468.05	(6,972.15)	124,448.50



38. Operating Segments (Continued)

Geographical information

Sales and service income are presented in respect of the geographical location of customers for the years ended December 31, 2019 and 2018 are as follows:

Unit: Million Baht

Consolidated financial statements		
	2019	2018
Thailand	1,369,540.32	1,320,864.92
Asia	745,411.14	872,716.49
Europe	53,150.17	117,831.47
America	31,870.54	11,005.66
Others	19,766.50	13,736.38
Total	2,219,738.67	2,336,154.92

Non-current assets are presented in respect of the geographical location of the assets as at December 31, 2019 and 2018 are as follows:

Unit: Million Baht

Consolidated financial statements		
	2019	2018
Thailand	1,308,326.09	1,135,697.98
Asia	226,250.42	130,414.37
Europe	6,769.06	7,249.27
America	19,219.96	9,732.45
Others	111,864.68	124,413.39
Total	1,672,430.21	1,407,507.46

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 risks
- interest rate risk
- fluctuations 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, 2019 and 2018 are as follows:

Unit: Million Baht

Consolidated financial statements		
	2019	2018
Forward foreign exchange purchase contracts		
Baht 0.3224 - 0.3234 = 1 JPY	338.75	-
Baht 0.2940 - 0.3234 = 1 JPY	-	461.96
Baht 29.9625 - 34.0525 = 1 USD	76,363.05	-
Baht 30.4210 - 34.1175 = 1 USD	-	86,864.07
Baht 34.1000 = 1 EUR	6.18	-
Baht 37.1600 - 37.6300 = 1 EUR	-	31.67
Baht 41.4270 = 1 GBP	-	265.13
Forward foreign exchange sale contracts		
Baht 29.9950 - 31.1025 = 1 USD	10,352.00	-
Baht 30.7540 - 32.8300 = 1 USD	-	20,697.05
Baht 0.2790 - 0.2806 = 1 JPY	5,595.50	-
Baht 0.2894 - 0.2952 = 1 JPY	-	17,506.89
EUR 1.1125 - 1.1363 = 1 USD	1,820.34	-

39.1 Foreign Exchange Rate Risk (Continued)

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, 2019 and 2018 are as follows: (Continued)

Unit: Million Baht

Separate financial statements		
	2019	2018
Forward foreign exchange purchase contracts		
Baht 30.1085 - 30.3866 = 1 USD	21,778.19	-
Baht 32.3760 - 33.0504 = 1 USD	-	24,429.29
Forward foreign exchange sale contracts		
Baht 29.9950 - 31.1025 = 1 USD	9,536.97	-
Baht 32.1780 - 32.8300 = 1 USD	-	14,753.80
Baht 0.2790 - 0.2806 = 1 JPY	5,595.50	-
Baht 0.2894 - 0.2952 = 1 JPY	-	17,506.89

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39.2 Currency Risk

The Group has entered into a cross-currency swap contract of a long-term loan in the form of a participating swap contracts. The term of such contract as at December 31, 2019 and 2018 is as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
JPY 23,000.00 million/USD 196.94 million	6,430.87	6,830.15	6,430.87	6,830.15

This contract has a maturity later than five years.

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39.3 Currency and Interest Rate Risks

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, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Baht 26,400.00 million/USD 829.05 million	26,400.00	-	-	-
Baht 9,322.55 million/USD 280.00 million	9,322.55	-	-	-
Baht 4,000.00 million/USD 120.55 million	4,000.00	4,000.00	4,000.00	4,000.00
Baht 27,100.00 million/USD 844.85 million	-	27,100.00	-	-
Baht 8,285.45 million/USD 250.00 million	-	8,285.45	-	-
Baht 6,811.50 million/USD 200.00 million	-	6,811.50	-	-
Baht 745.00 million/USD 23.40 million	-	745.00	-	-
USD 200.00 million/THB 6,880.00 million	5,995.34	6,456.95	5,995.34	6,456.95
USD 70.00 million/THB 2,331.00 million	2,098.37	2,259.94	2,098.37	2,259.94
USD 70.00 million/THB 2,184.00 million	2,098.37	2,259.94	2,098.37	2,259.94
Total	49,914.63	57,918.78	14,192.08	14,976.83

The maturity periods of contracts are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Due within 1 year	8,093.71	3,245.00	8,093.71	-
Over 1 year but not over 5 years	30,420.92	43,273.78	6,098.37	14,976.83
Over 5 years	11,400.00	11,400.00	-	-
Total	49,914.63	57,918.78	14,192.08	14,976.83

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, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Interest rate swap contracts to swap floating for fixed rate in USD currency	501.54	324.50	-	-
Interest rate swap contracts to swap fixed for floating rate in USD currency	-	16,148.53	-	16,148.53
Interest rate swap contracts to swap fixed for lower fixed rate in USD currency	3,033.13	-	3,033.13	-
Interest rate swap contracts to swap floating for fixed rate in Baht currency	6,392.66	6,241.13	-	-
Interest rate swap contracts to swap fixed for floating rate in Baht currency	16,000.00	18,000.00	16,000.00	18,000.00
Interest rate swap contracts to swap fixed for lower fixed rate in Baht currency	12,000.00	-	12,000.00	-
Interest rate swap contracts to swap floating for fixed rate in JPY currency	-	7,473.61	-	-
Total	37,927.33	48,187.77	31,033.13	34,148.53

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39.4 Interest Rate Risk (Continued)

The maturity periods of contracts are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Due within 1 year	301.54	16,575.15	-	16,148.53
Over 1 year but not over 5 years	27,233.13	8,030.95	27,033.13	6,000.00
Over 5 years	10,392.66	23,581.67	4,000.00	12,000.00
Total	37,927.33	48,187.77	31,033.13	34,148.53

39.5 Fluctuations in Oil Market Price Risk

The Group has entered into oil price derivatives. As at December 31, 2019, the volume of oil under those contracts that mature during January to December 2020 is 40.86 million barrels in the consolidated financial statements (December 31, 2018: 20.01 million barrels), and 0.80 million barrels in the separate financial statements (December 31, 2018: 0.01 million barrels).

39.6 Credit Risk

Credit risk arises when customers do not comply with the terms of agreements or the 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 using financial instruments, such as the Bank Guarantee, Letter of Guarantee or Standby Letter of Credit, making payment by using Letter of Credit (L/C), Trade Credit Insurance. The Company also manages credit risk in various ways, such as Cash collateral and Advanced payment, in order to reduce credit risk and to determine procedures for risk prevention and mitigation, including credit rating for all trading partners. In addition, the Company reviews their credit ratings regularly to be standardized and be effective for credit consideration process.

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.

40. Fair Value Measurement (Continued)

As at December 31, 2019 and 2018, the Group had the assets and liabilities that were measured at fair value using different levels of inputs as follows:

As at December 31, 2019

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	3,360.42	-	-	3,360.42
Mutual funds	1,170.19	-	653.49	1,823.68
Debt instruments	-	1,503.25	-	1,503.25
Derivatives				
Foreign currency forward contracts	-	357.37	-	357.37
Cross-currency swap contracts	-	4,949.08	-	4,949.08
Interest rate swap contracts	-	264.63	-	264.63
Commodity swap contracts	-	696.00	-	696.00
Other derivative contracts	-	1,229.82	-	1,229.82
Other non-current assets				
Others	1,353.50	-	-	1,353.50
Financial liabilities measured at fair value				
Derivatives				
Foreign currency forward contracts	-	727.17	-	727.17
Cross-currency swap contracts	-	154.37	-	154.37
Interest rate swap contracts	-	2,492.38	-	2,492.38
Commodity swap contracts	1,365.19	412.14	-	1,777.33
Other derivative contracts	-	73.25	-	73.25
Other non-current liabilities				
Deferred considerations acquired through business acquisition	-	-	213.94	213.94
Contingent consideration from participating interest acquisition in joint venture	-	-	1,563.84	1,563.84

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40. Fair Value Measurement (Continued)

As at December 31, 2019 and 2018, 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

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, 2019 and 2018, 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, 2019

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	1,936.00	-	-	1,936.00
Mutual funds	397.21	-	653.49	1,050.70
Derivatives				
Cross-currency swap contracts	-	1,763.13	-	1,763.13
Interest rate swap contracts	-	239.00	-	239.00
Financial liabilities measured at fair value				
Derivatives				
Interest rate swap contracts	-	324.32	-	324.32

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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

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40. Fair Value Measurement (Continued)

As at December 31, 2019 and 2018, the Group had the assets and liabilities that were disclosed at fair value using different levels of inputs as follows:

As at December 31, 2019

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	-	15,013.76	-	15,013.76
Investment properties	-	15,749.62	11,855.57	27,605.19
Derivatives				
Foreign currency forward contracts	-	11.30	-	11.30
Foreign exchange option contracts	-	604.46	-	604.46
Commodity swap contracts	-	0.50	-	0.50
Financial liabilities disclosed at fair value				
Debentures - Baht currency	-	189,826.48	-	189,826.48
Debentures - foreign currencies	-	203,316.58	-	203,316.58
Derivatives				
Foreign currency forward contracts	-	330.03	-	330.03
Cross-currency swap contracts	-	473.20	-	473.20
Interest rate swap contracts	-	1,281.22	-	1,281.22
Commodity swap contracts	-	3.95	-	3.95

40. Fair Value Measurement (Continued)

As at December 31, 2019 and 2018, 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

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

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40. Fair Value Measurement (Continued)

As at December 31, 2019 and 2018, 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, 2019

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	-	15,013.76	-	15,013.76
Investment properties	-	7,775.23	387.33	8,162.56
Derivatives				
Foreign currency forward contracts	-	11.13	-	11.13
Foreign exchange option contracts	-	604.46	-	604.46
Commodity swap contracts	-	0.50	-	0.50
Financial liabilities disclosed at fair value				
Debentures - Baht currency	-	96,925.10	-	96,925.10
Debentures - foreign currencies	-	10,123.18	-	10,123.18
Derivatives				
Foreign currency forward contracts	-	209.74	-	209.74

40. Fair Value Measurement (Continued)

As at December 31, 2019 and 2018, 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

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40. Fair Value Measurement (Continued)

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 value of other non-current liabilities categorized as deferred considerations acquired through business acquisition was determined by using income approach based on discount rate at 2.76% and other probability assumptions which is classified as fair value level 3.

The fair value of other non-current liabilities categorized as a contingent consideration from participating interest acquisition in joint venture which was resulted from discounting the contingent consideration value. The fair value was determined by using income approach based on discount rate of 2.62% and probability assumption which is classified as fair value level 3.

The fair values of land and buildings for rent categorized as investment property were determined by 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

During the year 2019, the PTTEP Group redeemed the US Dollar subordinated capital debentures as follows:

Consolidated financial statements						
	Unit: Million USD			Unit: Million Baht		
	Before redeemed	(Redeemed/ Repurchase)	After redeemed	Before redeemed	(Redeemed/ Repurchase)	After redeemed
PTTEP						
Issuance and offering value	145.31	(145.31)	-	-	-	-
Net value from finance cost	144.66	(144.66)*	-	4,679.78	(4,679.78)*	-
PTTEP TC						
Issuance and offering value	354.69	(354.69)	-	-	-	-
Net value from finance cost	354.16	(354.16)*	-	11,808.63	(11,808.63)*	-
PTTEP TC						
Issuance and offering value	500.00	(469.15)	30.85	-	-	-
Net value from finance cost	499.29	(468.43)**	30.86	16,761.35	(15,725.31)**	1,036.04
Total						
Issuance and offering value	1,000.00	(969.15)	30.85	-	-	-
Net value from finance cost	998.11	(967.25)	30.86	33,249.76	(32,213.72)	1,036.04

* The redemption of subordinated capital debentures is the first exercise of the redemption rights stipulated in the offering memorandum at the par value.

** PTTEP Treasury Center Co., Ltd. (PTTEP TC) repurchased the subordinated capital debentures in accordance with specified conditions and procedures.

42. Dividend Payment

On April 11, 2019, at the 2019 Annual General Shareholders' Meeting of the Company, the shareholders approved dividend payments for the year 2018 of Baht 2.00 per share, approximately amounting to Baht 57,123.07 million. On October 26, 2018, the Company paid an interim dividend from the operating results of the first half of 2018 at Baht 0.80 per share for 28,562,591,709 shares, amounting to Baht 22,850.07 million. The remaining dividend was paid as follows:

Dividend	For operating period	Dividend payment rate (Baht/share)	Number of shares (shares)	Total dividend (Million Baht)	Payment date
For the year 2018	July 1, 2018 - December 31, 2018	1.20	28,560,830,446	34,273.00	April 30, 2019

On September 27, 2019, at the Board of Directors Meeting of the Company No. 9/2019, the Board approved interim dividend payments for the first half of 2019 as follows:

Dividend	For operating period	Dividend payment rate (Baht/share)	Number of shares (shares)	Total dividend (Million Baht)	Payment date
Interim	January 1, 2019 - June 30, 2019	0.90	28,562,203,593	25,705.98	October 25, 2019

43. Business Acquisition

- 43.1 On June 20, 2018, GPSC entered into a Share Purchase Agreement with ENGIE Global Developments B.V. (ENGIE) to acquire shares totaling 1,010,976,033 both directly and indirectly in Glow Energy Public Company Limited (GLOW), a company that generates and supplies electricity, steam and water. The share acquisition represents 69.11% of total registered and paid-up capital at the purchase price of Baht 91.99 per share, totaling Baht 93,000.93 million. The acquisition of GLOW's shares was achieved by acquiring 218,696,260 direct shares and 792,279,773 indirect shares from acquiring all the shares of ENGIE Holding (Thailand) Company Limited. Sources of funding are a financial institution and related parties. GPSC made a full payment to ENGIE and changed a shareholder's name on March 14, 2019.

43. Business Acquisition (Continued)

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

	Unit: Million Baht
Purchase consideration	93,000.93
Fair value of net assets acquired	(56,911.09)
Goodwill (Note 19)	36,089.84

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

	Unit: Million Baht
Cash and cash equivalents	14,487.72
Trade accounts receivable	6,133.04
Other accounts receivable	285.91
Short-term lending loans	306.66
Inventories	1,158.31
Materials and supplies	4,342.64
Other current assets	34.89
Investments in associates (Note 15.6.2)	330.03
Long-term lending loans	4,020.32
Property, plant and equipment (Note 18)	75,335.59
Intangible assets (Note 20)	45,419.71
Deferred tax assets (Note 22.3)	3,359.89
Other non-current assets	285.63
Trade accounts payable	(3,128.52)
Other accounts payable	(1,592.04)
Short-term loans (Note 26)	(701.55)
Current portion of long-term loans (Note 26)	(4,802.84)
Income tax payable	(677.25)
Other current liabilities	(778.23)

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43. Business Acquisition (Continued)

43.1 Assets and liabilities arising from the business acquisition at the acquisition date are as follows: (Continued)

	Unit: Million Baht
Long-term loans (Note 26)	(31,295.70)
Deferred tax liabilities (Note 22.3)	(10,706.65)
Provisions for employee benefit (Note 27)	(255.61)
Provision for decommissioning costs (Note 28)	(192.43)
Other non-current liabilities	(12,366.51)
Fair value of net assets	89,003.01
<u>Less</u> Non-controlling interests	(32,091.92)
Fair value of net assets acquired	56,911.09
<u>Add</u> Goodwill (Note 19)	36,089.84
Total purchase consideration transferred	93,000.93
<u>Less</u> Cash and cash equivalents of subsidiaries	(14,487.72)
Cash outflow on the business acquisition	78,513.21

Rights to customer contracts which represented as intangible assets are amortized using the straight line method based on their estimated useful lives between 5 - 31 years. Goodwill is not amortized but is tested annually for impairment.

On May 22, 2019 and December 2, 2019, GPSC acquired securities of GLOW from tender offer and on August 13, 2019, the Extraordinary General Meeting of Shareholders of GLOW passed a resolution to approve the delisting of Securities, and on the same date, GLOW submitted the Application for delisting of Shares (F10-7) to the Board of the Stock Exchange of Thailand. The Board of the Stock Exchange of Thailand ordered to delist the ordinary shares of GLOW from being listed securities from December 13, 2019 onwards.

During the year 2019, GPSC acquired securities by tender offer from non-controlling interests of Baht 40,806.27 million. As a result, GPSC has total investment in GLOW of Baht 133,807.21 million. This increased direct and indirect shareholding interests from 69.11% to 99.83% of registered and paid-up capital. The Group recognized deficit from the change in the ownership interests in subsidiaries amounting to Baht 6,513.00 million is presented in shareholders' equity in the consolidated financial statements.

43. Business Acquisition (Continued)

- 43.2 On December 17, 2018, the PTTGM Group entered into a Share Purchase Agreement with PT Sentika Mitra Persada (SMP) and PT Mutiara Kapuas (MK), the companies have potential coal resources located in Indonesia. The acquisition was completed on May 3, 2019 and paid-up capital at the purchase price totaling Baht 268.12 million and Baht 101.70 million, respectively.

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

	Unit: Million Baht	
	SMP	MK
Purchase consideration	268.12	101.70
Fair value of net assets acquired	(268.12)	(101.70)
Goodwill (Note 19)	-	-

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

	Unit: Million Baht	
	SMP	MK
Other accounts receivable	5.14	1.02
Property, plant and equipment (Note 18)	274.14	121.17
Intangible assets (Note 20)	20.03	-
Exploration and Evaluation Assets (Note 21)	23.64	3.74
Deferred tax liabilities (Note 22.3)	(54.83)	(24.23)
Total purchase consideration transferred	268.12	101.70

The PTTGM Group has attributed the excess of consideration paid and the fair value of the assets and liabilities in SMP and MK to mineral rights (coal reserves), which represented as intangible assets. A corresponding deferred tax liabilities was recognized.

Management is currently performing the purchase price allocation exercise to determine the fair value of the identifiable assets and liabilities at the date of acquisition. This process will to be finalized within 12 months from the date of acquisition.

43. Business Acquisition (Continued)

- 43.3 On March 21, 2019, PTTEP HK Offshore Limited (PTTEP HKO), a subsidiary of the PTTEP Group, had signed the Share Sale and Purchase Agreement (SSPA) to acquire the 100% shareholding interests of Murphy Oil Corporation (Murphy) in Malaysia through acquisition of shares in Murphy's subsidiaries, which are Murphy Sabah Oil Co., Ltd. (Murphy Sabah) and Murphy Sarawak Oil Co., Ltd. (Murphy Sarawak), with total acquisition value of approximately USD 2,130.86 million (Baht 65,724.27 million). Moreover, according to the SSPA, there may be contingent consideration of not exceeding USD 100.00 million if there is significant petroleum found from exploration of SK405B project. The acquisition was completed on July 10, 2019.

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

	Unit: Million Baht
Purchase consideration	65,724.27
Fair value of net assets acquired	(46,873.69)
Goodwill (Note 19)	18,850.58

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

	Unit: Million Baht
Cash and cash equivalents	1,816.86
Trade accounts receivable	4,257.70
Other accounts receivable	2,331.52
Inventories	240.00
Materials and supplies	604.51
Other current assets	347.26
Property, plant and equipment (Note 18)	50,194.82
Intangible assets (Note 20)	76.71
Exploration and Evaluation Assets (Note 21)	12,660.24
Deferred tax assets (Note 22.3)	3,026.87
Other non-current assets	1,635.75

43. Business Acquisition (Continued)

43.3 Assets and liabilities arising from the business acquisition at the acquisition date are as follows: (Continued)

	Unit: Million Baht
Trade accounts payable	(193.74)
Other accounts payable	(4,918.17)
Current portion of long-term loans (Note 26)	(529.44)
Other current liabilities	(1,104.31)
Long-term loans (Note 26)	(4,101.63)
Deferred tax liabilities (Note 22.3)	(11,184.83)
Provision for decommissioning costs (Note 28)	(8,286.43)
Fair value of net assets acquired	46,873.69
<u>Add</u> Goodwill (Note 19)	18,850.58
Total purchase consideration transferred	65,724.27
<u>Less</u> Cash and cash equivalents of subsidiaries	(1,816.86)
Cash outflow on the business acquisition	63,907.41

Goodwill of USD 611.16 million (Baht 18,850.58 million) arises mainly from the recognition of deferred tax liabilities arising from the difference between the fair value of net identifiable assets acquired from the acquisition and the book value which is the tax base of these net assets. The fair value of the identifiable assets acquired and liabilities assumed may be adjusted to reflect new information obtained about facts and circumstances that existed as of the acquisition date, however, the measurement period shall not exceed one year from the date which the PTTEP Group has control.

The fair value of total considerations transferred on the acquisition date of USD 2,130.86 million (Baht 65,724.27 million) consists of cash payment on acquisition date of USD 2,123.76 million (Baht 65,505.43 million) and deferred consideration of USD 7.10 million (Baht 218.84 million), which is recognized in other non-current liabilities in the consolidated financial statements.

43.4 On September 12, 2019, TOP Solvent Company Limited (TS), a subsidiary of the TOP Group, purchased the shares for investment in PT. Tirta Surya Raya (TSR), from the existing shareholders of TSR representing 67.00% shareholding interest. TSR is a company registered in Indonesia and engages in distributing solvent and chemical products. TS purchased 15,410 shares, totalling USD 1.28 million or equivalent to Baht 40.24 million.

43. Business Acquisition (Continued)

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

	Unit: Million Baht
Purchase consideration	40.24
Fair value of net assets acquired	(27.02)
Goodwill (Note 19)	13.22

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

	Unit: Million Baht
Cash and cash equivalents	1.46
Trade accounts receivable	14.79
Other accounts receivable	31.11
Inventories	4.09
Property, plant and equipment (Note 18)	3.01
Other current liabilities	(14.21)
Fair value of net assets	40.25
<u>Less</u> Non-controlling interests	(13.23)
Fair value of net assets acquired	27.02
<u>Add</u> Goodwill (Note 19)	13.22
Total purchase consideration transferred	40.24
<u>Less</u> Cash and cash equivalents of subsidiaries	(1.46)
Cash outflow on the business acquisition	38.78

The TOP Group is under the process of determining fair value of the acquired net assets which is expected to be finalized within 12 months from the acquisition date.

43.5 On June 17, 2019, PTTEP HK Holding Limited (PTTEP HK), a subsidiary of the PTTEP Group, signed the Share Purchase Agreement (SPA) to acquire the 100% shareholding interests of Partex Holding B.V. (Partex) from Calouste Gulbenkian Foundation with the total acquisition value of approximately USD 716.16 million (Baht 21,604.53 million). The value may be adjusted according to conditions in the SPA. The acquisition was completed on November 4, 2019.

43. Business Acquisition (Continued)

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

	Unit: Million Baht
Purchase consideration	21,604.53
Fair value of net assets acquired	(15,406.56)
Goodwill (Note 19)	6,197.97

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

	Unit: Million Baht	
Cash and cash equivalents	4,196.90	Notes to Financial Statements
Trade accounts receivable	1,373.26	
Other accounts receivable	24.16	
Materials and supplies	418.87	
Other current assets	17.24	
Investments in associates (Note 15.6.1)	2,502.52	195
Property, plant and equipment (Note 18)	14,150.69	Annual Report 2019 (Financial Report) PTT Public Company Limited
Intangible assets (Note 20)	1,107.50	
Exploration and Evaluation Assets (Note 21)	2,947.68	
Other non-current assets	1,776.48	
Trade accounts payable	(1,800.82)	
Other accounts payable	(358.44)	
Income tax payable	(390.66)	
Other current liabilities	(4.52)	
Deferred tax liabilities (Note 22.3)	(7,190.83)	
Provisions for employee benefit (Note 27)	(1,354.08)	
Provision for decommissioning costs (Note 28)	(1,888.40)	Unofficial Translation
Other non-current liabilities	(120.99)	
Fair value of net assets acquired	15,406.56	
<u>Add</u> Goodwill (Note 19)	6,197.97	
Total purchase consideration transferred	21,604.53	
<u>Less</u> Cash and cash equivalents of subsidiaries	(4,196.90)	
Cash outflow on the business acquisition	17,407.63	



43. Business Acquisition (Continued)

- 43.5 Goodwill of USD 205.46 million (Baht 6,197.97 million) arises primarily from the recognition of deferred tax liabilities arising from the difference between the fair value of net assets acquired from the acquisition and the book value which is the tax base of these net assets. The fair value of the identifiable assets acquired and liabilities assumed may be adjusted to reflect new information obtained about facts and circumstances that existed as of the acquisition date, however, the measurement period shall not exceed one year from the date which the PTTEP Group has control.

The fair value of total considerations transferred on the acquisition date of USD 716.16 million (Baht 21,604.53 million) was fully paid in cash by PTTEP HK on the acquisition date.

- 43.6 On August 8, 2018, the PTTGC Group entered into the Shares Purchase Agreement to acquire 74.00% share of Siam Mitsui PTA Company Limited, Purified Terephthalic Acid producer, and 74.00% 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 for a preliminary cash consideration of approximately Baht 4,122.83 million. The final purchase price was settled with the seller for an additional payment of approximately Baht 1,248.88 million, which already paid in March 2019.

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 increases market potential in polymer business to satisfy customer's need.

However, the fair value of assets acquired and liabilities have been already completed. Therefore, the fair value of assets acquired and liabilities have been adjusted and gain on bargain purchase of Baht 31.48 million, which is presented in other revenues in the consolidated income statements for the year ended December 31, 2019.

43. Business Acquisition (Continued)

43.6 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	9,549.91
Intangible assets	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	(583.54)
Provisions for employee benefit	(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

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44. 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 Chonburi 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. For the year 2019, there is no the promotional privileges for the Company.

The sales and service income of the Company from the promoted and non-promoted businesses for the years ended December 31, 2019 and 2018 are as follows:

	Unit: Million Baht
	Separate financial statements
	2018
Promoted businesses	27,545.26
Non-promoted businesses	1,383,475.79
Total	<u>1,411,021.05</u>

44. Promotional Privileges (Continued)

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

The TOP Group has been granted privileges from the BOI 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.

The PTTGC Group 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.

The GPSC Group 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.

44. Promotional Privileges (Continued)

The IRPC Group has been granted privileges for its manufacture of Compounded Plastic, the cogeneration and steam power plant project (CHP), Propylene project (PRP), EBSM Upgrading for ABS Specialties project (EBSM), Multi Product Pipeline project (MPPL), Polypropylene Resin (PPE) project, Polypropylene Compound (PPC) project, High Pressure HDPE Compound project, Investment project in Industrial zone and Upstream Project for Hygiene, Value Added Products (UHV) and Floating Solar project. 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.

The PTT TANK Group has been granted promotional privileges for its service and public utilities, Category 7.1: Public utilities and basic services. 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. Moreover, the PTT TANK Group has been granted promotional privileges for its service and public utilities, Category 7.1.4.: Public utilities and basic services for its loading/unloading facilities for sea transport. 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 six 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.

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

45. Proceeding Regarding the Central Administrative Court's Ordering the 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.

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.

46. Commitments and Contingent Liabilities

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

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

46.1.1 The Company has provided loans to its subsidiaries with credit limits totalling Baht 142,277.00 million. As at December 31, 2019, the Company made these loans payments to its subsidiaries totalling Baht 94,146.51 million. The remaining credit limits were Baht 48,130.49 million.

46.1.2 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, 2019, the Company had commitments of USD 16.91 million or equivalent to Baht 512.90 million.

46.1.3 The Company had obligations under the Shareholder Agreements to pay for ordinary shares in proportion to its shareholding. As at December 31, 2019, the Company had remaining obligations amounting to Baht 2,656.46 million.

202 46.2 Commitments under operating leases - the Group as a lessee, the future minimum lease payments under uncancellable operating leases as at December 31, 2019 and 2018 are as follows:

Unit: Million Baht

	Consolidated financial statements		Separate financial statements	
	2019	2018*	2019	2018*
Within 1 year	6,422.59	2,607.35	442.66	441.86
Over 1 year but not over 5 years	11,407.19	6,210.69	1,374.01	1,453.18
Over 5 years	29,996.76	27,995.30	3,031.04	3,254.79
Total	47,826.54	36,813.34	4,847.71	5,149.83

* The Company has adjusted the financial information to be comparable with the financial statement presentation for the years ended December 31, 2019.

Operating lease commitments recognised as expense for the year ended December 31, 2019 amounting to Baht 11,633.94 million (2018: Baht 5,066.58 million) in the consolidated financial statements and Baht 1,936.39 million (2018: Baht 2,837.45 million) in the separate financial statements.

46. Commitments and Contingent Liabilities (Continued)

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

- 46.3 As at December 31, 2019, the Group had capital commitments of Baht 94,215.41 million in the consolidated financial statements.
- 46.4 As at December 31, 2019, the Group had outstanding letters of credit of Baht 44,966.06 million in the consolidated financial statements and Baht 2,745.86 million in the separate financial statements.
- 46.5 As at December 31, 2019, the Group had contingent liabilities in the form of letter of guarantee amounting to Baht 28,682.96 million in the consolidated financial statements and Baht 71.32 million in the separate financial statements.
- 46.6 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. 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. On September 19, 2019, the Civil Court rendered a judgment to enforce the arbitral award that the Company to make payment of damages according to the abovementioned award in the amount of Baht 390.00 million per annum from February 1, 2012 to March 25, 2016 with the interest thereof at the rate of 7.50% per annum accrued from the date of the arbitral award to the date on which the Company makes full payment. However, the Company respectfully cannot concur with the judgment and, therefore, will appeal the Civil Court's judgment with the Supreme Court in accordance with the law.

46. Commitments and Contingent Liabilities (Continued)

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

- 46.7 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 judgment 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 23. Subsequently, the Contractor also submitted with the Supreme Court an appeal of the Civil Court’s judgment. On December 18, 2019, the Supreme Court rendered judgment in not accepting the Company’s appeal for consideration and the case was final. Therefore, the Company was obliged to make payment in accordance with the Civil Court’s judgment. On January 8, 2020, the Company made payment in accordance with the Civil Court’s judgment in the approximate amount of Baht 4,543.51 million with the Civil 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. However, the Company already submitted the application of repayment of debt in the bankruptcy case. The Contractor, then, file a motion for revocation of the arbitral award with the Civil Court and the Company by the Office of the Attorney General submitted the motion to object the revocation of the arbitral award with the Civil Court. The case is currently under the consideration of the Civil Court.

46. Commitments and Contingent Liabilities (Continued)

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

- 46.8 On February 25, 2014, the contractor for an onshore 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.

After the Company terminated the contract with the Contractor, the Company completed an onshore natural gas pipeline construction project. Subsequently, on June 20, 2018, 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.

On September 25, 2019, the Contractor filed a statement of fact with the Central Administrative Court that on March 8, 2019, the National Company Law Tribunal of India ordered that the Contractor to be under the Corporate Insolvency Resolution Process and appointed the Resolution Professional in accordance with India Law. The Company conducted an investigation and found that such statement was true. Subsequently, on November 26, 2019, the Company filed a petition to request the payment of debt with the Resolution Professional in India. Currently, the Resolution Professional is in consideration of the Company’s petition. With regard to the Central Administrative Court’s case, the Court is in consideration of the proceedings of the case.

- 46.9 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 Montara oil spill incident in the Timor Sea in 2009. 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 to defend against the claim. Currently, the case is under the court determination.

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.

46. Commitments and Contingent Liabilities (Continued)

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

- 46.10 During the third quarter of 2014, the number of people in Rayong filed several lawsuits with the Civil Court and the 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 judgment 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 May 11, 2018, PTTGC made a compromise agreement with majority plaintiffs at the Civil Court. On December 20, 2018, the Court of Appeal has passed the judgment according to the compromise contracts which PTTGC has already paid compensation in full amount. For the remaining plaintiffs, the Court of Appeal orders PTTGC to pay compensation with its interest according to the judgement of the Court of First Instance and reduced the amount of interest. PTTGC has paid compensation to all plaintiff completely and no petition is submitted to Supreme Court by any of plaintiff. This case has become final.

For the case at Rayong Provincial Court, on September 28, 2018, the Court has made the judgement ordering PTTGC to pay damage cost with its interest approximately Baht 37.74 million by deducting the remedy payment paid to the plaintiffs of Baht 24.00 million. PTTGC deposited the remaining damage cost with its interest to the Rayong Provincial Court on February 25, 2019. Some plaintiffs filed an appeal with the Rayong Provincial Court and PTTGC has filed an answer to the appeal with the Rayong Provincial Court on October 2, 2019. Subsequently, on January 22, 2020 the Rayong Provincial Court sent an appointment to hear the judgment of the Court of Appeal Region 2 on March 19, 2020.

47. Other Events

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.

47. Other Events (Continued)

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. Events after the Reporting Period

- 48.1 On November 29, 2019, at the Board of Directors Meeting of PTT LNG Co., Ltd. (PTTLNG) No. 12/2019, the Board passed a resolution to approve the call up of remaining additional share capital of Baht 25.66 million. The Company made the additional payment on January 24, 2020.
- 48.2 On February 20, 2020, at the Board of Directors Meeting No. 2/2020 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 2019. On October 25, 2019, the Company paid an interim dividend of Baht 0.90 per share as described in Note 42. Accordingly, the remaining dividend of Baht 1.10 per share or approximately Baht 31,419 million will be proposed for approval by the Annual General Meeting of the Company's shareholders for the year 2020.
- 48.3 The board of directors of the Company approved these financial statements for public issuance on February 20, 2020.



Audit Fee

For the completed accounting period, PTT and its subsidiaries paid Baht 142,026,208 (one hundred forty-two million twenty six thousand two hundred and eight Baht) in total as audit fee to the offices of external auditors for previous fiscal year round. They also paid Baht 38,019,046 (thirty-eight million nineteen thousand and forty-six Baht) for other services (Non-audit Fee) such as, fees for Comfort Letter which issue for subsidiaries' debt management plan for USD currency debenture distributed to foreign investors, fee for revisit the Updated Global Medium Term Notes, fees for certifying financial statements submitted to the Revenue Department, and other certification fees in previous fiscal year.



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