

CREDIT OPINION

7 May 2020

Update

✓ Rate this Research

RATINGS

PTT Public Company Limited

Domicile	Thailand
Long Term Rating	Baa1
Type	LT Issuer Rating - Fgn Curr
Outlook	Stable

Please see the [ratings section](#) at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

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PTT Public Company Limited

Update following affirmation of Baa1 ratings, outlook changed to stable

Summary

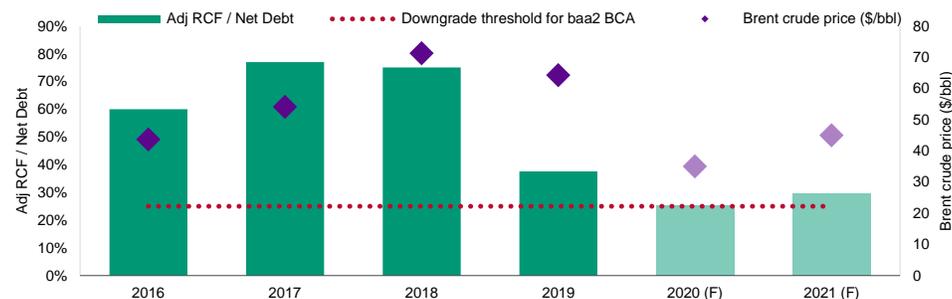
PTT Public Company Limited's (PTT) Baa1 issuer rating primarily reflects the company's standalone credit quality as captured in its baa2 Baseline Credit Assessment (BCA). The baa2 BCA reflects PTT's (1) strategic importance as Thailand's national integrated oil and gas company as well as the sole operator in the gas transmission and distribution segment; (2) significant upstream production and control over around 60% of Thailand's refining capacity; (3) track record of maintaining conservative credit metrics through oil price cycles, given its integrated business model; and (4) strong liquidity, with a large cash balance.

PTT's BCA is constrained by its (1) appetite to increase scale, which translates into higher capital investment and acquisition risk; (2) execution risks associated with expansion plans in the downstream segments; (3) less-than-majority ownership in a number of its key operating companies; and (4) inherent exposure to the cyclical nature of oil prices and refining or petrochemical margins.

The Baa1 issuer rating incorporates our expectation of a high likelihood of extraordinary support from the [Government of Thailand](#) (Baa1 stable), which results in a one-notch uplift. Our support assessment reflects (1) the Thai Ministry of Finance's explicit intention to maintain majority government ownership; (2) the close supervision and alignment of the company's corporate policy with the government's energy policy; and (3) its national importance in gas distribution and, ultimately, to the country's power sector, as well as its responsibility to prevent any fuel shortages in Thailand.

Exhibit 1

PTT's credit metrics will weaken due to lower oil prices, but remain within tolerance levels of its baa2 BCA



All ratios reflect Moody's standard adjustments. Adjusted net debt is net of cash on hand and assumes a 30% discount on short-term investments.

Sources: Moody's Financial Metrics™, Moody's Investors Service estimates

Credit strengths

- » Status as the sole operator in Thailand's gas transmission and distribution sector, which drives stable returns
- » Track record of maintaining conservative credit metrics through oil price cycles and strong liquidity
- » Expected support from the Thai government

Credit challenges

- » Upstream earnings exposed to cyclical crude oil prices
- » Appetite to increase scale which translates into higher capital investments and acquisition risk
- » Execution risks related to capital investments and downstream expansion plans

Rating outlook

The stable ratings outlook is in line with the outlook on Thailand's sovereign rating and reflects our expectation that PTT will maintain a prudent financial profile as it pursues growth.

Factors that could lead to an upgrade

We will upgrade PTT's issuer rating if (1) we upgrade Thailand's Baa1 sovereign rating; (2) PTT's BCA is at least maintained at the current baa2 level; and (3) there is no change in our support assessment incorporated in PTT's ratings.

Near-term upward rating pressure on PTT's baa2 BCA is limited, given the low oil prices and large planned expansion projects.

Nonetheless, PTT's BCA can improve to baa1, if the company maintains a solid credit and liquidity profile while (1) expanding its upstream oil and gas business through a combination of organic and inorganic growth, resulting in a significant increase in its reserves to over seven years; (2) strengthening its cash flow from its stable natural gas business segment; or (3) growing its other downstream refining and petrochemical segments.

An improvement in PTT's BCA will not automatically result in an upgrade of its issuer rating.

Factors that could lead to a downgrade

PTT's issuer rating could experience downward pressure if: (1) the company's BCA deteriorates below baa3; or (2) government ownership is reduced to below 51%, or government control is reduced by some other means, which would require a reassessment of the level of support incorporated into its ratings.

We would downgrade PTT's BCA to baa3 if (1) there is a significant deterioration in oil prices or refining margins such that it weakens operating cash flow, or (2) its oil and gas reserves continue to decline to below four years. Negative pressure on the BCA could also develop if the company undertakes large debt-funded acquisitions, resulting in weaker credit metrics and higher execution risk.

Credit metrics indicative of a deterioration in PTT's BCA include adjusted retained cash flow/net debt below 25%, adjusted debt/capitalization exceeding 45% and adjusted EBITDA/interest below 5.0x. A downgrade of the BCA to baa3 will not automatically result in a downgrade of PTT's issuer rating.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moody's.com for the most updated credit rating action information and rating history.

Key indicators

PTT's Key Indicators and Projections

USD Millions [1]	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20 (F)	Dec-21 (F)
Average Daily Production (Mboe/d) [2]	373	368	348	359	414	400 - 420	410 - 430
Total Proved Reserves (Million boe) [2]	738	695	631	677	1,138	1,070 - 1,110	1,040 - 1,080
Crude Distillation Capacity (mbbls/day)	635	635	635	635	635	635	635
EBIT / Avg. Book Capitalization	9%	10%	14%	12%	9%	5% - 8%	6% - 10%
Downstream EBIT/Total Throughput Barrels (\$/bbl)	\$7.4	\$9.2	\$12.2	\$10.2	\$3.3	\$2.5 - \$3.5	\$5.5 - \$6.5
EBIT / Interest Expense	4.6x	5.4x	7.5x	7.3x	4.9x	3x - 3.5x	3.5x - 4x
RCF / Net Debt [3]	48%	60%	77%	75%	38%	25% - 28%	27% - 30%
Debt / Book Capitalization	41%	38%	34%	33%	36%	37% - 38%	36% - 37%

[1] All figures and ratios are calculated using Moody's estimates and standard adjustments. Moody's Forecasts (F) or Projections (proj.) are Moody's opinion and do not represent the views of the issuer. Periods are financial year-end unless indicated. LTM = Last 12 months. [2] Net debt is net of cash on hand and assumes a 30% discount on short-term investments.

Sources: Moody's Financial Metrics™, Moody's Investors Service estimates

Profile

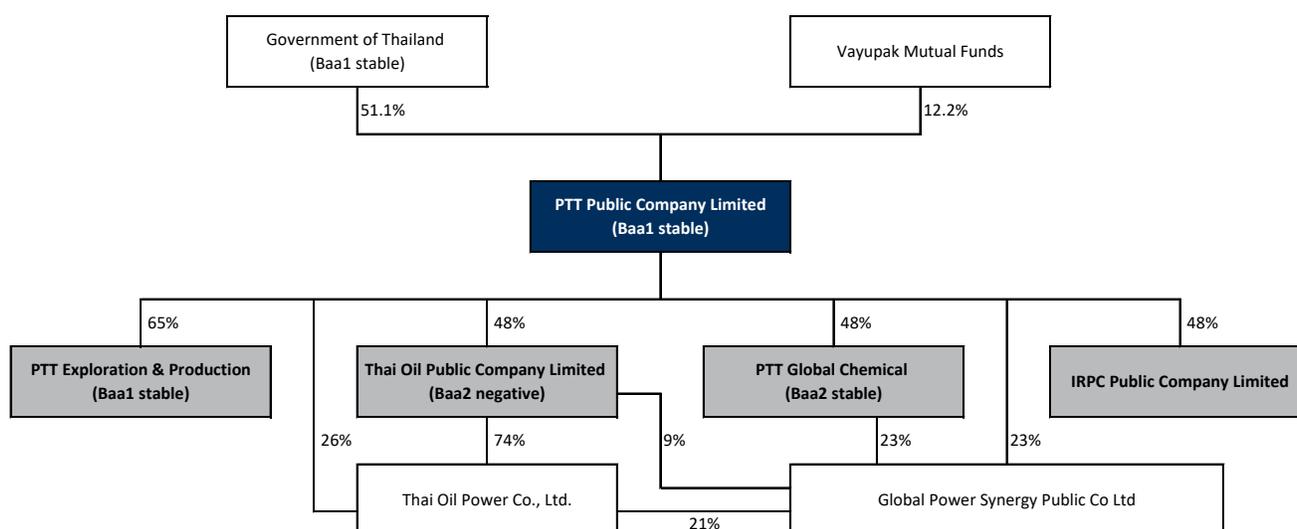
PTT Public Company Limited (PTT) is an integrated oil, gas and petrochemical company based in Thailand. Its main operations include gas transmission and distribution as well as upstream exploration and production through its 65%-owned subsidiary [PTT Exploration & Production Public Co. Ltd.](#) (PTTEP, Baa1 stable).

PTT holds interests in three out of the six oil refineries in Thailand, which, together with its six gas separation plants, support the company's petrochemical business. The company is also directly engaged in oil marketing and international trading. In 2019, the company reported consolidated revenue of THB2.2 trillion (\$69 billion).

The company's largest shareholder is the Thai Ministry of Finance, which owns 51.1% of its total share capital, while the government-invested Vayupak Mutual Funds owns a further 12.2%.

Exhibit 3

Simplified organization chart



Source: Company data

Detailed credit considerations

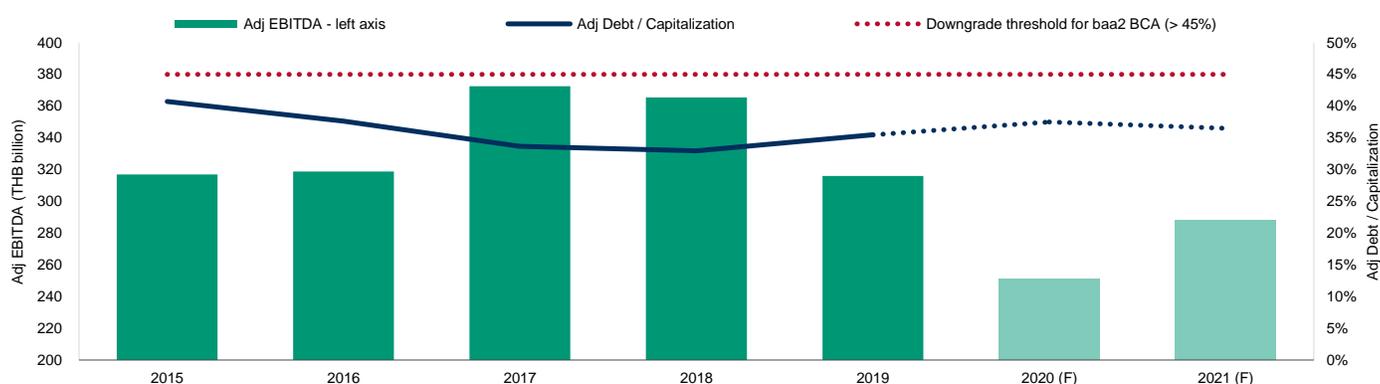
Prudent financial policies will continue to support ratings

Lower oil prices through 2020-21 will result in a decline in PTT's earnings. We expect its integrated business model to offer limited downside protection to its earnings in 2020 from lower oil prices, as its downstream earnings are unlikely to offset weaker upstream earnings because of weak demand for oil and petrochemical products. The coronavirus outbreak has led to unprecedented restrictions on the movement of people and softer industrial activities, which have resulted in a severe contraction in demand for transportation fuels. However, downstream earnings could improve in 2021 if there is a gradual economic recovery and travel restrictions are lifted.

Nonetheless, we expect PTT's earnings in 2020 will benefit to an extent from the crude oil hedges at PTTEP that covers approximately 40% of its 2020 crude sales volume. PTT's focus on natural gas sales also provides a buffer against volatility in its oil sales, which is exposed more directly to oil price fluctuations.

Exhibit 4

We expect PTT's earnings and credit metrics to weaken in 2020-21



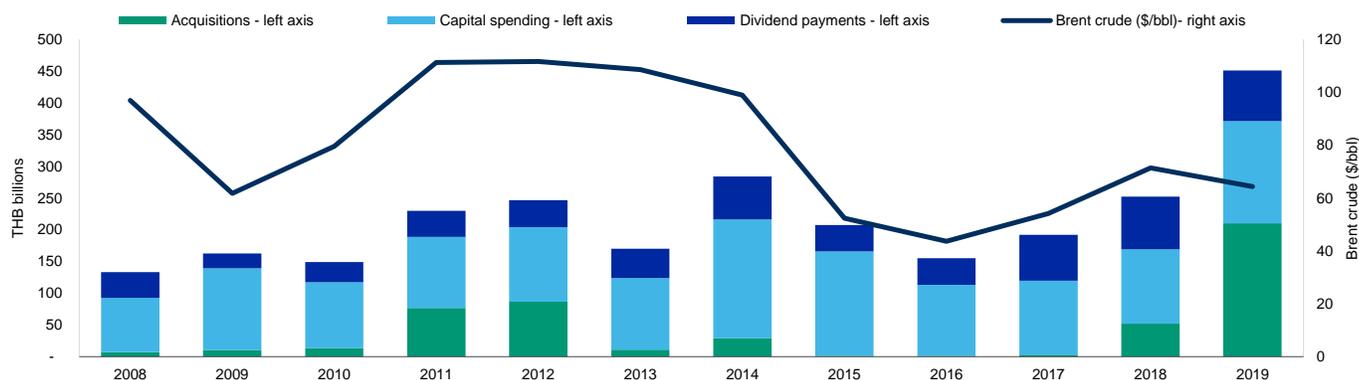
All ratios reflect Moody's standard adjustments.

Sources: Moody's Financial Metrics™, Moody's Investors Service estimates

Based on our price assumptions of Brent averaging \$35 per barrel in 2020 and \$45 per barrel in 2021¹, we expect PTT's adjusted RCF/net debt will decline to around 25%-28% in 2020 and recover to 27%-30% in 2021. In addition, its adjusted EBITDA/interest will fall to around 6.5x-7x in 2020 from 8.9x in 2019.

PTT's Baa1 rating also reflects its prudent capital management, strong liquidity and financial flexibility. We expect the company to have some flexibility to adjust its spending when operating conditions deteriorate, as demonstrated by its reduction in capital spending and dividend payments during the oil price decline of 2015-16. While the company has the appetite to increase scale, we expect PTT to be financially prudent and defer expansionary capital spending till such time when market conditions recover.

Exhibit 5

PTT has the flexibility to adjust spending during periods of low crude prices

Source: Moody's Financial Metrics™, US Energy Information Administration

Stable returns from transmission and distribution of gas and LNG

PTT's natural gas business provides a stable source of cash flow. The company owns and operates all six gas separation plants in Thailand, with total processing capacity of 2,870 million standard cubic feet per day (mmscfd), producing more than 7 million tons of gas per annum. It also owns substantially all of the country's gas pipeline network, which is over 4,000 kilometers. This network links commercial gas fields to gas separation plants, domestic power producers and other industry users.

Natural gas sales volume was 4,796 million cubic feet per day (mmscfd) in 2019, an increase of 2% from 2018. We expect overall demand for natural gas will decrease in 2020, as economic activities slow due to coronavirus outbreak.

Power producers and gas separation plants accounted for around 80% of PTT's total gas sales in 2019. Gas sales are subject to a government-prescribed tariff structure that comprises (1) the average price PTT pays to gas suppliers (including PTTEP), (2) a supply margin of 1.75% for most of its customers, and (3) a pipeline tariff of THB21.9 per million British thermal units to cover operating costs and a permitted return.

Moreover, there is a low degree of volume risk for PTT because the take-or-pay gas contracts it has entered into with off-takers and suppliers are essentially back-to-back and typically span 25-30 years. These long-term contracts partially mitigate PTT's exposure to the cyclical nature of the oil and gas sector.

While PTT's gas transmission and LNG business will continue to provide stable earnings, its contribution to consolidated earnings is modest relative to the larger group – in 2019, these businesses accounted for only 19% of PTT's reported EBITDA.

Recent acquisitions and awards of gas blocks will improve scale and operating profile

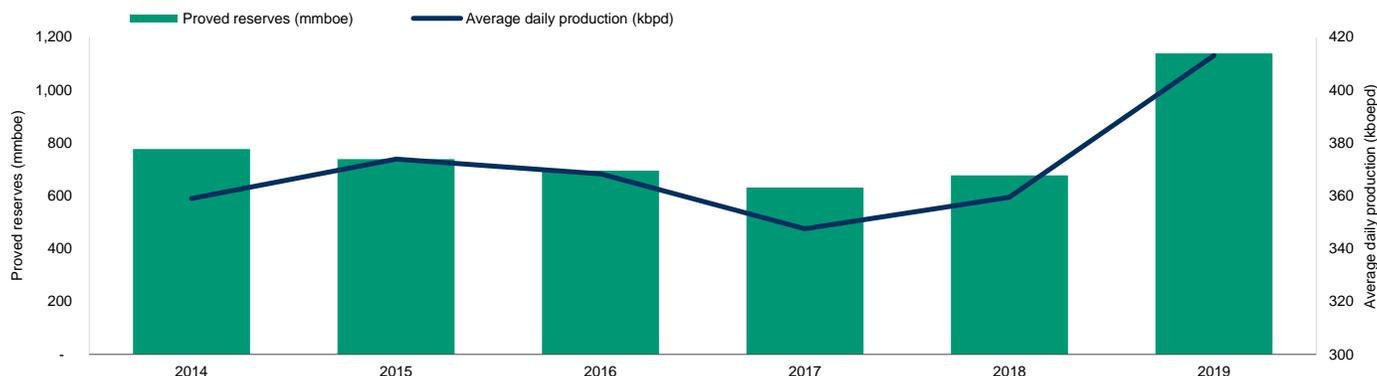
In 2019, PTT completed the acquisition of (1) a portfolio of Malaysian oil and gas assets comprising of working interest in five hydrocarbon blocks in Sabah and Sarawak, two of which are in the production phase for \$2.127 billion, and (2) 100% shares of Partex Holding B.V. (Partex) which primarily owns working interests in a number of producing upstream oil and gas assets across Oman, Kazakhstan and Brazil for \$622 million. We estimate that the assets from these two acquisitions will contribute to around 60 kboepd of PTT's sales volume in 2020.

PTT was also awarded in late 2018 the exploration and production rights of the Erawan and Bongkot gas blocks, which are Thailand's largest gas-producing blocks. PTT will hold 100% of the Bongkot block and 60% of the Erawan block and operate the two blocks for 20 years after the current contracts expire in 2022 and 2023 respectively. We estimate production volumes from the Bongkot and Erawan blocks will meaningfully add around 150 kboepd when the new concessions become effective. Our projections only reflects the minimum production levels that PTTEP has to meet. Volumes could be higher if the company produces more than the minimum requirement.

Its acquisitions in 2019 as well as its awarded oil and gas blocks have meaningfully increased PTTEP's proved reserves to 1.1 billion boe as at end 2019 from 677 million boe in 2018. As a result, PTTEP's proved reserve life has lengthened to 7.5 years in 2019 from 5 years in 2018.

Exhibit 6

Operating profile has improved following acquisitions completed in 2019



Source: PTTEP's annual report

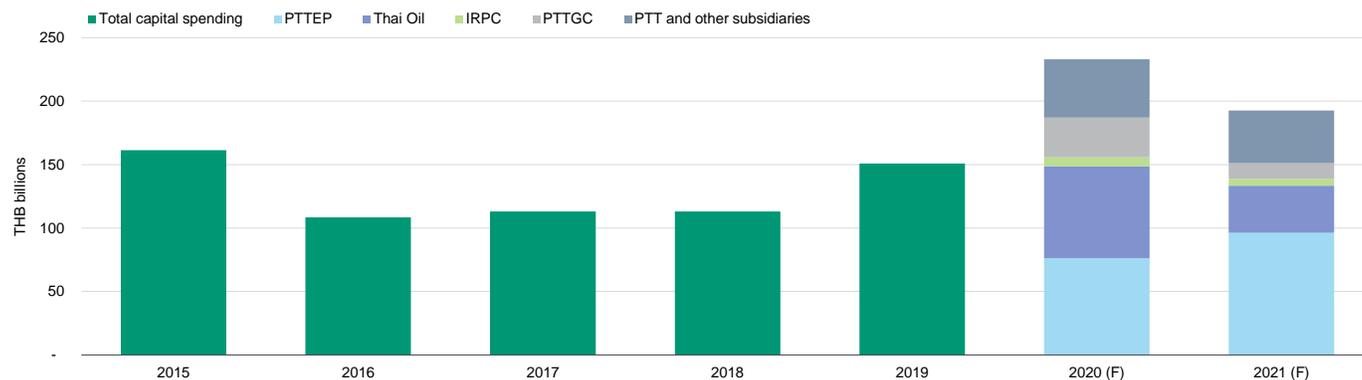
Elevated capital spending and execution risks associated with downstream expansion plans

PTT has elevated capital spending plans for 2020-21 which include greenfield projects that we expect the company will have the option to defer. Its upstream subsidiary, PTTEP, has recently announced that it will lower its planned capital spending in 2020 by 15%-20% in response to lower oil prices. We expect PTT's total capital spending will be around THB230 billion in 2020.

Committed capital spending for expansion projects at PTT include (1) the Clean Fuel Project at [Thai Oil Public Company Limited](#) (Baa2 negative) which commenced construction in 2019, and (2) the naphtha cracker and two plants producing propylene oxide and polyols at PTT Global Chemical Public Company Limited (Baa2 stable) scheduled for completion in the second half of 2020. While the company is exposed to high execution risks in these projects, we believe PTT has the ability to manage these risks given its long track record of executing large-scale projects.

Exhibit 7

PTT's capital spending will remain elevated over the next two years



Capital spending excludes potential acquisition costs.

Sources: Company data, Moody's Investors Service estimates

Support from the Thai government

PTT's Baa1 issuer rating incorporates our assessment of a high likelihood of extraordinary support from the Thai government under our Joint Default Analysis for government-related issuers. Our support assessment is based on the following:

- » The government's ability to provide support:
 - The government's ability to provide support is based on its Baa1 rating.
- » The government's willingness to provide support:
 - Government ownership and control: The government owns 51.1% of PTT and a further 12.2% through the government-invested Vayupak Mutual Funds. As the major shareholder, the government has the ability to substantially influence the composition of the board. The cabinet has to be informed about all major strategic and investment plans by PTT.
 - Economic importance: PTT plays a critical role in the country's energy sector because it owns and operates more than 60% of the country's total refining capacity. The company is also the sole operator in gas transmission and distribution within the country, and has a 40% market share of Thailand's oil marketing stations. In the upstream segment, we estimate PTT's domestic production accounts for around 34% of the country's total upstream oil and gas volumes.
 - Reputational risk: Given the extent of government control over PTT, any default by PTT will have reputational implications for the government and cause disruptions in the capital markets in Thailand, where the government and government-owned companies are the largest borrowers.
- » Track record of providing support:
 - PTT has loan amounting to THB1 billion that is guaranteed by the Ministry of Finance.

Exhibit 8

Sensitivity of PTT's ratings to changes in its BCA, sovereign support and ratings

	BCA	Support	Sovereign Rating	Rating Range (JDA)	Ratings Assigned/ Likely change
Current	baa2	High	Baa1	Baa1-A3	Baa1
Lower BCA	baa3	High	Baa1	Baa2-Baa1	No change
Higher BCA	baa1	High	Baa1	A3	No change
Lower Support	baa2	Strong	Baa1	Baa1	No change
Higher Support	baa2	Very High	Baa1	Baa1	No change
Downgrade of Sovereign Rating	baa2	High	Baa2	Baa1	Downgrade to Baa2
Upgrade of Sovereign Rating	baa2	High	A3	A3	Upgrade to A3

Source: Moody's Investors Service

ESG considerations

In terms of environmental, social and governance (ESG), the ratings also consider the following:

1. As an integrated oil and gas company, PTT has material exposure to carbon transition risk. The global efforts to transition to low-carbon energy will gradually lower demand for petroleum products in the coming decades. This risk for PTT is partly mitigated by Thailand's significant dependence on imports of oil and gas, and the company's production mix, which constitutes of over 70% of natural gas.
PTT also has a strategy in place to reduce its carbon footprint and increase its revenue from clean and green businesses.
2. Thailand's aging population will constrain the growth in consumption of petroleum products over the next decade. Nevertheless, PTT's presence across the oil and gas value chain and the company's business strategy will partly mitigate this risk.
3. PTT's close linkage to its largest shareholder, the Government of Thailand, which provides significant oversight on the company's strategic planning. PTT Group has planned large capital spending over the next five years. Some of these projects are in line with the government's objective of ensuring energy security for the country, and are supportive of company's long-term goals. Such high capital spending levels have been incorporated in Moody's assessment of company's credit metrics.

Liquidity analysis

PTT has a strong liquidity profile. At 31 December 2019, it had consolidated cash of THB293 billion and short-term investments of THB17 billion, compared with THB96 billion of debt maturing over the next 12 months. On a stand-alone basis, the company's liquidity is also strong, with cash and short-term investments totaling THB48 billion versus THB31 billion of short-term maturities.

PTT generally operates with sufficient cash on hand to service maturing debt, meet its working capital requirements and extend credit to group entities when appropriate.

Other considerations

PTT conducts its downstream refining and petrochemical operations primarily through its associates. Nonetheless, since 2015, PTT has fully consolidated the financial statements of its key associates — 48%-owned [Thai Oil Public Company Limited](#) (Baa2 negative), 48%- owned [PTT Global Chemical Public Company Limited](#) (Baa2 stable) and 48%-owned IRPC Public Company Limited — to comply with Thai accounting standards because it is deemed to have control over these entities. In April 2020, PTT filed to list its oil and retail businesses, and plans to maintain an ownership stake of at least 75%. We expect the financials of these businesses to remain fully consolidated as well.

PTT's senior unsecured bond ratings are not affected by structural subordination, reflecting the company's own cash flow generation from its natural gas and oil marketing businesses. The likely support from the Thai sovereign in case of need also mitigates the structural subordination risk.

Rating methodology and scorecard factors

Using our Global Integrated Oil and Gas Industry rating methodology published in September 2019, PTT's scorecard-indicated outcome is Baa2 based on our 12-18-month forward view, which is in line with its baa2 BCA.

Factors considered outside the methodology in assigning the baa2 BCA to PTT include its modest scale as well as oil and gas reserve life relative to its A-rated peers, business concentration in Thailand, and exposure to the execution risks attached to its downstream refining and petrochemical capital expansion plans.

Exhibit 9

Scorecard Factors

PTT Public Company Limited

Integrated Oil and Gas Industry [1][2]	Current FY 12/31/2019		Moody's 12-18 Month Forward View [3]	
	Measure	Score	Measure	Score
Factor 1 : Scale (20%)				
a) Average Daily Production (Mboe / d)	414	Baa	400 - 420	Baa
b) Proved Reserves (MMboe)	1,140	Baa	1,070 - 1,100	Baa
c) Crude Distillation Capacity (Mbbls / d)	635	Baa	635	Baa
Factor 2 : Business Profile (25%)				
a) Business Profile	Baa	Baa	Baa	Baa
Factor 3 : Profitability and Efficiency (10%)				
a) EBIT / Average Book Capitalization	8.6%	Ba	5% - 8%	Ba
b) Downstream EBIT / Total Throughput Barrels (\$ / bbl)	\$3.3	Ba	\$2.5 - \$3.5	Ba
Factor 4 : Leverage and Coverage (25%)				
a) EBIT / Interest Expense	4.9x	Baa	3x - 3.5x	Ba
b) RCF / Net Debt	38%	A	25% - 28%	Baa
c) Total Debt / Book Capitalization	36%	A	37% - 38%	A
Factor 5 : Financial Policy (20%)				
a) Financial Policy	A	A	A	A
Rating:				
Scorecard-Indicated Outcome from Factors 1-5	Baa1		Baa2	
Notching Factor: Government Policy Framework	0		0	
a) Scorecard-Indicated Outcome After Notching Factor	Baa1		Baa2	
b) Rating Assigned for non-GRIs or BCA Assigned for GRIs	baa2		baa2	
Government-Related Issuer			Factor	
a) Baseline Credit Assessment			baa2	
b) Government Local Currency Rating			Baa1	
c) Default Dependence			High	
d) Support			High	
e) Final Rating Outcome			Baa1	

[1] All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.

[2] As of 12/31/2019.

[3] This represents Moody's forward view; not the view of the issuer; and unless noted in the text, does not incorporate significant acquisitions and divestitures.

Source: Moody's Financial Metrics™

Appendix

Exhibit 10

Adjusted debt breakdown PTT Public Company Limited

(in THB Millions)	FYE Dec-16	FYE Dec-17	FYE Dec-18	FYE Dec-19
As Reported Debt	613,850	529,480	543,635	658,969
Pensions	21,072	23,313	23,921	32,590
Operating Leases	10,916	12,805	22,977	38,005
Hybrid Securities	37,189	38,234	38,232	6,018
Non-Standard Adjustments	26,367	28,098	20,357	28,683
Moody's-Adjusted Debt	709,394	631,930	649,121	764,265

All figures are calculated using Moody's standard adjustments.

Source: Moody's Financial Metrics™

Exhibit 11

Adjusted EBITDA breakdown PTT Public Company Limited

(in THB Millions)	FYE Dec-16	FYE Dec-17	FYE Dec-18	FYE Dec-19
As Reported EBITDA	313,034	380,214	368,183	315,059
Pensions	1,738	1,722	-276	6,175
Operating Leases	3,639	4,268	5,067	11,634
Unusual	-1,483	-16,297	-4,180	-15,201
Non-Standard Adjustments	1,944	2,704	-3,701	-1,220
Moody's-Adjusted EBITDA	318,873	372,611	365,092	316,447

All figures are calculated using Moody's standard adjustments.

Source: Moody's Financial Metrics™

Ratings

Exhibit 12

Category	Moody's Rating
PTT PUBLIC COMPANY LIMITED	
Outlook	Stable
Issuer Rating	Baa1
Senior Unsecured	Baa1
THAI OIL TREASURY CENTER COMPANY LIMITED	
Outlook	Negative
Bkd Senior Unsecured	Baa2
PTTEP TREASURY CENTER COMPANY LIMITED	
Outlook	Stable
Bkd Senior Unsecured	Baa1
Bkd Subordinate	Baa3
PTTEP CANADA INTERNATIONAL FINANCE LIMITED	
Outlook	Stable
Bkd Senior Unsecured	Baa1
PTT TREASURY CENTER COMPANY LIMITED	
Outlook	Stable
Bkd Sr Unsec Bank Credit Facility	Baa1
Bkd Senior Unsecured	Baa1
PTT GLOBAL CHEMICAL PUBLIC COMPANY LIMITED	
Outlook	Stable
Issuer Rating	Baa2
Senior Unsecured	Baa2
GC TREASURY CENTER COMPANY LIMITED	
Outlook	Stable
Bkd Senior Unsecured	Baa2
THAI OIL PUBLIC COMPANY LIMITED	
Outlook	Negative
Senior Unsecured	Baa2
PTT EXPLORATION & PRODUCTION PUBLIC CO. LTD.	
Outlook	Stable
Issuer Rating	Baa1
Senior Unsecured MTN	(P)Baa1

Source: Moody's Investors Service

Endnotes

1 Please refer to [Oil & Gas - Global: Recession and uncertain demand recovery weigh on oil prices in 2020-21 published on 28 April 2020](#)

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