

SECTOR IN-DEPTH

13 July 2020

 Rate this Research

TABLE OF CONTENTS

Spending plans shift abruptly as pandemic, geopolitical noise slash oil and fuel demand	2
PEMEX, YPF and ENAP struggle to sustain adequate liquidity	3
Petrobras and Ecopetrol face less liquidity risk in coming quarters	3
Appendix: Latin American oil companies' recent efforts to preserve liquidity	6
Moody's related publications	8

Analyst Contacts

Nymia Almeida +52.55.1253.5707
Senior Vice President
nymia.almeida@moodys.com

Martina Gallardo +54.115.129.2643
Barreyro
VP-Senior Analyst
martina.gallardobarreyro@moodys.com

Marianna Waltz, CFA +55.11.3043.7309
MD-Corporate Finance
marianna.waltz@moodys.com

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

Oil and Gas – Latin America & Caribbean

Corporate measures to protect liquidity have not all proven completely successful

- » **Oil and gas companies in Latin America took numerous steps to try to protect liquidity against depressed and volatile commodity prices through 2020 before supplies and inventories decline and the market begins to rebalance.** Latin American oil and gas companies have cut back on capital spending plans and operating expenses, particularly among the three biggest national oil companies (NOCs) in the region—Brazil's [Petroleo Brasileiro](#) (Petrobras, Ba2 stable), Colombia's [Ecopetrol](#) (Baa3 stable) and Mexico's [Petroleos Mexicanos](#) (PEMEX, Ba2 negative). So far the sector's efforts to protect liquidity have only partially succeeded, however.
- » **Some 57% of oil companies in Latin America are NOCs, fully or majority owned by the national government—a circumstance that makes those companies unlikely to default.** PEMEX can protect its liquidity by drawing on its credit lines, but its external funding needs will increase through 2021. PEMEX has made considerable efforts to reduce its refinancing risk, however. Low prices and demand will also cut cash flow for [YPF](#) (Caa3 negative) of Argentina, which recently decided to withdraw its \$2.8 billion capital spending guidance for 2020. Similarly, the current market environment of low prices and demand will affect cash flow for Chile's [ENAP](#) (Baa3 stable) in 2020.
- » **We do not expect that Petrobras will need further external funding beyond the roughly \$8 billion in loans that it recently took from its committed credit facilities, which will mature in 2023 and 2024.** The company also recently postponed its dividend payments until the end of 2020, and said it would reduce personnel expenses, cut production and decrease capital spending in 2020. Low oil prices and fuel demand will have less effect on Ecopetrol's credit metrics, based on its strong cash flow from its midstream business, but Colombia's NOC has cut capital spending plans for 2020 to \$3.3 billion-\$4.3 billion, down from \$4.5 billion-\$5.5 billion originally, along with other expenses.

Spending plans shift abruptly as pandemic, geopolitical noise slash oil and fuel demand

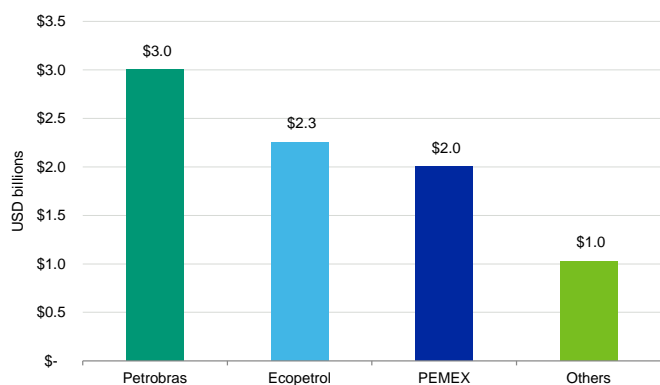
Oil and gas companies in Latin America took numerous steps to try to protect liquidity against depressed and volatile commodity prices through 2020 before supplies and inventories decline and the market begins to rebalance. Latin American oil and gas companies have cut back on capital spending plans and operating expenses, particularly among the three biggest national oil companies (NOCs) in the region—Brazil's [Petroleo Brasileiro](#) (Petrobras, Ba2 stable), Colombia's [Ecopetrol](#) (Baa3 stable) and Mexico's [Petroleos Mexicanos](#) (PEMEX, Ba2 negative). So far the sector's efforts to protect liquidity have only partially succeeded, however.

A sharp reduction in demand for oil products worldwide amid the coronavirus pandemic and a supply shock resulting from disagreements among the OPEC-plus oil-producing countries has caused extreme volatility in oil prices. Those conditions, as well as a weak global economic outlook and asset-price declines, have created a severe and extensive credit shock without precedent across many sectors, regions and markets. The worldwide economic damage from the coronavirus pandemic have started to ease and will continue to do so in the second half of 2020. Credit quality around the world will remain weak as economies recover slowly, especially for companies in sectors most vulnerable to cuts in revenue, margins and disrupted supply chains, including global passenger airlines, lodging and cruise, automotive, and the oil and gas industry itself.

According to our estimates and companies' guidance, in 2020 oil and gas companies in Latin America will cut close to \$8.3 billion in capital spending, or about 30% from original guidance for the year. Petrobras, Ecopetrol and PEMEX represent 88% of that \$8.3 billion cut (see Exhibit 1). Most companies also announced operating savings, although with much less transparency regarding target amounts. And in response to the supply and demand oil and gas shock, Petrobras, PEMEX and Ecopetrol raised \$13.2 billion from their revolvers during March-June 2020 (see Exhibit 1). Ecopetrol has already extinguished its committed facilities; PEMEX still has close to \$5 billion in available revolvers and Petrobras has only \$1 billion available. In addition to using their revolvers, Petrobras and Ecopetrol raised another \$3.7 billion in bonds or loans in the period, representing 76% of total borrowed (see Exhibit 2).

Exhibit 1

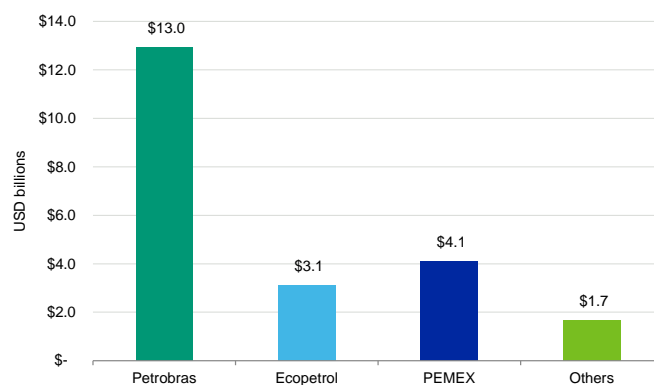
Petrobras, Ecopetrol and PEMEX dominate Latin American oil sector's recent capital spending cuts... as of 30 June 2020



Source: Companies' announcements; Moody's Investors Service

Exhibit 2

...as well as its debt issuance
New debt (bonds and loans) from March to June 2020



Source: Companies' announcements; Moody's Investors Service

Smaller companies in the region that also raised funds from banks or the capital markets, or plan to do so, include Argentina's [YPF Sociedad Anónima](#) (Caa3 negative) and [Pan American Energy, S.L., Argentine Branch](#) (Caa1 negative); [Empresa Nacional del Petroleo](#) (ENAP, Baa3 stable) of Chile; [National Gas Company of Trinidad and Tobago](#) (Ba1 stable); and [Administracion Nacional de Combustibles](#) (ANCAP, Ba2 stable) of Uruguay. The only company reducing debt in Latin America is Argentina's [Tecpetrol](#) (Caa1 negative).

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.

PEMEX, YPF and ENAP struggle to sustain adequate liquidity

Some 57% of oil companies in Latin America are NOCs, fully or majority owned by the national government—a circumstance that makes those companies unlikely to default. PEMEX, YPF and ENAP all have some sort of government support assumption considered in their ratings, despite their weak intrinsic credit quality. PEMEX's Baseline Credit Assessment—our measure of its standalone credit quality, independent of government support—is caa2, while YPF's is caa3 and ENAP's is b2.

To protect against the deterioration in business conditions, [Mexico's](#) (Baa1 negative) **PEMEX** can draw on its credit lines, but its external funding needs will increase through 2021 amid persistent weak cash generation compared to 2019 levels, based on low prices and demand for fuel. Mexico's President Andrés Manuel López Obrador in April announced a roughly \$2.9 billion reduction in tax burden for the company in 2020. Even so, we still believe PEMEX will have to draw completely its \$8.9 billion committed credit facilities, of which \$4.8 billion were still available in early June 2020, to help fund enough capital investment in the year just to keep its production stable, as per our estimates—a step back from its original projections for 9% growth. In 2021, higher but still weak cash generation compared to pre-shock levels, coupled with \$11 billion in debt maturities (including revolvers and accrued interests), will increase PEMEX's external funding needs. PEMEX's oil hedges cover only a small portion of its production and will not be enough to protect liquidity.

PEMEX has made considerable efforts to reduce its refinancing risk. The company strengthened its liquidity in January 2020 by issuing \$5.0 billion in bonds and pre-refinancing \$2.0 billion in debt that was maturing in 2020; at the end of 2018, the company had \$9.6 billion debt maturing in 2020. But PEMEX's liquidity risk is still high, with negative free cash flow and about \$11.0 billion in debt maturing up to March 2021. By contrast, PEMEX had about \$2.4 billion in cash on hand, along with \$4.8 billion in unused committed revolving facilities maturing during 2021-24, as of March 2020.

Low prices and demand will also cut **YPF's** cash flow; the Argentine company recently decided to withdraw its \$2.8 billion capital spending guidance for 2020 and we expect the company's operating spending to decline since two of the largest oil and gas workers unions reached an agreement with the industry business associations to allow salary cuts and suspensions of employees who were affected by the interruption of drilling activities.

YPF faces a total \$1.3 billion in debt maturities distributed along the last nine months of 2020. The company has just announced an offer to exchange its \$1.0 billion notes due March 2021 for proposed new amortizing notes due 2025. The exchange, if executed as planned, would reduce YPF's liquidity risk significantly. The company has gone through a period of slow cash flow, faltering economic activity, and international bond markets virtually closed to Argentine companies based on [Argentina's](#) (Ca negative) large and impending debt restructuring. The NOC can readily rely on financial institutions and the local capital market to refinance its remaining 2020 debt maturities, mainly composed of around \$700 million in trade finance and working capital debt. But if the international capital markets remain closed and YPF cannot refinance its \$1 billion debt maturity due March 2021, or at least a significant portion of it, it will be forced once again to restrict growth in favor of liquidity.

Similarly, the current market environment of low prices and demand will affect cash flow for [Chile's](#) (A1 stable) **ENAP** in 2020. Low oil prices will not be an advantage for integrated oil companies such as ENAP amid low refining margins driven by excess supply of fuel in the US Gulf of Mexico, which serves as reference for the Chilean market, especially as the coronavirus pandemic keeps fuel demand low and supplies too high. Although ENAP has just refinanced \$620 million in maturing debt in 2020, it will need external resources to fund some \$200 million in planned investments in 2020—down by 40% from its original budget for the year. Meanwhile, ENAP has \$465 million in debt maturing in 2021, when cash flow will remain weak. The company had been reducing capital spending in recent years but must invest about \$300 million annually on exploration and production (E&P), as well as its refineries. But we assume that the government of Chile would help ENAP obtain external funding in case of need, which supports the company's Baa3 rating with stable outlook.

Petrobras and Ecopetrol face less liquidity risk in coming quarters

We do not expect that **Petrobras** will need further external funding beyond the roughly \$8 billion in loans that it recently took from its committed credit facilities, which will mature in 2023 and 2024; \$1.7 billion in new credit lines; and \$3.25 billion in new bonds issued in June, which will mature in 2031 and 2050. [Brazil's](#) (Ba2 stable) NOC also recently postponed its dividend payments until the end of 2020, and said it would reduce personnel expenses in 2020. Petrobras also plans to cut capital spending by \$3 billion.

Petrobras' leverage metrics will improve in 2021. Its credit metrics related to EBITDA will deteriorate in 2020. The company has no oil hedges in place, and its cash flow from refining will not offset lower crude prices, with the pandemic lockdown cutting fuel demand. But we expect that the company will keep selling assets and generating positive free cash flow.

Low oil prices and fuel demand will have less effect on **Ecopetrol's** credit metrics, based on its strong cash flow from its midstream business. However, [Colombi's](#) (Baa2 stable) NOC now plans around \$2.5 billion-\$3.0 billion in capital investment in 2020, down from its \$4.5 billion-\$5.5 billion estimate announced early in 2020, while also cutting its expenses for the year to about \$1.1 billion to adjust to lower revenue. Ecopetrol expects that its crude production will decline in 2020 between 2% and 8%.

Ecopetrol will delay some 86% of its dividend payment to the state until later in 2020, having paid out 14% of its capital as mandatory annual dividends in April, largely to public shareholders. We believe the government could also allow Ecopetrol to keep its cash if liquidity becomes a bigger concern, just as it did in 2016. Ecopetrol draws reliable cash flow from [Oleoducto Central](#) (Baa3 stable), its oil pipeline business, which generates 20% of revenue based on take-or-pay contracts with fixed tariffs, and can pay around \$350 million-\$400 million in dividends to its parent in 2020. Ecopetrol also benefits from low leverage, with a 1.6x debt/EBITDA ratio including our adjustments for the 12 months through March 2020, and manageable debt maturities in 2020, with about \$338 million due in the second half of the year, compared to roughly \$2.3 billion in cash or equivalents on hand at the end of the first quarter. Ecopetrol has \$1.3 billion in debt maturing in 2021, but the company has strengthened its liquidity by borrowing from committed facilities and issuing \$2.0 billion in notes in April 2020.

[Trinidad Petroleum Holdings Limited](#) (TPHL, Ba3 negative) has adequate liquidity to fund \$21 million in debt maturities in 2020 and about \$97 million in 2021. We expect that [Trinidad & Tobago's](#) (Ba1 negative) NOC will adjust its expenses to operating cash generation enough to avoid needing external funding in 2020-21. TPHL is focused on annual production growth of 3% in 2020-21. In response to current market conditions, TPHL announced a \$56 million reduction in operating expenses and a \$71 million cut in capital investments for 2020. TPHL also announced measures to reduce operating costs in its supply chain.

In Peru, [Hunt Oil Co. Peru L.L.C.](#) (Ba2 negative) will cut capital spending by 30% to \$20 million and operating expenses by 10% from their original 2020 budgets to offset lower oil and gas revenue. Both Pluspetrol, the operator of Hunt Peru's assets, and Hunt Peru's partners in Camisea have taken immediate measures to adjust spending to market conditions. [PERU LNG S.R.L.](#) (B1 negative) will not cut capital spending in 2020, since it is focused on executing two strategic projects that will allow it to improve production process and its port availability. Still, Peru LNG will reduce operating spending by \$133 million, equivalent to 4% of its original budget for 2020, in order to offset lower revenues.

[Canacol Energy](#) (B1 stable) gets some protection from low commodity prices. The Colombia-based Canadian oil E&P company produces primarily natural gas, selling it at US dollar-denominated prices at the wellhead—about 80% of it under take-or-pay agreements, and the remainder under interruptible agreements. Canacol recently reduced its capital spending plan by 5% for 2020, to \$108 million from \$114 million, and now has a production guidance of 170 million-197 million standard cubic feet per day (cfd), 4%-17% lower than the original guidance of 205 million cfd for the year. The company expects prices for its natural gas to average \$4.80/thousand cubic feet (mcf) for 2020, far higher than the \$1.80/mcf average for North American benchmark Henry Hub natural gas during the first six months of 2020.

We do not foresee liquidity stress during 2020-21 for **ANCAP**, [Uruguay's](#) state-owned refiner and wholesale fuel marketer. ANCAP, which imports 100% of the crude it processes, will benefit from lower international oil prices—particularly because it has not been fully able to pass higher international crude prices through to the pumps in the last couple of years. ANCAP's strong liquidity will support its operations through roughly mid-2021, when fuel demand contracts as a result of lower overall economic activity.

The coronavirus outbreak

The rapid spread of the coronavirus outbreak, deteriorating global economic outlook, low oil prices, and high asset price volatility have created an unprecedented credit shock across a range of sectors and regions. We regard the coronavirus outbreak as a social risk under our ESG framework, given the substantial implications for public health and safety. For more information on research on and ratings affected by the coronavirus outbreak, please see [moodys.com/coronavirus](https://www.moodys.com/coronavirus).

Appendix: Latin American oil companies' recent efforts to preserve liquidity

Exhibit 3

Overview of Latin American oil companies' recent efforts to protect and preserve liquidity

Company	Capital/operating spending cuts	Production cuts	Amount raised under revolvers/existing availability, or additional new debt	Other actions to protect liquidity	Government support assumption
PEMEX	Capital spending cut: \$2 billion; operating spending cut: \$220 million	Expects to increase production by 1.9% in 2020	Raised \$4.1 billion from revolvers; has \$4.8 billion available now; revolving loans payable in the short term, although renewable	Government reduced tax burden by \$2.9 billion in 2020; company renegotiating certain supply agreements; oil price hedges will marginally help liquidity	Very high
YPF	Withdrew \$2.8 billion capital spending guidance for 2020 (we estimate \$500 million cut from original guidance); reduced operating spending in all units and lowered salaries by 10%-25% for non-unionized workers	10%-12% cut in oil and gas production; temporary suspension of drilling and completion activities	Raised \$225 million in local capital market for working capital and liability management purposes; no revolvers. Offered to exchange 2021 notes for new 2025 notes	Shareholders voted to eliminate reserve for future dividends and shares buybacks	Moderate
Petrobras	Cut \$3 billion from original \$12 billion capital budget; announced several measures to reduce operating spending	Idled 62 shallow-water platforms among others, representing about 23,000 bpd production	Raised \$8.0 billion from revolvers, with \$1.0 billion available now; \$1.7 billion in other credit lines plus \$3.25 billion in notes issued in June, due in 2030 and 2050	Delayed dividend payment; renegotiating some supply agreements; sale of non-core assets continues as planned	Moderate
Ecopetrol	Cut about \$2.25 billion from original \$5 billion capital budget, and about \$1 billion from original \$2.2 billion operating budget	2%-8% cut	Raised \$1.1 billion from revolvers and has no further availability now; \$2 billion in bonds issued in April, due in 2030	Delayed dividend payment; all production must be profitable at prices below \$30 per barrel; will enter into hedging contracts, as it sees fit	High
Ocensa	No	n/a	No; no revolvers. Announced plans to issue \$500 million in new notes	Discounts and new payment terms to clients	n/a
ENAP	Cut \$200 million from original \$480 million capital budget, and about \$100 million from original \$500 million operating budget	No	\$620 million in loans, maturing in 2021-22; no revolvers	n/a	High
Trinidad Petroleum	Cut \$71 million from original \$131 million capital budget, and about \$56 million from original \$254 million operating budget	Management expects production to increase by 3% in 2020	No; no revolvers	Refinancing of maturing debt with government guarantee	High
NGC	Unspecified capital spending cuts planned	No	Plans to borrow \$210 million in 2020 to fund capital spending; no revolvers	Delayed dividend payment	Very high

Overview of Latin American oil companies' recent efforts to protect and preserve liquidity (continued)

Company	Capital/operating spending cuts	Production cuts	Amount raised under revolvers/existing availability, or additional new debt	Other actions to protect liquidity	Government support assumption
Hunt Oil Peru	Cut \$10 million from original \$30 million capital budget, and \$12 million from original \$120 million operating budget	No	No	Delayed dividend payment	n/a
Peru LNG	Cut \$6 million from original \$139 million operating budget	No	No	Shareholders in February 2020 approved non-distribution of dividends/repayment of quarterly payment balance with results as of December 2019	n/a
Canacol	Cut \$6 million from original \$120 million capital budget	4%-17% decline depending on return of interruptible contracts for remainder of 2020	No	n/a	n/a
ANCAP	Cut capital spending to \$72 million, mostly in maintenance; 15% cut in operating spending	Yes	Plans to raise \$50 million of a new loan in July	Cut production of ethanol at subsidiary ALUR amid lower gasoline demand	High
PAE	Reduction in capital spending in Q2 2020; suspended workers in April-May 2020	4% production reduction from budgeted amount in January-May 2020; reduced drilling in Mexico	Raised \$71 million in the local capital markets, plus \$150 million in short-term debt for working capital purposes, plus \$400 million in loans; no revolvers	n/a	n/a
Tecpetrol	Cut \$100 million of capital budget; temporarily suspended workers with reduced salaries; negotiations with suppliers and contractors for lower tariffs; reduced non-essential services	Suspended relevant drilling activities	Reducing debt from positive free cash flow; no revolvers	n/a	n/a

Source: Companies' announcements; Moody's Investors Service

Moody's related publications

Sector in-depth reports:

- » [Cross-Sector – Argentina: Inflation, weak peso and economic distress strain corporate liquidity in 2020-21, 16 June 2020](#)
- » [Cross-Sector – Brazil: Companies raise cash to try and protect operating results amid coronavirus outbreak, 16 June 2020](#)
- » [Cross-Sector – Chile: Strong pre-pandemic liquidity will help sectors navigate economic slowdown, 16 June 2020](#)
- » [Cross-Sector – Mexico: Most companies ready for tighter credit conditions despite slight drop in liquidity, 16 June 2020](#)
- » [Cross-Sector – Peru: Liquidity for non-financial companies will hold despite coronavirus effects, 16 June 2020](#)
- » [Oil and Gas – Cross Region: Frequently asked investor questions, 10 June 2020](#)
- » [Corporates – Brazil: FAQ on relationship of Brazil's sovereign and corporate ratings, 2 June 2020](#)
- » [Integrated Oil & Gas – Global: FAQ: low oil prices, coronavirus fallout weaken oil majors' credit quality, 7 April 2020](#)
- » [Corporates – Latin America & Caribbean: More sectors and companies become riskier as coronavirus spread continues in region, 3 April 2020](#)
- » [Corporates – Latin America & Caribbean: Coronavirus will most hurt airlines, lodging, and any companies with weak liquidity, 17 March 2020](#)

Sector comments:

- » [Oil & Gas – Cross Region: Medium term oil prices trend lower as industry focuses on lowest-cost reserves, 27 May 2020](#)
- » [Oil & Gas – Argentina: Crude price freeze will benefit local oil producers while raising costs for refiners, 20 May 2020](#)
- » [Oil & Gas – Global: Recession and uncertain demand recovery weigh on oil prices in 2020-21, 28 April 2020](#)
- » [Oil & Gas – Global: Low oil and natural gas prices will persist through 2020, 26 March 2020](#)
- » [Nonfinancial Corporates – Global: Government coronavirus aid will benefit strong, strategically vital companies, 25 March 2020](#)
- » [Macroeconomics – Global: Global economy continues to slide as coronavirus outbreak worsens, 20 March 2020](#)
- » [Credit Conditions – Global: Coronavirus and oil price shocks: managing ratings in turbulent times, 17 March 2020](#)

Outlooks:

- » [Integrated Oil and Gas – Global: Outlook turns negative as low oil prices, coronavirus will hit 2020 earnings, 26 March 2020](#)
- » [Global Macro Outlook 2020-21 \(March 25, 2020 Update\): The coronavirus will cause unprecedented shock to the global economy, 25 March 2020](#)

Sector profile:

- » [Infographic: Coronavirus-related rating actions for non-financial companies, 6 July 2020](#)

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

© 2020 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S INVESTORS SERVICE, INC. AND/OR ITS CREDIT RATINGS AFFILIATES ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED BY MOODY'S (COLLECTIVELY, "PUBLICATIONS") MAY INCLUDE SUCH CURRENT OPINIONS. MOODY'S INVESTORS SERVICE DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT OR IMPAIRMENT. SEE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S INVESTORS SERVICE CREDIT RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES ITS PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS, AND PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER. ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing its Publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY CREDIT RATING, ASSESSMENT, OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any credit rating, agreed to pay to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it fees ranging from \$1,000 to approximately \$2,700,000. MCO and Moody's investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moody.com under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.

Additional terms for Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any credit rating, agreed to pay to MJKK or MSFJ (as applicable) for credit ratings opinions and services rendered by it fees ranging from JPY125,000 to approximately JPY250,000,000.

MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

REPORT NUMBER

1236381