



Moody's Upgrades Vale's Credit Ratings

Rio de Janeiro, October 3, 2024 – Vale S.A. ("Vale") informs that in a report released on October 2, 2024, Moody's Investor Service upgraded Vale and Vale Overseas Limited's issuer rating and senior unsecured notes rating to "Baa2" from "Baa3" and reaffirmed the positive outlook on the ratings. The rating agency also upgraded the senior unsecured notes issued by Vale Canada Ltd. to "Baa3" from "Ba1" and changed the ratings outlook from stable to positive.

Murilo Muller
Executive Vice President, Finance and Investor Relations

For further information, please contact:

Vale.RI@vale.com
Thiago Lofiego: thiago.lofiego@vale.com
Luciana Oliveti: luciana.oliveti@vale.com
Mariana Rocha: mariana.rocha@vale.com
Patricia Tinoco: patricia.tinoco@vale.com
Pedro Terra: pedro.terra@vale.com

This press release may include statements that present Vale's expectations about future events or results. All statements, when based upon expectations about the future, involve various risks and uncertainties. Vale cannot guarantee that such statements will prove correct. These risks and uncertainties include factors related to the following: (a) the countries where we operate, especially Brazil and Canada; (b) the global economy; (c) the capital markets; (d) the mining and metals prices and their dependence on global industrial production, which is cyclical by nature; and (e) global competition in the markets in which Vale operates. To obtain further information on factors that may lead to results different from those forecast by Vale, please consult the reports Vale files with the U.S. Securities and Exchange Commission (SEC), the Brazilian Comissão de Valores Mobiliários (CVM) and in particular the factors discussed under "Forward-Looking Statements" and "Risk Factors" in Vale's annual report on Form 20-F.

MOODY'S

RATINGS

Rating Action: Moody's Ratings takes action on Brazilian corporates following sovereign rating action

02 Oct 2024

New York, October 02, 2024 -- Moody's Ratings (Moody's) has taken rating actions on several companies operating in Brazil. The actions follow the upgrade of Government of Brazil's (Brazil) long-term issuer and senior unsecured bond ratings to Ba1 from Ba2, senior unsecured shelf rating at (P)Ba1 from (P)Ba2 and maintenance of the positive outlook.

The action on Government of Brazil's rating reflects the material credit improvements which we expect to continue, including a more robust growth performance than previously assessed and a growing track record of economic and fiscal reforms that lend resilience to the credit profile, although the credibility of Brazil's fiscal framework is still moderate, as reflected in a relatively high cost of debt. In turn, more robust growth and fiscal policy consistently adhering to the fiscal framework will allow the debt burden to stabilize in the medium term, albeit at relatively high levels. For further information, refer to the rating action press release:

<https://ratings.moodys.com/ratings-news/429722>.

Ambev S.A.'s (Ambev) issuer rating was upgraded to Baa2 from Baa3. The outlook remains positive.

Arcos Dorados Holdings Inc.'s (Arcos Dorados) corporate family rating and senior unsecured notes' rating were upgraded to Ba1 from Ba2. Arcos Dorados B.V.'s backed senior unsecured notes', fully and unconditionally guaranteed by its parent, Arcos Dorados, were upgraded to Ba1 from Ba2. The outlooks changed to stable from positive.

Gerdau S.A.'s (Gerdau) issuer rating was upgraded to Baa2 from Baa3. At the same time, we have upgraded the backed senior unsecured notes of GTL Trade Finance Inc. (guaranteed by Gerdau S.A. and its operating subsidiaries in Brazil) to Baa2 from Baa3, as well as the backed solid waste disposal revenue bonds issued by St. Paul Port Authority, MN (guaranteed by Gerdau S.A.). The outlooks of Gerdau and GTL Trade Finance Inc. were changed to stable from positive.

Petroleo Brasileiro S.A. – PETROBRAS' (Petrobras) Ba1 corporate family rating was affirmed. At the same time, we affirmed Petrobras' ba1 Baseline Credit Assessment (BCA) and the Ba1 rating of the backed senior unsecured debt issuances of Petrobras Global Finance B.V. and Petrobras International Finance Company. We also affirmed the (P)Ba2 subordinate shelf ratings of Petrobras and Petrobras International Finance Company, the (P)Ba1 senior unsecured shelf ratings of Petrobras and Petrobras International Finance Company, the (P)B1 Pref. Shelf rating for Petrobras, and the (P)Ba1 and (P)Baa3 senior secured shelf ratings under Petrobras and Petrobras International Finance Company respectively. The outlook for all ratings changed to positive from stable.

Suzano S.A.'s (Suzano) Baa3 issuer rating was affirmed. The outlook remains positive.

Vale S.A. (Vale) issuer rating and senior unsecured rating, and the senior unsecured ratings on the debt issued by Vale Overseas Limited (fully and unconditionally guaranteed by Vale) were upgraded to Baa2 from Baa3. We also upgraded the senior unsecured rating of Vale Canada Ltd. (Vale Canada) to Baa3 from Ba1. The outlook for Vale S.A. and Vale Overseas Limited remains positive. The outlook for Vale Canada changed to stable from positive.

RATINGS RATIONALE

We view that the ratings of these issuers were limited by the credit quality of the sovereign environment, in certain cases still are. The creditworthiness of these companies cannot be completely de-linked from the credit quality of the Brazilian government, and thus their ratings need to closely reflect the risk that they share with the sovereign. We view that there is presently a limit to the rating of certain issuers in relation to the sovereign ratings in line with our methodology "Assessing the Impact of Sovereign Credit Quality on Other Ratings" published on June 20, 2019, and available on <https://ratings.moodys.com/rmc-documents/60258>.

Ambev S.A.

Ambev's Baa2 rating is supported by its scale as one of the world's largest brewers; presence in 18 countries; leading positions in most of its operating markets, including Brazil and Canada; and vast portfolio of brands of alcoholic and nonalcoholic beverages. The company benefits from its geographic diversification and brand recognition while its scale translates into a higher bargaining power with suppliers. Moreover, its geographic and product diversification mitigates cash flow volatility arising from weather events or market downturns in specific regions.

The company's dominant market position in Brazil, strong execution capabilities and strict cost control allow it to withstand market volatility and still maintain exceptionally strong profitability and credit metrics. Ambev's limited reliance on the local banking system for funding, its generation of a significant portion of assets and cash outside

Brazil, and its importance to the controlling shareholder Anheuser-Busch InBev SA/NV (ABI, A3 stable) help offset the negative effect of the company's links to the Brazilian economy.

Ambev's rating is constrained by the volatility in its commodity-linked input costs and its reliance on effective hedging strategies to make its costs more predictable. Also, there is a likelihood of continued high dividend payouts to its controlling shareholder ABI.

The positive outlook incorporates the possibility of an upgrade in case there is an upgrade of the Brazil sovereign rating. Additionally it reflects Ambev's exceptionally strong credit metrics, dominant market positions and operational stability, along with its other characteristics, help outweigh the effects of its links with the sovereign, where it generates more than 50% of its EBITDA. We expect Ambev to benefit from the diversification of its portfolio and its geographic footprint, and to maintain conservative financial management and strict cost control.

Arcos Dorados Holdings Inc.

Arcos Dorados credit profile reflects the company's solid market position in Latin America as McDonald's Corporation's (McDonald's, Baa1 stable) master franchisee; and its size and scale as the largest independent McDonald's franchisee worldwide by sales and number of restaurants (2,395 as of June 30, 2024). On October 1, 2024, Arcos Dorados announced it will exercise its option to renew its Master Franchise Agreement (MFA) with McDonald's for another 20 years starting 2025. The ratings are also supported by the geographic diversification of the company's solid restaurant base throughout Latin America; and by Arcos Dorados' good liquidity. Arcos Dorados' competitive edge in the region is underscored by its restaurant portfolio because around half of its restaurants are free-standing units, which offer a mix of takeout, drive-thru, and delivery services, options that enhance restaurant sales and a feature that competitors find challenging to replicate. Furthermore, the company's edge is strengthened by a high penetration of digital sales, accounting for 57% of total system-wide sales in Q2 2024.

The ratings are mainly constrained by Arcos Dorados' concentration of cash flow in a limited number of markets, with Brazil serving as the most significant contributor to both revenue and EBITDA. Other limiting factors include an intense competitive environment, moderate exposure to foreign currency risks, fluctuations in consumer purchasing power and preferences, and inflation-induced cost pressures on labor and raw materials.

The stable outlook reflects our expectation of sustained good operating performance and liquidity over the next 12-18 months. Arcos Dorados will continue to pursue growth across the region under the investment requirements set by the Master Franchise Agreement (MFA) with McDonald's and benefit from increased operating efficiency.

Gerdau S.A.

Gerdau's Baa2 rating is supported by the company's historically solid cash generation, which reflects its strong market position in markets where it operates, its good operational and geographic diversity, its cost-driven management, its flexible mill cost structure, and its conservative financial policies. Despite volatile operating environments, Gerdau has generated positive free cash flow (FCF) since 2013 and was able to significantly reduce debt levels and strengthen credit metrics, partially using proceeds from asset divestitures.

Gerdau's rating is constrained by the company's exposure to the cyclical steel industry, especially in Government of Brazil (Ba1 positive) and the Government of United States of America (US, Aaa negative); and exposure to exchange rate volatility, as more than half of its cash flow is generated in Brazil and other Latin American countries.

The stable outlook reflects our expectation that the company will prudently manage its liquidity and expenses to preserve its metrics and credit quality amid volatility in its key end markets.

Petroleo Brasileiro S.A. - PETROBRAS

Petrobras Ba1 corporate family rating (CFR) and ba1 Baseline Credit Assessment (BCA), a measure of a company's standalone credit risk without government support, reflect the company's strong credit metrics for its rating category, and its track record of operational and financial improvement. Despite being a government related entity, there is a low likelihood that the company will default as a result of sovereign credit distress given Petrobras' solid financial metrics and capital structure; its low reliance on domestic funding sources; its limited exposure to foreign-currency risk, given the low and declining share of the refining business; and the fact that around 30% of its sales are related to exports. In addition, we expect Petrobras' operating and financial discipline to continue to support cash generation, which will help sustain its current capital structure. Conversely, Petrobras' rating is constrained by the company's exposure to potential policy shifts and risk of government influence in the company's business decisions.

The positive outlook on Petrobras' mirrors the positive outlook on Brazil's sovereign rating and reflects our view that its credit profile will remain mostly unchanged over the next 12-18 months.

Suzano S.A.

Suzano's Baa3 rating reflects the company's leading position as the largest producer of market pulp in the world, as well as in the Brazilian printing and writing paper, paperboard, and tissue sectors. The company benefits from its low-cost position and high level of vertical integration with substantial self-sufficiency in wood fiber and

energy; the proximity of its pulp mills to its own forests and port facilities; and long-term supply agreements, which support stable sales volume with good geographic diversification. The rating also reflects Suzano's conservative approach to liquidity and risk management, but are constrained by the volatile nature of the pulp industry, which accounts for around 77% of the company's consolidated revenue, as well as its still relatively high leverage compared with that of its global peers.

The positive outlook is supported by our expectation that, upon the completion of the Cerrado project, the company will prioritize leverage reduction, while maintaining excellent liquidity and robust credit metrics throughout the rating horizon. As of June 2024, Suzano's liquidity was bolstered by a cash balance of BRL 21.6 billion, which fully accommodates its debt amortizations up to 2026, and committed credit facilities amounting to BRL 7.2 billion. Suzano's debt amortization schedule further contributes to its financial stability, with significant maturities only due post-2029.

Vale S.A.

Vale is currently rated two notches above the rating of the Government of Brazil, which is supported by Vale's strong business profile and its leading position in iron ore and nickel production globally, with cash flow and profitability showing minimal correlation with domestic economic conditions. Vale is highly unlikely to default as a consequence of sovereign credit stress or default, since its large reliance on Government of China (China, A1 negative) and large developed countries provide reasonable insulation from Brazil's macroeconomic and political environment. About 90% of Vale's revenues are generated outside Brazil. Moreover, cash generated outside Brazil covers debt service and principal payment, therefore restrictions in capital flows are unlikely to impact Vale's ability to service debt in case there are restrictions in capital flows. However, Vale has about 69% of total fixed assets located in Brazil, the majority of which is iron ore, followed by Canada (Vale Canada) with about 22%. Given the large cash flow reliance on iron ore assets located in Brazil, we are unlikely to widen the rating differential to the Government of Brazil rating.

Even though Vale's business profile remains constrained by the concentration in iron ore for cash flow generation (about 92% of EBITDA in the twelve months ended in June 2024), focus on growth in base metals (nickel and copper) will support some cash flow diversification away in a more material way with the planned capacity expansion in nickel and in particular in copper. The Baa2 rating is further supported by Vale's portfolio of long lived assets (in iron ore, nickel and copper), relatively low cost position and strong balance sheet, with leverage below 1x (total debt/EBITDA) since 2020.

The positive outlook reflects the expectation that Vale will maintain its strong business profile and credit metrics, keeping its financial discipline in capital allocation, strong liquidity and a conservative balance sheet while it continues to invest in growth, without significantly increasing its debt levels, while expansion in nickel and copper will lead to a more balanced cash flow contribution between iron ore and base metals.

The positive outlook also incorporates our expectation that there will be no significant increase in provisions and cash disbursements related to Brumadinho or Samarco that could affect the company's liquidity or leverage.

The stable outlook of Vale Canada reflects the rating outlook of Vale Base Metals Limited (Baa3 stable), which owns 100% of Vale Canada.

FACTORS THAT COULD LEAD TO AN UPGRADE OR DOWNGRADE OF THE RATINGS

Ambev S.A.

A rating upgrade would depend on an upgrade of Brazil's sovereign rating, and would require Ambev to maintain steady and strong credit metrics.

Ambev's rating or outlook could face negative pressure if its overall operating performance were to deteriorate because of greater-than-expected volatility in any of its major markets, or if the company's leverage were to increase significantly because of a change in its capital structure or a debt-financed acquisition. Quantitatively, a downgrade could be considered if credit metrics deteriorates, such as EBITA margin below 22% coupled with EBIT/interest below 5.5x or debt/EBITDA above 3.0x on a sustained basis (all metrics are according to our standard adjustments and definitions).

Arcos Dorados Holdings Inc.

Positive pressure on the ratings would require Arcos Dorados to perform in a more resilient manner regardless of the underlying macroeconomic environment and consumption patterns, particularly in Brazil. An upgrade would require the company to achieve more stable earnings across economic cycles and consumer preferences, maintaining lease-adjusted debt/EBITDA is below 2.5x; adjusted retained cash flow (RCF)/debt above 30%; and EBIT to interest expense above 4.0x.

The ratings could be downgraded if there is a deterioration in Arcos Dorados' liquidity and operational performance. Specifically, we would downgrade the ratings if the company's Moody's-adjusted gross debt/EBITDA remains above 3.5x, RCF/debt below 20% and EBIT to interest expense below 3.0x on a sustained basis. In addition, given the high concentration of operations in Brazil, a downgrade of Brazil's sovereign rating could strain Arcos Dorados' ratings.

Gerdau S.A.

An upgrade of Gerdau's rating could occur if it is able to sustain profitability, as measured by EBIT margin, at high-single-digit percentages (11% in the twelve months ended June 2024) improve liquidity and leverage, with total Moody's-adjusted debt/EBITDA below 2x (1.5x in the twelve months ended June 2024) and EBIT/interest expense above 5.5x (7.8x in the twelve months ended June 2024) on a

sustained basis maintain conservative financial policies. An upgrade of Gerdau's rating would require an upgrade of Brazil's sovereign rating and long-term visibility into Brazil's economic strength, or reduced exposure to the country's domestic fundamentals.

Downward pressure on the rating or outlook could result from a severe deterioration in market conditions leading to weaker liquidity or persistently high leverage, with total debt/EBITDA above 3x on a sustained basis and interest coverage (EBIT/interest expense) below 4x. A deterioration in volume and margin in Gerdau's main markets (namely Brazil and the US), weakening of its ability to generate positive FCF or limited flexibility for capital spending and dividend reduction could trigger a downgrade. A sharp deterioration in the controlling shareholders' (Metalurgica Gerdau S.A.) financial position or a downgrade of Brazil's sovereign rating could also precipitate a downgrade of Gerdau's rating.

Petroleo Brasileiro S.A. - PETROBRAS

The ratings could be upgraded if credit metrics are at least stable and there is evidence of significant lower exposure to adverse government influence. An upgrade of Petrobras' rating would also require an upgrade of Brazil's sovereign rating.

Petrobras' ratings could be downgraded if its operating performance deteriorates or there are external factors that increase liquidity risk or debt leverage from the current levels on a sustained basis; if the quality of the company's corporate governance declines, increasing its vulnerability to adverse government interference; or if Brazil's sovereign rating is downgraded.

Suzano S.A.

An upgrade of Suzano's ratings would require the maintenance of strong credit metrics and market presence. A rating upgrade would also be subject to the company's leverage, measured as total adjusted gross debt/EBITDA, to approach 2.5x. Furthermore, the company must maintain solid liquidity and positive free cash flow (FCF) generation over time. Additionally, an upward rating movement would be subject to the relative position of Suzano's ratings to Brazil's sovereign rating.

Significant changes in market conditions, in particular for hardwood pulp, which may lead to weaker-than-expected credit metrics for Suzano, could lead to a rating downgrade. The ratings could also be downgraded if adjusted leverage remains above 3.0x for a prolonged period; the company's liquidity deteriorates, becoming insufficient to cover near-term debt service requirements; or Brazil's sovereign rating is downgraded.

Vale S.A.

An upward rating movement would require a sustainably strong performance through different industry cycles and continued disciplined approach to capital allocation

related to capex and shareholder returns. Moreover, an upgrade of Vale's rating would require continued evidence of enhanced risk control and governance oversight, with production gradually normalizing and no material additional provisions or cash disbursements related to the incidents in Brumadinho or Samarco. An upgrade would also depend on the maintenance of a solid liquidity and positive free cash flow generation, supported by leading market positioning in its main segments and low-cost operations. Quantitatively, an upgrade would also require Vale's adjusted total debt/EBITDA to remain below 1.5x and EBIT/interest expense above 7x on a sustainable basis, with (CFO-dividends)/debt consistently above 45%. An upward rating movement would be subject to the relative position to the Government of Brazil rating.

An upgrade of Vale Canada's rating could result from an upgrade of Vale Base Metals Limited (Baa3 stable) rating, but would also depend on Vale Canada's credit quality and relevance to Vale Base Metals business profile and cash flow.

Conversely, Vale's ratings could be downgraded should the ultimate costs related to the disasters in Brumadinho or disbursements related to Samarco be materially above the amounts already provisioned due to higher fines and settlements, litigations and class actions, or if operations do not fully recover within the expected timeframe, affecting cash costs and free cash flow generation. Evidence that ESG initiatives are not on track to further de-risk the company could also lead to a negative rating action. Quantitatively, the ratings or outlook could suffer negative pressure should conditions for iron ore and base metals deteriorate, leading to lower profitability, with leverage ratios (total debt to EBITDA) rising towards 2.25x or above, EBIT/Interest expense falling below 5.5x and (CFO-dividends)/debt sustained below 35%. A marked deterioration in the company's liquidity position would also precipitate a downgrade. In addition, a downgrade of the Government of Brazil rating could strain Vale's ratings.

A downgrade of Vale Canada's rating would likely result from a downgrade of Vale Base Metals Limited rating.

The principal methodology used in rating Ambev S.A. was Alcoholic Beverages published in December 2021 and available at <https://ratings.moodys.com/rmc-documents/360647>. The principal methodology used in rating Arcos Dorados Holdings Inc. and Arcos Dorados B.V. was Restaurants published in August 2021 and available at <https://ratings.moodys.com/rmc-documents/74304>. The principal methodology used in rating Gerdau S.A. and GTL Trade Finance Inc. was Steel published in November 2021 and available at <https://ratings.moodys.com/rmc-documents/356428>. The principal methodologies used in rating Petroleo Brasileiro S.A. - PETROBRAS, Petrobras Global Finance B.V. and Petrobras International Finance Company were Integrated Oil and Gas published in September 2022 and available at <https://ratings.moodys.com/rmc-documents/393389>, and Government-Related Issuers methodology published in January 2024 and available at <https://ratings.moodys.com/rmc-documents/406502>. The principal methodology used in rating Suzano S.A. was Paper and Forest Products published in August 2024 and

available at <https://ratings.moodys.com/rmc-documents/426539>. The principal methodology used in rating Vale S.A., Vale Overseas Limited and Vale Canada Ltd. was Mining published in October 2021 and available at <https://ratings.moodys.com/rmc-documents/76085>. Alternatively, please see the Rating Methodologies page on <https://ratings.moodys.com> for a copy of these methodologies.

REGULATORY DISCLOSURES

For further specification of Moody's key rating assumptions and sensitivity analysis, see the sections Methodology Assumptions and Sensitivity to Assumptions in the disclosure form. Moody's Rating Symbols and Definitions can be found on <https://ratings.moodys.com/rating-definitions>.

For any affected securities or rated entities receiving direct credit support/credit substitution from another entity or entities subject to a credit rating action (the supporting entity), and whose ratings may change as a result of a credit rating action as to the supporting entity, the associated regulatory disclosures will relate to the supporting entity. Exceptions to this approach may be applicable in certain jurisdictions.

For ratings issued on a program, series, category/class of debt or security, certain regulatory disclosures applicable to each rating of a subsequently issued bond or note of the same series, category/class of debt, or security, or pursuant to a program for which the ratings are derived exclusively from existing ratings, in accordance with Moody's rating practices, can be found in the most recent Credit Rating Announcement related to the same class of Credit Rating.

For provisional ratings, the Credit Rating Announcement provides certain regulatory disclosures in relation to the provisional rating assigned, and in relation to a definitive rating that may be assigned subsequent to the final issuance of the debt, in each case where the transaction structure and terms have not changed prior to the assignment of the definitive rating in a manner that would have affected the rating.

Moody's does not always publish a separate Credit Rating Announcement for each Credit Rating assigned in the Anticipated Ratings Process or Subsequent Ratings Process.

These ratings are solicited. Please refer to Moody's Policy for Designating and Assigning Unsolicited Credit Ratings available on its website <https://ratings.moodys.com>.

Regulatory disclosures contained in this press release apply to the credit rating and, if applicable, the related rating outlook or rating review.

The Global Scale Credit Rating(s) discussed in this Credit Rating Announcement was(were) issued by one of Moody's affiliates outside the EU and UK and is(are)

endorsed for use in the EU and UK in accordance with the EU and UK CRA Regulation.

The below contact information is provided for information purposes only. For disclosures on the lead rating analyst and the Moody's legal entity that issued the rating, please see the issuer/deal page on <https://ratings.moodys.com> for each of the ratings covered.

Please see <https://ratings.moodys.com> for any updates on changes to the lead rating analyst and to the Moody's legal entity that has issued the rating.

Please see the issuer/deal page on <https://ratings.moodys.com> for additional regulatory disclosures for each credit rating.

Erick Rodrigues
Vice President - Senior Analyst
Corporate Finance Group
JOURNALISTS: 1 212 553 0376
Client Service: 1 212 553 1653

Marcos Schmidt
Associate Managing Director
Corporate Finance Group
JOURNALISTS: 1 212 553 0376
Client Service: 1 212 553 1653

Releasing Office:
Moody's Investors Service, Inc.
250 Greenwich Street
New York, NY 10007
U.S.A.
JOURNALISTS: 1 212 553 0376
Client Service: 1 212 553 1653

© 2024 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 CREDIT RATINGS AFFILIATES ARE THEIR 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 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 APPLICABLE MOODY’S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY’S 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 credit 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 \$5,000,000. 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, Inc. and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moodys.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 JPY100,000 to approximately

JPY550,000,000.

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