

CREDIT OPINION

5 July 2024

Update



RATINGS

Emaar Properties PJSC

Domicile	Dubai, United Arab Emirates
Long Term Rating	Baa2
Туре	LT Issuer Rating - Fgn Curr
Outlook	Stable

Please see the <u>ratings section</u> at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

Contacts

Aziz Al Sammarai +971.4.237.9695 AVP-Analyst aziz.alsammarai@moodys.com

Hormazd Motafram +971.4.237.9564
Ratings Associate
hormazd.motafram@moodys.com

Rehan Akbar, CFA +971.4.237.9565 Senior Vice President rehan.akbar@moodys.com

Emaar Properties PJSC

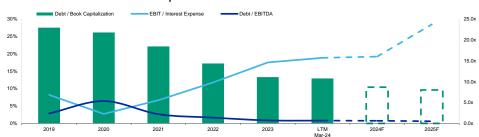
Update to credit analysis

Summary

Emaar Properties PJSC's (Emaar, Baa2 stable) rating reflects the company's solid business foundation and track record of maintaining a conservative financial profile. This is due to (1) its portfolio of mature recurring-revenue assets that contribute about half of Emaar's EBITDA; (2) strong property sales backlog of AED78.3 billion as of March 2024 which offers revenue visibility; (3) access to a sizable land bank in Dubai partly through strategic joint-venture (JV) partnerships with government-owned entities; (4) solid financial profile with debt to EBITDA below 1.0x for the last twelve months (LTM) ending March 2024; and (5) excellent liquidity profile.

The rating also takes into account (1) concentration risks stemming from Emaar generating most of its cash flow from Dubai; (2) demand uncertainties related to sentiment-driven customer base; and (3) the development and execution risks given the capital-intensive nature of the business.

Exhibit 1
Credit metrics will continue to improve



All figures and ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations. Periods are financial year-end unless indicated. LTM = Last 12 months. Moody's forecasts are Moody's opinion and do not represent the views of the issuer.

Source: Moody's Financial Metrics™ and Moody's Ratings forecasts

Credit strengths

» Relatively stable earnings from mature assets provide buffers against volatility in the real estate development business

- » Significant sales backlog provides a degree of cash flow visibility over the next 3-4 years
- » Good market position with access to sizable land-bank in Dubai, partly through JV partnerships with government-owned entities
- » Excellent liquidity profile

Credit challenges

- » Concentration risks stemming from Emaar generating most its cash flow from Dubai
- » Demand uncertainties related to sentiment-driven customer base
- » Development and execution risks given the capital-intensive nature of the business.
- » Exposure to the highly volatile real estate market in Dubai

Rating outlook

The stable outlook reflects our view that the company will maintain solid credit metrics through 2025 driven by strong demand and proven track record of good execution.

Factors that could lead to an upgrade

- » Increase in cash flow from recurring revenue
- » Prolonged positive macroeconomic outlook for the Emirate of Dubai
- » More balanced and mature real estate market in Dubai with lower price volatility

Factors that could lead to a downgrade

- » Sustained weakness in Dubai's macro-economic environment.
- » Adjusted debt to book capitalization sustained above 25%,
- » Debt to EBITDA exceeded 2.5x or
- » EBIT to interest expense sustained below 7.0x.
- » Weak liquidity

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on https://ratings.moodys.com for the most updated credit rating action information and rating history.

Key indicators

Exhibit 2

Key Indicators for Emaar Properties PJSC

(in USD million)	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	LTM Mar-24	2024F	2025F
Revenue	\$6,693	\$4,889	\$7,595	\$6,786	\$7,284	\$7,402	\$9,219	\$10,975
Gross Margin %	47.6%	37.2%	41.7%	50.6%	63.5%	64.4%	54.3%	55.0%
Debt / Book Capitalization	27.5%	26.1%	22.1%	17.2%	13.3%	12.9%	10.4%	9.6%
EBIT / Interest Expense	6.8x	2.3x	5.6x	9.8x	14.6x	15.7x	16.0x	23.7x
Debt / EBITDA	2.4x	5.3x	2.2x	1.4x	0.7x	0.7x	0.6x	0.5x

All figures and ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations. Periods are financial year-end unless indicated. LTM = Last 12 months. Moody's forecasts are Moody's opinion and do not represent the views of the issuer.

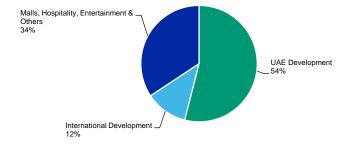
Source: Moody's Financial Metrics™ and Moody's Ratings forecasts

Profile

Emaar Properties, based in Dubai, United Arab Emirates, is a leading real estate master developer in the Gulf Cooperation Council (GCC) countries by sales and market capitalisation. Emaar Properties' main shareholder is the government of Dubai, with a 29.73% stake held indirectly through Investment Corporation of Dubai (ICD) and Dubai Holding (DH). Emaar Properties' main subsidiaries are Emaar Malls Management LLC and Emaar Development PJSC. The former owns Dubai's largest shopping centre and the latter is the publicly listed UAE development arm of the company.

For LTM ending March 2024, Emaar generated about AED27 billion (\$7.4 billion) in revenue and about AED11 billion (\$3.1 billion) in net profit.

Exhibit 3
Revenue Breakdown for the year 2023



Source: Company Presentation

Detailed credit considerations

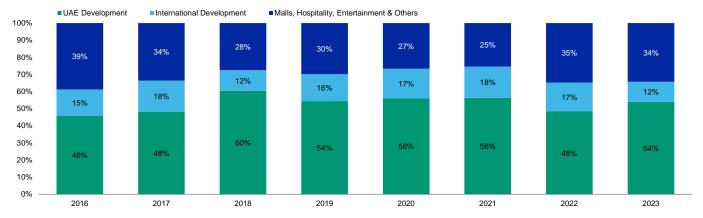
Strong business position and significant sales backlog mitigate concentration risks and exposure to the volatile real estate development sector

Emaar is the largest master developer in the UAE with around 71,000 units delivered as of March 2024. The company's scale in the region with its sizable land bank gives it a competitive advantage over smaller peers because it is able to generate economies of scale and flex its development pace through the cycle. For example, the company decided to pause and postpone material project launches in Egypt given weaker economic conditions and focus on areas experiencing strong demand such as Dubai and India. This is evidenced in the company's revenue backlog of about AED78.3 billion (of which 90% was in the UAE) as of March 2024, up from AED53.2 billion (of which 78% was in the UAE) as of 2022.

Emaar's real estate development revenue and EBITDA concentration in Dubai (exhibit 4) is somewhat mitigated by its international real estate development business and assets that generate stable and recurring revenue. However, Emaar remains heavily exposed to the Dubai market, where it is prominently active in several real estate activities including selling residential and serviced apartments, villas and office space; managing and leasing retail space; and operating hotels. Emaar's revenue from its international development has ranged between 12% and 18% of total revenue for the period between 2016 and 2023, while EBITDA, and therefore cash flow, were mainly generated from its Dubai based operations.

Exhibit 4

More than 80% of Emaar's revenue is generated in Dubai



Source: Company Presentation

As a master developer, Emaar subcontracts the construction of buildings through a tender process and tends to retain hotel and retail spaces to add into its investment portfolio while selling residential and some office space. Emaar structures its projects so that majority of cash receipts (deposits) are front-loaded with more than a third of the sales price received within the first 12-18 months. This allows the company to pre-fund a material portion of the construction costs and cushion against significant swings in market demand because customers tend to stick with their purchase. As of 31 March 2024, Emaar had a total revenue backlog of AED78.3 billion to be recognized over the next 3-4 years which offers strong revenue visibility. The current percentage of cash collection across Emaar Properties' property development projects in Dubai is on average at 38% and around 94% of units have been sold.

Mature recurring revenue assets supports Emaar's earnings resiliency

Most Emaar's recurring revenue portfolio, consisting of large retail, hospitality, and entertainment assets, is located in Dubai, with the majority of the assets owned and operated by its wholly-owned subsidiaries Emaar Malls Management's (EMM) and the remainder being in international locations such as Egypt and Turkiye. We view Emaar's recurring revenue as a credit strength because it provides a financial cushion during periods of volatility in the property development business. EMM's recurring revenue also increases earnings and cash flow predictability with its multi-year lease contracts and high margins (85% as of Q1 2024). In 2023, higher footfall, robust occupancy rate and significant growth in tenant sales led to higher rental revenue across Emaar's malls. Going forward, we expect the operating environment to remain supportive on the back of the solid macro conditions in Dubai, contributing to growth in EMM's revenue and cash flow. Further more, we believe Emaar will continue to invest in its portfolio as part of its strategy to meet market demand and grow the recurring cash flow contribution to its business over the next 12 to 18 months. This is evidenced by its announced projects at the Dubai Mall (expansion valued at AED 1.5 billion) and Dubai Creek Harbour Mall.

EMM has a well-established position in the retail leasing business with high quality assets. The company's flagship asset is Dubai Mall, a prime shopping and entertainment destination. Other assets include two regional malls (Dubai Marina Mall and Dubai Hills Mall), two outdoor retail strips (in Downtown Dubai and Dubai Marina), specialty retail (Gold and Diamond Park) and Souk Al Bahar, as well as several neighborhood retail developments. Occupancy levels across Emaar Malls' assets remained resilient throughout Q1 2024 at 96%.

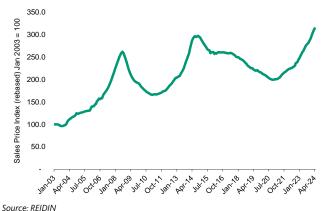
Market conditions in Dubai are expected to remain solid through 2025

We believe real estate market in the UAE in general and Dubai in specific will continue to witness growth over the next 12-18 months albeit at a more moderate level compared to 2023, supporting Emaar's revenue backlog and earnings. The demand for residential real estate is partially driven by proactive government policies that are attracting international investors and workers, population growth with improving economic conditions and relatively easy visa process, geopolitical conflicts in the region, and supportive oil prices fueling consumption. This in turn resulted in the accelerated pace of project launches and unit handover, and driving unit sales price up.

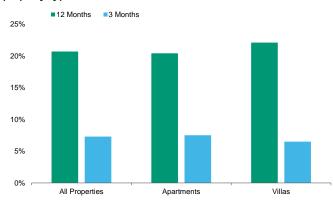
According to REIDIN, Dubai residential average sale prices have increased by around 20.1% in 2023 (see Exhibit 4) with villas performing much better than apartments (see Exhibit 5). In Q1 2024, according to CBRE, retail rents in the UAE increased by more than 10% and the occupancy rates for Dubai regional and super regional malls averaged more than 97% over the same period.

Exhibit 5

Dubai residential prices have steadily increased since the end of 2020 and have now crossed the 2014 peak..



.. with supportive prices seen in the last twelve months across property types



Source: CBRE - UAE Real Estate Market Review Q1 2024

Over the medium to long term, the real estate market in the UAE continues to evolve and witness structural strengths supported by better labor laws, the ability to obtain visas more easily and for longer terms, and relatively better value for money compared to other regions. This will improve the market competitiveness and attractiveness to potential buyers and drive overall growth.

Customer-financed project developments reduce balance sheet risk

Emaar has taken a disciplined approach to funding developments in existing master communities, for the most part, through construction-linked customer payments and therefore has not needed to use long-term debt funding for its development-related working capital needs. as of March 2024, Emaar had AED 20.2 billion of cash receipts against development projects. We expect new development projects will continue to be financed through customer deposits but infrastructure developments which usually require additional upfront investments will be financed mainly with free cash and customer deposits. Investment properties to be built in these locations, such as malls and hotels will also need additional funding but we believe Emaar will fund these projects mainly using its unrestricted cash sitting on the balance sheet (AED 15.8 billion as of March 2024) over the short term.

We believe Emaar's land acquisition strategy will consist of a combination of cash financed land acquisition supported by ample cash at balance sheet and joint ventures (JV) with strategic partners. Historically, Emaar established strategic JV partnerships with three Dubai government owned entities, namely Meraas, Dubai World Central and DP World Limited (Baa2 stable) through which it has been able to secure a sizable land bank. We view the JV partnerships as credit positive because Emaar does not have to pay any cash upfront but rather unlock and share value as projects are developed and sold. The parcels Emaar acquires through JVs are usually large, have high value, and in prime locations.

The government-owned JV partners interest is aligned with Emaar's because they plan and develop projects together. However, real estate projects with JV partners have their own execution risks and there is uncertainty around the full extent of funding needs for these projects. Emaar's biggest project with a JV partner is the Dubai Hills Estate valued at about AED 19.2 billion as of March 2024.

International operations are less mature but have long-term potential

Emaar's international operations support some geographical diversification. Although these operations are self-funding entities that have not required ongoing financial support from Emaar, international projects entail higher execution risks as compared to the domestic business because of the economic challenges that the core countries face. This creates uncertainty around the timing and quality of investment returns and partially offsets the geographic diversification benefits. As of 31 March 2024, Emaar international operations had a backlog of AED7.5 billion, with the bulk of units being built in Egypt and India while only contributing around 4% of revenue during Q1 2024. The real estate market fundamentals in Egypt and India are markedly different from that of Dubai, with a large growing indigenous population driving strong need for housing, but which is also exposed to macroeconomic challenges and currency fluctuations.

Credit metrics will improve in the next 12-18 months

We expect Emaar's credit metrics to remain very strong through 2025 as the company recognizes the revenue and EBITDA of the projects it has been launching over the last 12 months. We expect Emaar's gross debt to EBITDA (as adjusted by Moody's) to remain below 1x in 2024 and 2025 in line with the LTM ending March 2024. We also expect Emaar's EBIT to interest expense to remain very solid above 10x in 2024 and 2025 following the repayment of recent maturities.

ESG considerations

Emaar Properties PJSC's ESG credit impact score is CIS-2

Exhibit 7
ESG credit impact score



Source: Moody's Ratings

Emaar's ESG credit impact score of **CIS-2** indicates that ESG considerations have limited to no impact on Emaar's current rating. Emaar has a moderate exposure to environmental and social risks while governance risks have a neutral impact on the rating, reflecting its conservative financial policy and good liquidity risk management, particularly during the coronavirus pandemic.

Exhibit 8
ESG issuer profile scores



Source: Moody's Ratings

Environmental

Emaar's **E-3** mostly relates to physical climate and natural capital. Emaar has a relatively diversified portfolio of assets and continually invests in the assets to mitigate event and operational risks. Nevertheless, real estate companies' exposure to physical risk is material

given our expectations of more frequent and severe climate events and a steady increase in surface temperatures, and their physical asset-intensive business models. In our view, these property assets are at greater risk of impairment due to extreme weather events, which expose property developers to increased construction and repair costs. Physical climate risk and more stringent regulation will raise construction costs. However, associated environmental regulations have primarily been stable, and increases in costs can be largely passed to consumers. The need to exploit land resources exposes builders to natural capital risks and associated compliance costs related to land preservation.

Social

Emaar's **S-3** is driven by demographic and societal trends because Emaar is exposed to demographic changes due to a large expatriate population. Demographic changes and affordability are important factors driving demand, and changes in these areas could moderately affect the risks that property developers face. Human capital is generally not a major risk in Emaar's countries of operations, where labor costs are low and the labor pool is large. Property developers are also exposed to customer relations risk, which could impact brand reputation given customer satisfaction is closely linked to the quality of delivered property units. Cyber security risk associated with the collection of sensitive customer data is a key concern as well as the associated cost to ensure an appropriate protection process is in place.

Governance

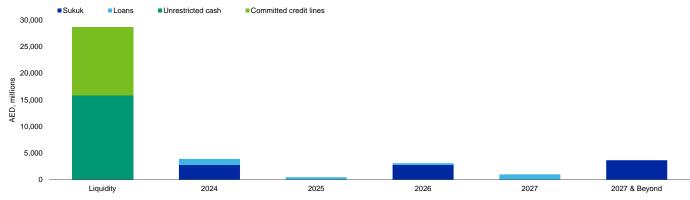
Emaar's **G-2** is driven by the company's stated commitment to an investment-grade rating and the prudence and track record that the management have in running the business and liquidity.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on Moodys.com. In order to view the latest scores, please click here to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.

Liquidity analysis

Emaar Properties' liquidity is excellent with cash balance of AED15.8 billion as of 31 March 2024 (net of restricted cash at escrow accounts) and undrawn revolving credit facilities of AED12.8 billion. We expect the company will generate about AED 3.7 billion of positive free cash flow over the next 12 months. This is sufficient to cover debt maturities of AED1.4 billion (pro forma for the sukuk repayment in June 2024) over the next twelve months. A material portion of Emaar Properties' cash is restricted as a regulatory requirement to deposit customer installments linked to development projects in escrow accounts (AED20.2 billion out of the AED36.1 billion as of March 2024). Nevertheless, as contractors get paid through the escrow accounts and projects get delivered, Emaar's cash profit is released from these accounts.

Exhibit 9 **Emaar Properties maturity profile**



Cash balance is as of 31 March 2024 is net of restricted cash Source: Company's financials

Rating methodology and scorecard factors

In determining Emaar's ratings, we have applied our rating methodology for Homebuilding and Property Development published in October 2022. The scorecard-indicated outcome for Emaar is Baa1 while the actual assigned rating is a Baa2. The one notch in difference relates to the high geographic concentration of revenues and cash flows in the Emirate of Dubai and the cyclical nature of the development business.

Exhibit 10

Emaar Properties PJSC						
Homebuilding And Property Development Industry Scorecard	Curi LTM 3/3		Moody's 12-18 Mor	Moody's 12-18 Month Forward View		
Factor 1 : Scale (10%)	Measure Score		Measure	Score		
a) Revenue (USD Billion)	\$7.4	Ва	\$9 - \$10	Ва		
Factor 2 : Business Profile (30%)						
a) Market Position and Diversification	Baa	Baa	Baa	Baa		
b) Business Strategy	Baa	Baa	Baa	Baa		
c) Market Conditions	Ва	Ва	Ba	Ва		
Factor 3 : Profitability and Efficiency (10%)						
a) Gross Margin	64.4%	Aa	53% - 55%	Α		
Factor 4 : Leverage and Coverage (30%)						
a) EBIT / Interest Expense	15.7x	Α	16x - 20x	А		
b) Debt / Book Capitalization	12.9%	Aaa	10% - 13%	Aaa		
c) Debt / EBITDA	0.7x	Α	0.5x - 0.7x	Α		
Factor 5 : Financial Policy (20%)						
a) Financial Policy	Baa	Baa	Baa	Baa		
Rating:	· ·					
a) Scorecard-Indicated Outcome		A3	-	Baa1		
b) Actual Rating Assigned				Baa2		

All figures and ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations. Moody's forecasts are Moody's opinion and do not represent the views of the issuer.

Source: Moody's Financial Metrics™ and Moody's Ratings forecasts

Ratings

Exhibit 11

Category	Moody's Rating
EMAAR PROPERTIES PJSC	
Outlook	Stable
Issuer Rating	Baa2
EMAAR SUKUK LIMITED	
Outlook	Stable
Bkd Senior Unsecured	Baa2
Source: Moody's Ratings	

Appendix

Exhibit 12
Peer comparison for Emaar Properties PJSC

	Emaar Properties PJSC			Toll Brothers, Inc.			Lendlease Group		
	Baa2 Stable			Baa3 Positive			Baa3 Stable		
	FYE	FYE FYE LTM			FYE	LTM	FYE	FYE	LTM
(in USD million)	Dec-22	Dec-23	Mar-24	Oct-22	Oct-23	Jan-24	Jun-22	Jun-23	Dec-23
Revenue	6,786	7,284	7,402	10,276	9,995	10,163	6,505	6,983	6,727
Gross Margin %	50.6%	63.5%	64.4%	26.1%	28.1%	28.6%	9.5%	7.3%	8.2%
EBIT / Interest Expense	9.8x	14.6x	15.7x	12.3x	13.8x	14.5x	2.9x	2.1x	1.8x
Debt / Book Capitalization	17.2%	13.3%	12.9%	35.5%	29.9%	28.5%	27.7%	35.1%	42.6%
Debt / EBITDA	1.4x	0.7x	0.7x	1.8x	1.4x	1.3x	5.1x	6.8x	8.3x

All figures and ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations. LTM = Last 12 months. Source: Moody's Financial Metrics™

Exhibit 13
Moody's-Adjusted Debt Reconciliation for Emaar Properties PJSC

	FYE	FYE	FYE	FYE	FYE	LTM
(in USD million)	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Mar-24
As Reported Total Debt	6,493	6,153	5,179	4,215	3,576	3,535
Pensions	48	46	47	48	48	48
Leases	0	0	0	0	0	0
Non-Standard Adjustments	0	0	0	0	0	0
Moody's Adjusted Total Debt	6,541	6,198	5,227	4,263	3,624	3,583

All figures and ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations. Periods are financial year-end unless indicated. LTM = Last 12 months.

Source: Moody's Financial MetricsTM

Exhibit 14
Moody's-Adjusted EBITDA Reconciliation for Emaar Properties PJSC

	FYE	FYE	FYE	FYE	FYE	LTM
(in USD million)	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Mar-24
As Reported EBITDA	2,809	1,553	2,432	3,111	5,143	5,307
Unusual Items - Income Statement	(161)	(613)	0	0	(191)	0
Non-Standard Adjustments	111	222	(61)	(16)	74	74
Moody's Adjusted EBITDA	2,759	1,161	2,370	3,094	5,026	5,381

All figures and ratios are based on adjusted financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations. Periods are financial year-end unless indicated. LTM = Last 12 months.

Source: Moody's Financial MetricsTM

© 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 OR OTHERWISE MADE AVAILABLE BY MOODY'S (COLLECTIVELY, "MATERIALS") 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 MATERIALS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S MATERIALS 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 MATERIALS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS 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 OR OTHERWISE MAKES AVAILABLE ITS MATERIALS 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 MATERIALS 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 MATERIALS 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. FOR CLARITY, NO INFORMATION CONTAINED HEREIN MAY BE USED TO DEVELOP, IMPROVE, TRAIN OR RETRAIN ANY SOFTWARE PROGRAM OR DATABASE, INCLUDING, BUT NOT LIMITED TO, FOR ANY ARTIFICIAL INTELLIGENCE, MACHINE LEARNING OR NATURAL LANGUAGE PROCESSING SOFTWARE, ALGORITHM, METHODOLOGY AND/OR MODE!

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS 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 Materials. 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 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. 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 — Charter Documents - Director and Shareholder Affiliation Policy."

Moody's SF Japan K.K., Moody's Local AR Agente de Calificación de Riesgo S.A., Moody's Local BR Agência de Classificação de Risco LTDA, Moody's Local MX S.A. de C.V, I.C.V., Moody's Local PE Clasificadora de Riesgo S.A., and Moody's Local PA Calificadora de Riesgo S.A. (collectively, the "Moody's Non-NRSRO CRAs") are all indirectly wholly-owned credit rating agency subsidiaries of MCO. None of the Moody's Non-NRSRO CRAs is a Nationally Recognized Statistical Rating Organization.

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 India only: Moody's credit ratings, Assessments, other opinions and Materials are not intended to be and shall not be relied upon or used by any users located in India in relation to securities listed or proposed to be listed on Indian stock exchanges.

Additional terms with respect to Second Party Opinions (as defined in Moody's Investors Service Rating Symbols and Definitions): Please note that a Second Party Opinion ("SPO") is not a "credit rating". The issuance of SPOs is not a regulated activity in many jurisdictions, including Singapore. JAPAN: In Japan, development and provision of SPOs fall under the category of "Ancillary Businesses", not "Credit Rating Business", and are not subject to the regulations applicable to "Credit Rating Business" under the Financial Instruments and Exchange Act of Japan and its relevant regulation. PRC: Any SPO: (1) does not constitute a PRC Green Bond Assessment as defined under any relevant PRC laws or regulations; (2) cannot be included in any registration statement, offering circular, prospectus or any other documents submitted to the PRC regulatory authorities or otherwise used to satisfy any PRC regulatory disclosure requirement; and (3) cannot be used within the PRC for any regulatory purpose or for any other purpose which is not permitted under relevant PRC laws or regulations. For the purposes of this disclaimer, "PRC" refers to the mainland of the People's Republic of China, excluding Hong Kong, Macau and Taiwan.

REPORT NUMBER

1412902