

**CREDIT OPINION**

30 April 2025



**Contacts**

Dan Seymour, CFA +1.212.553.4871  
VP-Senior Credit Officer  
dan.seymour@moodys.com

Orlie Prince +1.212.553.7738  
Associate Managing Director  
orlie.prince@moodys.com

**CLIENT SERVICES**

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

**Bergen County, NJ**

Update to credit analysis

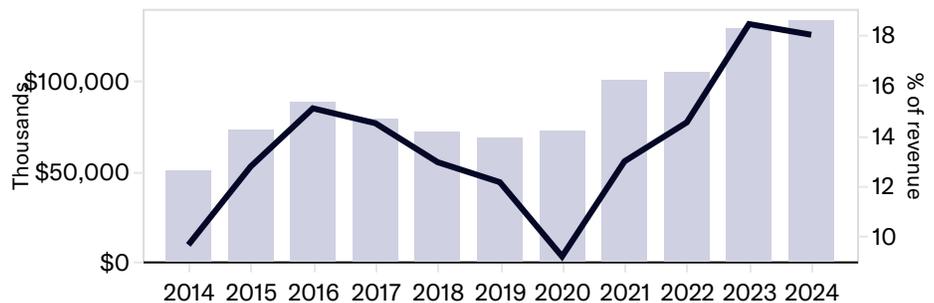
**Summary**

[Bergen County](#), NJ's (Aaa stable) large, dynamic and wealthy economy remains an enduring credit strength. The county's financial position, historically narrow for the Aaa rating category, is improving (Moody's-adjusted reserves are now at 18% of revenue), demonstrating strong financial governance. A large portfolio of guaranteed debt and heavy other post-employment (OPEB) benefits contribute to leverage that is much higher than many highly rated peers, with long-term liabilities at 400% of revenue, which makes the county's other strengths such as its wealthy economy and solid financial management important offsetting factors.

Exhibit 1

**Financial position continues to improve**

■ Available fund balance — % of revenue (right axis)



[1] Fund balance for 2024 is based on an unaudited financial statement  
Source: Moody's Ratings

## Credit strengths

- » Diverse tax base with favorable location
- » Above-average wealth levels
- » Strong financial management team
- » Trend of improving finances

## Credit challenges

- » Heavy leverage, including above-average OPEB liabilities and a significant portfolio of guaranteed debt
- » Historically narrow financial position relative to peers

## Rating outlook

The stable outlook recognizes the enduring strengths of the county's economy and tax base, which continue to grow, as well as the ongoing improvement in finances. These remain important offsetting strengths in light of the county's heavy long-term liabilities.

## Factors that could lead to an upgrade

- » N/A

## Factors that could lead to a downgrade

- » Reversion of Moody's-adjusted available fund balance below 10% on a sustained basis
- » Significant growth in long-term liabilities

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.moody.com> for the most updated credit rating action information and rating history.

## Key indicators

Exhibit 2

### Bergen (County of) NJ

	2020	2021	2022	2023	2024 (est)	Aaa medians
<b>Economy</b>						
Resident income ratio (%)	139.3%	138.1%	139.8%	140.1%	140.1%	121.1%
Full Value (\$000)	\$183,090,621	\$185,080,483	\$193,879,947	\$209,784,711	\$209,784,711	\$60,715,203
Population	931,275	952,979	953,243	954,717	954,717	413,001
Full value per capita (\$)	\$196,602	\$194,213	\$203,390	\$219,735	\$236,816	\$150,347
Annual Growth in Real GDP	-3.1%	5.1%	2.2%	1.6%	1.6%	2.2%
<b>Financial Performance</b>						
Revenue (\$000)	\$787,281	\$775,581	\$725,633	\$701,994	\$743,395	\$556,827
Available fund balance (\$000)	\$72,405	\$100,544	\$105,253	\$132,799	\$133,625	\$251,309
Net unrestricted cash (\$000)	\$238,990	\$335,099	\$390,612	\$373,510	\$361,618	\$420,472
Available fund balance ratio (%)	9.2%	13.0%	14.5%	18.9%	18.0%	47.7%
Liquidity ratio (%)	30.4%	43.2%	53.8%	53.2%	48.6%	79.5%
<b>Leverage</b>						
Debt (\$000)	\$1,225,313	\$1,255,879	\$1,191,681	\$1,294,722	\$1,347,121	\$425,678
Adjusted net pension liabilities (\$000)	\$1,276,112	\$1,075,981	\$866,563	\$755,521	\$661,610	\$492,825
Adjusted net OPEB liabilities (\$000)	\$1,293,944	\$1,258,500	\$1,102,708	\$935,162	\$935,162	\$62,594
Other long-term liabilities (\$000)	\$25,907	\$27,015	\$22,590	\$22,501	\$22,501	\$27,845
Long-term liabilities ratio (%)	485.4%	466.4%	438.7%	428.5%	399%	178.9%
<b>Fixed costs</b>						
Implied debt service (\$000)	\$90,755	\$87,748	\$88,087	\$83,227	\$89,911	\$27,654
Pension tread water contribution (\$000)	\$40,603	\$41,400	\$33,175	\$38,146	\$39,123	\$10,470
OPEB contributions (\$000)	\$30,800	\$30,347	\$25,039	\$25,039	\$25,039	\$3,449
Implied cost of other long-term liabilities (\$000)	\$1,574	\$1,855	\$1,895	\$1,578	\$1,578	\$1,961
Fixed-costs ratio (%)	20.8%	20.8%	20.4%	21.1%	21.1%	7.5%

For definitions of the metrics in the table above please refer to the [US Cities and Counties Methodology](#) or see the Glossary in the Appendix below. Metrics represented as N/A indicate the data were not available at the time of publication. The medians come from our most recently published [US Cities and Counties Median Report](#).

The real GDP annual growth metric cited above is for the New York-Newark-Jersey City, NY-NJ-PA Metropolitan Statistical Area.

Sources: US Census Bureau, Bergen (County of) NJ's financial statements and Moody's Ratings, US Bureau of Economic Analysis

## Profile

Bergen County is the largest county in NJ. It is located just outside New York City, and is primarily suburban in nature.

## Detailed credit considerations

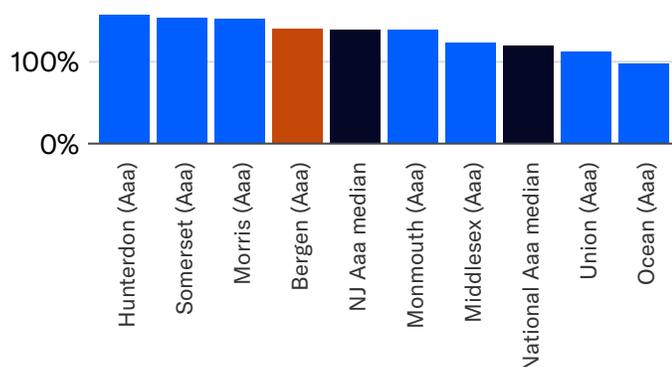
### Economy: Large, dynamic economy is major strength

Bergen County's large, dynamic economy will remain an enduring strength.

The county is the largest in NJ by population (954,717), by gross domestic product (\$101 billion), and by the full value of taxable property (\$226.1 billion). It is the 36th-wealthiest county in the nation by median household income, and the 34th-wealthiest by median family income. According to the Census Bureau, there are more than 30,500 homes in the county valued at \$1 million or more, and 63% of the county's housing stock is valued at \$500,000 or more.

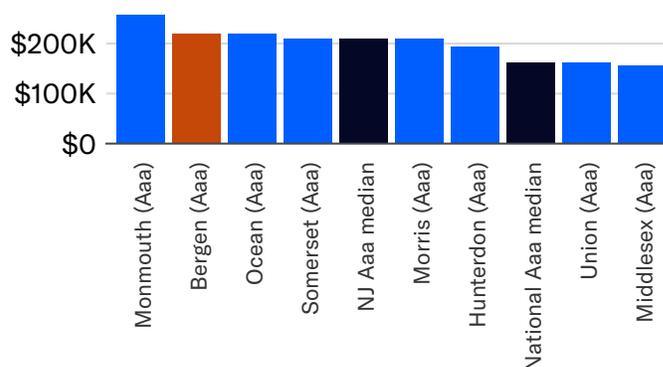
The county's median household income and full value per capita are both solid compared to other NJ counties rated Aaa, which as a cohort are exceptionally wealthy by national standards even adjusting for the high cost of living.

Exhibit 3  
**Median household income adjusted for the regional cost of living, relative to the US median**



Source: US Census Bureau, Bureau of Economic Analysis, Moody's Ratings

Exhibit 4  
**Full value per capita**



[1] As of 2023, for comparative purposes  
 Source: NJ Division of Taxation, Moody's Ratings

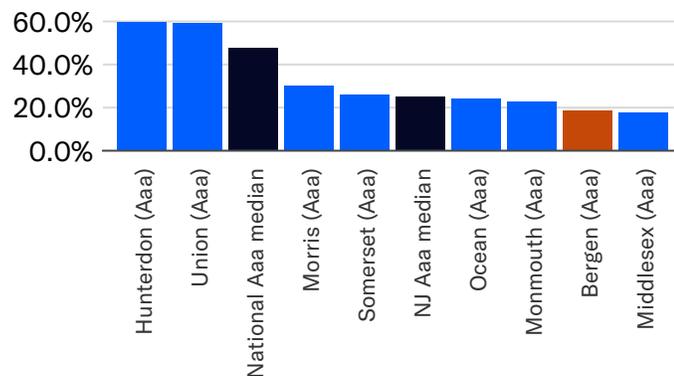
Located just outside New York City (Aa2 stable), the county is primarily suburban but has a significant economy and employment base of its own. The largest employers include the Hackensack University Medical Center and Valley Health Systems, as well as a number of other employers particularly in the healthcare industry. Its largest taxpayer is the Garden State Plaza mall.

Lastly, we note that Bergen County's economy and tax base are growing at a healthy rate even though the county is already wealthy and mature (it is the fourth most densely populated county in the state, which in turn is by far the densest state in the nation). Personal income has grown 51% over the past 10 years, which is comparable to the state and regional growth rates. And full value continues to increase, spiking 7.8% in 2024.

### Financial performance: Strong financial management driving improvements

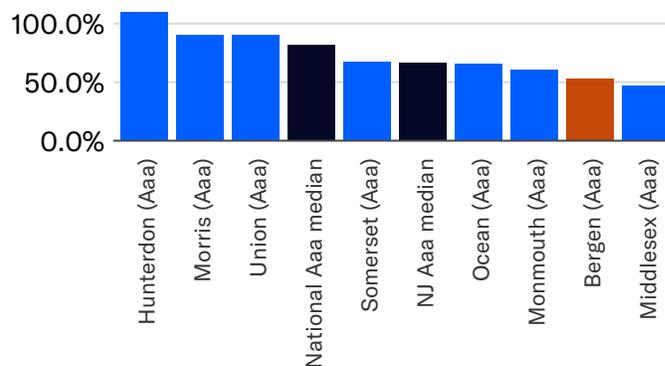
Bergen County's strong financial management team is making a concerted push to improve its financial position, which is evidenced by ongoing increases in cash and reserves. The county's financial position has long been narrow for the rating category. In fact, the county's available fund balance in 2023 was the second-lowest of 127 counties we rate Aaa nationwide. Mitigating this to an extent is the county's cash, which scores as a Aaa on our scorecard yet is still lower than most other Aaa-rated counties.

Exhibit 5  
**Available fund balance**  
 Relative to revenue



[1] All figures shown as of 2023 for comparative purposes  
 Source: Moody's Ratings

Exhibit 6  
**Liquidity ratio**  
 Net cash relative to revenue



[1] All figures shown as of 2023 for comparative purposes  
 Source: Moody's Ratings

Acknowledging this, the county has strived to generate greater surplus and increase its available fund balance. Exhibit 1 at the top of this report demonstrates the upward slope in fund balance the county has reported since 2020. Based on an unaudited financial statement for 2024, the county's Moody's-adjusted fund balance is now at 18% of revenue, which still lags peers but is more than double where it was in 2020.

Because NJ municipalities utilize a statutory accounting method that differs from the accounting system used by municipalities in other states, our adjusted fund balance figure is the result of judgment calls to include some items and exclude others. Excluded from our official number are significant items including reserves for self-insurance and certain capital funds, the inclusion of which would bring fund balance closer to 30%. While we emphasize that we are not employing this as our official figure, we do recognize that our figure does exclude certain cash balances that the county probably could use to fund operations under some circumstances.

**Leverage: Above-average leverage with exposure to guaranteed debt**

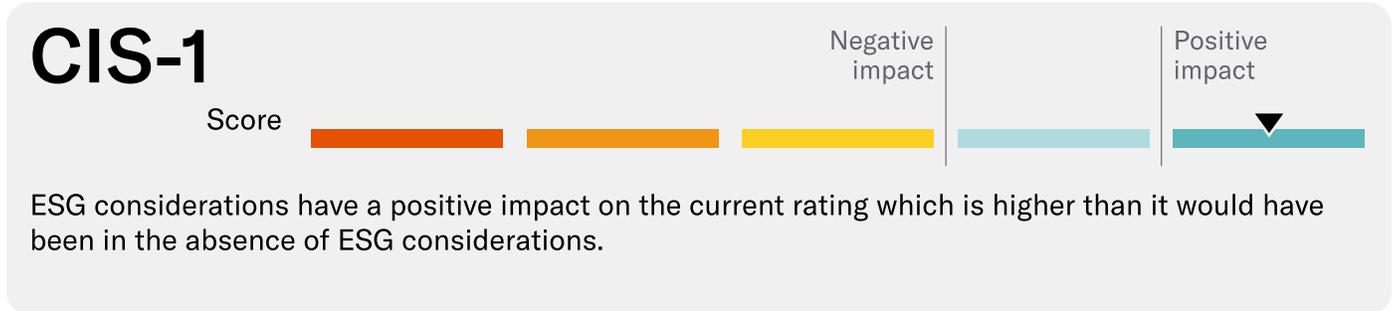
Bergen County's leverage will remain above-average. The two major contributors to the county's high liabilities ratio are its portfolio of guaranteed debt and its OPEB liabilities. Because of the county's heavy leverage even by NJ standards, its other attributes – in particular, its wealthy and growing economy – provide important offsetting strengths.

The county's \$1.35 billion of debt includes \$631 million of debt that it guarantees for localities and projects within the county. The county has never had to make a payment on any of these guaranteed debts, so they do not pose any operating burden on the county's budget. The county's long-term liabilities ratio excluding self-supporting guaranteed debt would decline to about 315% of revenue, which is still high but more comparable to peers (we do note, however, that many other NJ counties similarly have self-supporting guaranteed debt included in our debt metrics). The county's direct debt is likely to continue declining at a modest rate, as the county pays off more in principal than the borrowing contemplated under its capital plan each year. However, its portfolio of guaranteed debt will continue to increase, resulting a higher net leverage over time.

## ESG considerations

Bergen (County of) NJ's ESG credit impact score is CIS-1

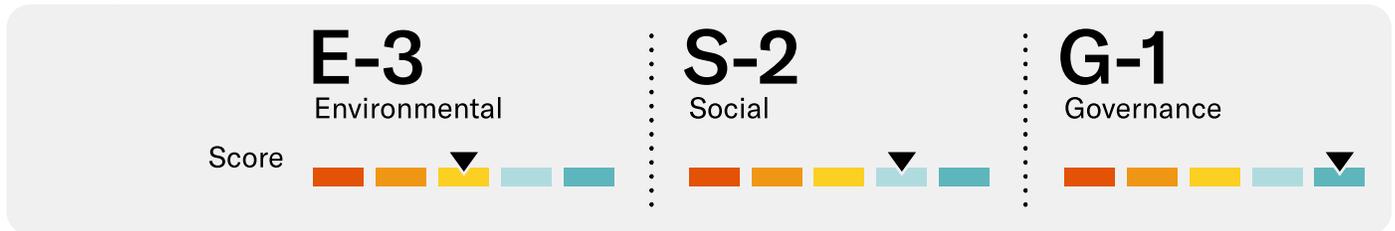
Exhibit 7  
ESG credit impact score



Source: Moody's Ratings

Bergen County's positive (**CIS-1**) ESG Credit Impact Score reflects the high importance of its strong governance. This strong governance is key to maintaining a strong financial position and also offsets moderately negative exposure to environmental risks and low exposure to social risks.

Exhibit 8  
ESG issuer profile scores



Source: Moody's Ratings

### Environmental

The county's overall environmental issuer profile score is moderately-negative (**E-3**). While carbon transition, water, natural capital, and pollution risks are modest, the county is exposed to rising sea levels. Favorably, multiple levels of government are engaged in projects related to the health and upkeep of the Hudson River.

### Social

Exposure to social risk is neutral-to-low (**S-2**). The county is home to some of the wealthiest communities in the nation. Affordable housing is one of the county's major challenges. Overall demographics and educational attainment are strengths. Residents have easy access to basic services and the county scores favorably in health and safety.

### Governance

Bergen County's strong governance is reflected in a score of **G-1**. The county has built a deep bench of civil servants and outside professionals to implement its policy objectives. This, plus a combination of a strong state-wide institutional framework and highly conservative budgeting, has allowed to county not only to strengthen its finances but to do so while providing various forms of assistance to its local governments.

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.

## Rating methodology and scorecard factors

The US Cities and Counties Methodology includes a scorecard, which summarizes the rating factors generally most important to city and county credit profiles. Because the scorecard is a summary, and may not include every consideration in the credit analysis for a specific issuer, a scorecard-indicated outcome may or may not map closely to the actual rating assigned. The county's rating of Aaa is 5 notches higher than the scorecard-indicated outcome of A1 because the scorecard does not capture some of the county's trust fund reserves, nor the scale of its economy.

Exhibit 9

### Bergen (County of) NJ

	Measure	Weight	Score
<b>Economy</b>			
Resident income ratio	140.1%	10.0%	Aaa
Full value per capita	236,816	10.0%	Aaa
Economic growth metric	-0.8%	10.0%	Aa
<b>Financial Performance</b>			
Available fund balance ratio	18.9%	20.0%	A
Liquidity ratio	53.2%	10.0%	Aaa
<b>Institutional Framework</b>			
Institutional Framework	Aa	10.0%	Aa
<b>Leverage</b>			
Long-term liabilities ratio	428.5%	20.0%	Baa
Fixed-costs ratio	21.1%	10.0%	Baa
<b>Notching factors</b>			
Financial disclosures	-0.5		
Scorecard-Indicated Outcome			A1
<b>Assigned Rating</b>			<b>Aaa</b>

The Economic Growth metric cited above compares the five-year CAGR of real GDP for New York-Newark-Jersey City, NY-NJ-PA Metropolitan Statistical Area Metropolitan Statistical Area to the five-year CAGR of real GDP for the US.

Sources: US Census Bureau, Bergen (County of) NJ's financial statements and Moody's Ratings

## Appendix

Exhibit 10

### Key Indicators Glossary

	Definition	Typical Source*
<b>Economy</b>		
Resident income ratio	Median Household Income (MHI) for the city or county, adjusted for Regional Price Parity (RPP), as a % of the US MHI	MHI: US Census Bureau - American Community Survey 5-Year Estimates RPP: US Bureau of Economic Analysis
Full value	Estimated market value of taxable property in the city or county	State repositories; audited financial statements; continuing disclosures
Population	Population of the city or county	US Census Bureau - American Community Survey 5-Year Estimates
Full value per capita	Full value / population	
Economic growth metric	Five year CAGR of real GDP for Metropolitan Statistical Area or county minus the five-year CAGR of real GDP for the US	Real GDP: US Bureau of Economic Analysis
<b>Financial performance</b>		
Revenue	Sum of revenue from total governmental funds, operating and non-operating revenue from total business-type activities, and non-operating revenue from internal services funds, excluding transfers and one-time revenue, e.g., bond proceeds or capital contributions	Audited financial statements
Available fund balance	Sum of all fund balances that are classified as unassigned, assigned or committed in the total governmental funds, plus unrestricted current assets minus current liabilities from the city's or county's business-type activities and internal services funds	Audited financial statements
Net unrestricted cash	Sum of unrestricted cash in governmental activities, business type activities and internal services fund, net of short-term debt	Audited financial statements
Available fund balance ratio	Available fund balance (including net current assets from business-type activities and internal services funds) / Revenue	
Liquidity ratio	Net unrestricted cash / Revenue	
<b>Leverage</b>		
Debt	Outstanding long-term bonds and all other forms of long-term debt across the governmental and business-type activities, including debt of another entity for which it has provided a guarantee disclosed in its financial statements	Audited financial statements; official statements
Adjusted net pension liabilities (ANPL)	Total primary government's pension liabilities adjusted by Moody's to standardize the discount rate used to compute the present value of accrued benefits	Audited financial statements; Moody's Ratings
Adjusted net OPEB liabilities (ANOL)	Total primary government's net other post-employment benefit (OPEB) liabilities adjusted by Moody's to standardize the discount rate used to compute the present value of accrued benefits	Audited financial statements; Moody's Ratings
Other long-term liabilities (OLTL)	Miscellaneous long-term liabilities reported under the governmental and business-type activities entries	Audited financial statements
Long-term liabilities ratio	Debt + ANPL + ANOL + OLTL / Revenue	
<b>Fixed costs</b>		
Implied debt service	Annual cost to amortize city or county's long-term debt over 20 years with level payments	Audited financial statements; official statements; Moody's Ratings
Pension tread water contribution	Pension contribution necessary to prevent reported unfunded pension liabilities from growing, year over year, in nominal dollars, if all actuarial assumptions are met	Audited financial statements; Moody's Ratings
OPEB contribution	City or county's actual contribution in a given period	Audited financial statements
Implied cost of OLTL	Annual cost to amortize city or county's other long-term liabilities over 20 years with level payments	Audited financial statements; Moody's Ratings
Fixed-costs ratio	Implied debt service + Pension tread water + OPEB contributions + Implied cost of OLTL / Revenue	

\*Note: If typical data source is not available then alternative sources or proxy data may be considered. For more detailed definitions of the metrics listed above please refer to the [US Cities and Counties Methodology](#).

Source: Moody's Ratings

© 2025 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 MODEL.

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 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 Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it. MCO and all MCO entities that issue ratings under the "Moody's Ratings" brand name ("Moody's Ratings"), also maintain policies and procedures to address the independence of Moody's Ratings' 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 [ir.moody.com](http://ir.moody.com) under the heading "Investor Relations — Corporate Governance — Charter and Governance 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 Clasificadora 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 and Net Zero Assessments (as defined in Moody's Ratings Rating Symbols and Definitions): Please note that neither a Second Party Opinion ("SPO") nor a Net Zero Assessment ("NZA") is a "credit rating". The issuance of SPOs and NZAs is not a regulated activity in many jurisdictions, including Singapore. JAPAN: In Japan, development and provision of SPOs and NZAs 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 1446090

CLIENT SERVICES

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