

**CREDIT OPINION**

24 April 2026

Update

Send Your Feedback

**RATINGS**

**Walloon Region**

Domicile	Belgium
Long Term Rating	Baa1
Type	LT Issuer Rating - Dom Curr
Outlook	Stable

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

**Contacts**

Giacomo Faruffini +33.1.5330.3403  
Analyst  
giacomo.faruffini@moodys.com

Agathe Segard +33.15.330.1031  
Ratings Associate  
agathe.segard@moodys.com

Massimo Visconti, +39.02.9148.1124  
MBA  
Associate Managing Director  
massimo.visconti@moodys.com

**CLIENT SERVICES**

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

# Walloon Region (Belgium)

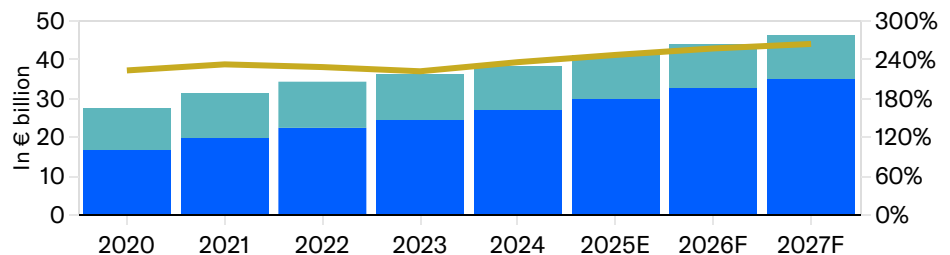
Update following downgrade to Baa1, outlook changed to stable

**Summary**

The credit profile of the [Walloon Region](#) (Baa1 stable) reflects a mature and robust legislative background, sophisticated but prudent debt management, very strong market access, and tax autonomy. Our assessment of the Walloon Region's creditworthiness also takes into account our expectation that the deficit will moderate over the outlook period, supported by a phased reduction in capital spending and the implementation of significant savings measures. The rating also incorporates our assessment of a strong likelihood that the Government of [Belgium](#) (A1 stable) would intervene in a timely manner to prevent a default.

Exhibit 1

Direct Debt (LHS) Net Indirect Debt (LHS)  
Net Direct and Indirect Debt / Operating Revenue (RHS)



Source: Moody's Ratings, Walloon Region

**Credit strengths**

- » A mature and robust legislative background with well-defined responsibilities amid a complex Belgian institutional system
- » Sophisticated but prudent debt management underpins very strong market access
- » Revenue flexibility is supportive of the credit profile, although dependent on policy decisions

**Credit challenges**

- » A very high debt burden, reflecting recurring financing deficits
- » An economy which compares unfavorably with national and European peers

## Rating outlook

The stable outlook on the Walloon Region reflects our expectation that the deficit will moderate over the outlook period, supported by a phased reduction in capital spending and the implementation of significant savings measures. The Region is also expected to continue to benefit from a robust legislative framework with predictable revenue transfers, tax autonomy, prudent and sophisticated debt and liquidity management, and very strong market access.

## Factors that could lead to an upgrade

Positive pressure on the ratings could develop if there is clear and sustained evidence of a material narrowing of fiscal deficits. This would likely require the effective implementation of savings measures, a tangible reduction in capital expenditure in line with current plans, and additional policy actions sufficient to offset persistent expenditure pressures. Demonstrated progress in placing the debt burden on a stabilising trajectory would be supportive for the ratings. In addition, an upgrade of the Government of Belgium's sovereign rating ([A1 stable](#)) would be credit positive for the Walloon Region.

## Factors that could lead to a downgrade

Downward pressure on the ratings could arise from one or a combination of the following factors: (1) a downgrade of the Government of Belgium's sovereign rating; (2) an increase in the region's very high debt above our projections, driven by a failure to implement savings measures, policy slippage, insufficient institutional coordination, or less supportive economic growth than currently expected. A material increase in the region's interest burden and/or a material weakening of its market access would also be credit negative.

## Key indicators

Exhibit 2

	2020	2021	2022	2023	2024	2025E	2026F	2027F
Primary Operating Balance / Operating Revenue (%)	-20.7%	-21.6%	-12.5%	-13.5%	-10.3%	-9.5%	-8.8%	-8.0%
Self-financing ratio	-11.7	-3.8	-3.1	-3.4	-2.6	-0.5	-1.1	-6.4
Net Direct and Indirect Debt / Operating Revenue (%)	222.0%	231.4%	227.2%	220.7%	234.8%	246.0%	255.5%	263.0%
Interest Expenses / Operating Revenue (%)	2.3%	2.5%	2.1%	2.2%	2.9%	2.9%	3.7%	3.9%
Capital Spending / Total Expenditure (%)	1.6%	4.9%	3.9%	3.8%	4.2%	8.8%	6.3%	1.6%
Cash Financing Surplus / Total Revenues (%)	-24.9%	-30.4%	-19.1%	-20.2%	-17.9%	-15.7%	-14.5%	-13.4%

E: estimate; F: forecast

Source: Moody's Ratings, Walloon Region

## Recent developments

On 21 April 2026, we downgraded the Walloon Region's long-term ratings to Baa1 from A3, affirmed the P-2 commercial paper and (P)P-2 other short-term ratings, and changed the outlook to stable from negative. We also lowered the Baseline Credit Assessment (BCA) to baa3 from baa2.

The downgrade followed Belgium's sovereign downgrade to A1 with a stable outlook on April 17, 2026, indicating a weaker macro-operating environment and higher systemic constraints for Belgian sub-sovereign issuers. The rating action reflects the close institutional, operational and financial linkages between the Walloon Region and the Belgian federal government.

## Profile

The Walloon Region, covering Belgium's southern half, has 3.7 million residents, mainly French-speaking, and accounts for about 23% of national GDP. Its economy is diversified but with structural weaknesses, reflecting a legacy of heavy industry. Key sectors include manufacturing, chemicals, logistics, and growing strengths in pharmaceuticals and defense. The region exercises broad authority over areas such as transportation, agriculture, public works, and economic development. It enjoys the highest share of tax receipts among

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.

Belgium's federated entities, with broad fiscal autonomy following the Sixth State Reform, including personal income tax surcharges and delegated powers over social and labor policies.

### Detailed credit considerations

The credit profile of the Walloon Region, as expressed in its Baa1 rating, combines a Baseline Credit Assessment (BCA) of baa3. The rating also incorporates our assessment of a strong likelihood that the Government of [Belgium](#) (A1 stable) would intervene in a timely manner to prevent a default.

#### Baseline Credit Assessment

##### **A mature and robust legislative background with well-defined responsibilities amid a complex Belgian institutional system**

The country's federal structure of government has gradually, but significantly, evolved over the past decades towards a greater devolution of decision-making power to the six federated entities – one of which is the Walloon Region. This has included greater tax autonomy for regions, with the implementation in 2015 of the Sixth State Reform. The determining characteristic of a region is its geographical area, while that of a community is its culture and language. The Walloon Region represents 55% of the Belgian territory but 32% of its population.

While the country's regional disparities and divisions are associated with governance complexities at the federal level, the legislative background – which encompasses the arrangements determining intergovernmental relations at all levels, as well as jurisdictional powers and responsibilities – is mature and robust. Exclusive responsibilities assigned to the federated entities are stable, and regions are competent in territorial matters (including economic development, transports, environment, housing) as well as employment. The remaining responsibilities are assigned to the federal government (including foreign affairs, national defence and justice). The distribution of responsibilities is subject to judicial control, exercised by the Constitutional Court of Belgium (which can undo legislation that contravenes the division of powers), and by the Council of State. For the Walloon Region, it also means that revenues and spending responsibilities are well-defined, that tax autonomy is ensured and that changes cannot occur suddenly. Any change to the legislation that governs Belgian sub-sovereigns must be approved by a majority in both linguistic groups (French and Dutch/German) in the national Parliament, in addition to a two-thirds overall majority.

Fiscal policy coordination across Belgium's federal state, Regions and Communities is a material consideration because Belgium combines a highly decentralized fiscal framework with strong interdependence across levels of government. As a result, policy decisions or fiscal slippage at one level can have material budgetary effects on others and weaken their fiscal trajectory. A political agreement was reached on 27 March 2026 for the implementation of a new cooperation agreement on the allocation of budgetary trajectories among the country's different entities to improve coordination, enforcement, and limit cross-entity fiscal spillovers. Until implementation demonstrates stronger enforcement, cross-entity fiscal spillovers are likely to remain a constraint on Belgium's sub-sovereign fiscal coordination.

##### **Sophisticated but prudent debt management underpins very strong market access**

The Walloon Region's market access remains very strong, reflecting its established presence in capital markets, diversified funding toolkit and liquidity backstops. As one of Belgium's three Regions, Walloon continues to benefit from strong access to external funding sources. Funding instruments comprise: (i) a €30 billion EMTN (Euro Medium Term Note) programme; (ii) a €2 billion ECP (Euro Commercial Paper) programme (iii) MTN (Medium Term Note) programmes, which can be used for short- (*billets de trésorerie*) and long-term maturities (€1.25 billion with [BNP Paribas Fortis SA/NV](#) [A2 stable]; and €2.5 billion with [Belfius Bank SA/NV](#) [Belfius, Aa3/A1 stable]); and (iv) a €2.25 billion overdraft cash facility to date – including a firm commitment underwriting agreement – with Belfius. The ECP program launched in 2025 is expected to gradually replace the MTN programme, supporting competitiveness and broadening the investor base.

Debt management is based on prudent rules, including: (i) debt due within one and five year(s) must remain below 15% and 50% of total outstanding debt, respectively; (ii) the target share of variable-rate debt is 15%; (iii) there is no exposure to foreign currency risk; (iv) the use of swaps is non-speculative (the region always holds an underlying asset – outstanding commercial paper is therefore considered as long-term debt based on the maturity of the associated swaps). We note that over the past few years the region took over the debt of several satellite organizations (*Unités d'Administration Publique*) in order to minimize their funding costs and achieve greater transparency. These features support a conservative and well-structured debt-management framework, helping to contain liquidity, refinancing, interest-rate and foreign-exchange risks.

Although the Walloon Region's own treasury position excluding designated public bodies (UAPs), was negative at year-end 2024, this is mitigated by the region's centralized cash management of UAPs, whose treasury balances amounted to €2.61 billion as of 31 December 2024. Liquidity has remained solid, and we expect it to remain supportive, underpinned by the Walloon region's robust cash management, very strong market access and diversified funding sources.

#### **Revenue flexibility is supportive of the credit profile, although dependent on policy decisions**

The Walloon Region benefits from a high degree of tax autonomy within Belgium's federal framework and in specific devolved tax domains. The region has rate-setting powers over regional taxes, which account for around 15% of total revenue, and also benefits, following the state reforms, from increased flexibility to adjust the regional surcharge on personal income tax (PIT). This flexibility is limited, however, because regional PIT proceeds are derived from federal PIT revenues, while tax brackets and marginal rates remain set at the federal level. Although there is currently no political plan to use this flexibility to raise rates, this flexibility provides the Walloon Region with an additional policy lever should fiscal pressures intensify. Without taking into account potential behavioural effects, a 0.1 percentage point increase in the regional PIT surcharge would generate around €10 million in additional revenue. We also note that the region is working to optimize tax proceeds, including through a greater degree of regional collection of taxes that are currently collected by the federal government and then redistributed to the region.

#### **A very high debt burden, reflecting recurring financing deficits**

At year-end 2024, net direct and indirect debt (NDID) reached €38 billion, equivalent to a very high 235% of operating revenue. According to our forecasts, the region will continue to post large financing deficits, averaging around €2.6 billion over 2025-27. As a result, NDID is expected to rise further to around €46 billion by year-end 2027, pushing the NDID-to-operating revenue ratio to around 263%. The region's recurring financing deficits are largely driven by large spending related to the Walloon Recovery Plan, which will represent €2.2 billion of expenditure over 2025-2027.<sup>1</sup> With more than 80% of resources already committed, implementation is now closely monitored by the regional authorities. Only 16% of the WRP (€1.3 billion) benefits from budget-neutral funding from the European Union's Recovery and Resilience Facility.

We expect a gradual improvement in financing deficit performance over the forecast horizon, but fiscal metrics will remain weak. The deficit narrows mainly because capital spending under the recovery plan declines sharply from around €675 million in 2026 to €150 million in 2028. Improvements in operating margins are also expected to slow the deterioration gradually, supported by the region's commitment to a sustainability effort of at least 1% of revenue per year. While these efforts continue to demonstrate the credibility of the government's commitment, they are partly offset by revenue losses from registration and inheritance tax reforms. The government's trajectory also relies on underutilisation assumptions that we view prudently given their uncertainty. As a result, although the fiscal trajectory improves, the adjustment remains insufficient to stabilize debt over the medium term, and the debt burden is likely to continue rising in the absence of additional policy measures.

The region's debt affordability continues to benefit from a favourable debt profile and very strong market access, but higher interest costs will be a growing constraint over the forecast horizon. The debt portfolio absorbs the pass-through of higher market rates gradually, with 96% of debt at fixed rates, an average maturity of 14 years in 2024 and short-term debt below 3% of the total. Indirect debt, which represents around 30% of net direct and indirect debt, is stable and transparently monitored. Although the implicit interest rate increased to 1.84% in 2024 from 1.34% in 2022, it remains low by historical standards. However, the region's large deficits in recent years continue to drive meaningful annual increases in its interest burden which will deteriorate debt dynamics in the medium-term.

#### **The region's economy compares unfavorably with national and European peers**

Wallonia's economic fundamentals remain below those of Belgium's strongest regional peers, particularly Flanders. Regional gross domestic product (GDP) per capita represented 75% of national average in 2024. In addition, socio-economic indicators, including disposable income per capita, labor participation and unemployment rates, are structurally weaker than peers. In 2024, the regional unemployment rate is 7.5%, compared with a national of 5.8%.

However, the Walloon economy is diversified, with the proportion of the workforce employed in services, industry and agriculture aligned with national levels. Wallonia also shows some relative strengths in innovation, performing strongly in business-sector R&D expenditure and firm-level innovation indicators. The high share of public employment compared with the Belgian average also

provides a mitigant when the economy faces a shock, it acts as a macroeconomic stabilizer, which shields the regional economy from strong fluctuations (both upwards and downwards).

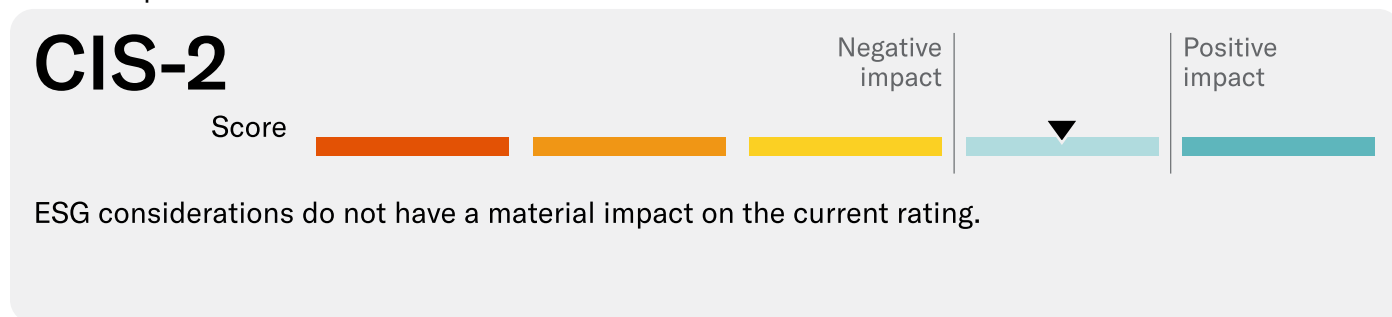
**Extraordinary support considerations**

We assess the likelihood of extraordinary support from the Belgian sovereign as strong, reflecting (i) the reputational risk to the federal government should the Walloon Region default; (ii) the region's strategic importance within Belgium's institutional framework; (iii) and the recognition that federal support decisions may also be tempered by moral hazard considerations, namely the risk of setting a precedent that could weaken budgetary discipline. Our assessment is also informed by ongoing support mechanisms, including Articles 49 and 54 of the 1989 Financial Law. In particular, Article 54 provides that Regions and Communities may offset insufficient or delayed federal transfers through a guaranteed loan, underscoring the close financial linkages between the region and the sovereign.

**ESG considerations**

**Walloon Region's ESG credit impact score is CIS-2**

Exhibit 3  
ESG credit impact score



Source: Moody's Ratings

The Walloon Region's CIS indicates that ESG considerations have a limited impact on its ratings. Environmental risks are low although the region is exposed to flood risks, which impacted expenditure in 2021. Like Belgium, its main exposure to social risks relates to demographics and labor and income, due to a shrinking working age population, which is raising the dependency ratio. However, the Walloon Region's high-quality legislative, judicial and executive institutions, and prudent debt management mitigate the impact of these risks on its ratings.

Exhibit 4  
ESG issuer profile scores



Source: Moody's Ratings

**Environmental**

The Walloon Region has limited exposure to environmental risks (**E-2**), reflecting generally low vulnerability across most categories. Physical climate risk is an important focus area. In 2021, damage from flooding increased expenditure. The Walloon Region's exposure to flooding and potential forest fires is mitigated through comprehensive flood risk management plans, natural flood defenses, and enhanced fire prevention measures. These mitigation strategies across key sectors significantly limit Wallonia's overall exposure to environmental risks.

### Social

The Walloon Region faces moderate risks from exposure to social risks (**S-3**). The aging population, combined with low birth rates, puts pressures on healthcare, pensions, and social services spending. Labor and income risks, including structural unemployment, especially among youth and immigrants, remain a challenge. Education reforms are improving access, but disparities in outcomes persist. In housing, affordability and urban decay are being addressed through social housing programs and urban renewal efforts. Basic services like water, energy, and transportation are generally well provided.

### Governance

The Walloon Region's **G-2** score reflects its strong institutional structure and adherence to EU standards of transparency and accountability. Wallonia benefits from Belgium's decentralized federal system, which allows for responsive local governance. The region's financial management is strong as illustrated by prudent and sophisticated debt management. Policy credibility and budget management face pressures due to the region's historically industrial economy in transition, and the region's track record of unbalanced budget when economic growth was supportive.

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 assigned BCA of baa3 is close to the BCA scorecard-indicated outcome.

For details about our rating approach, please refer to [Rating Methodology: Regional and Local Governments, 28 May 2024](#).

Exhibit 5

### Walloon Region

#### Regional & Local Governments

Baseline Credit Assessment – Scorecard	Score	Value	Sub-factor Weighting	Sub-factor Score	Factor Weighting	Total
<b>Factor 1: Economy</b>					<b>25%</b>	<b>1.08</b>
Regional Income [1]	3.18	55486.73	15%	0.48		
Economic Growth	9.00	baa	5%	0.45		
Economic Diversification	3.00	aa	5%	0.15		
<b>Factor 2: Institutional Framework and Governance</b>					<b>30%</b>	<b>2.25</b>
Institutional Framework	6.00	a	15%	0.90		
Governance	9.00	baa	15%	1.35		
<b>Factor 3: Financial Performance</b>					<b>20%</b>	<b>2.83</b>
Operating Margin [2]	16.58	-10.26%	10%	1.66		
Liquidity Ratio [3]	20.50	0.00%	5%	1.02		
Ease of Access to Funding	3.00	aa	5%	0.15		
<b>Factor 4: Leverage</b>					<b>25%</b>	<b>2.73</b>
Debt Burden [4]	13.28	234.82%	15%	1.99		
Interest Burden [5]	7.40	2.95%	10%	0.74		
<b>Preliminary BCA Scorecard-Indicated Outcome (SIO)</b>						<b>(8.89) baa2</b>
<b>Idiosyncratic Notching</b>						<b>-0.5</b>
<b>Preliminary BCA SIO After Idiosyncratic Notching</b>						<b>(9.39) baa2</b>
<b>Sovereign Rating Threshold</b>						<b>A1</b>
<b>Operating Environment Notching</b>						<b>0.0</b>
<b>BCA Scorecard-Indicated Outcome</b>						<b>(9.39) baa2</b>
<b>Assigned BCA</b>						<b>baa3</b>

[1] Regional GDP per capita in terms of purchasing power parity (PPP) terms, in international dollars

[2] Primary Operating Balance / Operating Revenue

[3] Cash and Cash Equivalents / Operating Revenue

[4] Net Direct and Indirect Debt / Operating Revenue

[5] Interest Payments / Operating Revenue

Source: Moody's Ratings; Fiscal 2024.

## Ratings

Exhibit 6

Category	Moody's Rating
<b>WALLOON REGION</b>	
Outlook	Stable
Baseline Credit Assessment	baa3
Issuer Rating -Dom Curr	Baa1
Senior Unsecured -Dom Curr	Baa1
Commercial Paper	P-2
Other Short Term -Dom Curr	(P)P-2

Source: Moody's Ratings

## Endnotes

1 The plan was launched post COVID-19 pandemic, but also includes pre-pandemic commitments announced in the 2019 Regional Policy Statement.

© 2026 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 LEGAL, COMPLIANCE, INVESTMENT, FINANCIAL OR OTHER PROFESSIONAL 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 or assessment 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 or assessment 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 or assessment 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., Moody's Local PA Calificadora de Riesgo S.A., Moody's Local CR Calificadora de Riesgo S.A., Moody's Local ES S.A. de CV Clasificadora de Riesgo, Moody's Local RD Sociedad Calificadora de Riesgo S.R.L. and Moody's Local GT 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 61 003 399 657 AFSL 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. EU: In the European Union, each of Moody's Deutschland GmbH and Moody's France SAS provide services as an external reviewer in accordance with the applicable requirements of the EU Green Bond Regulation. 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

1477311

CLIENT SERVICES

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