

#### CREDIT OPINION

2 November 2018

# **Update**



#### RATINGS

#### RESA S.A.

Domicile	Belgium
Long Term Rating	A2
Туре	LT Issuer Rating - Dom 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**

Paul Marty +44.20.7772.1036 Senior Vice President/Manager paul.marty@moodys.com

Camille Zwisler +33.1.5330.3347

Associate Analyst

camille.zwisler@moodys.com

Alessandra +44.20.7772.1771

MacDonald Analyst

alessandra.macdonald@moodys.com

Neil Griffiths- +44.20.7772.5543

Lambeth

Associate Managing Director neil.griffiths-lambeth@moodys.com

#### **CLIENT SERVICES**

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

# RESA S.A.

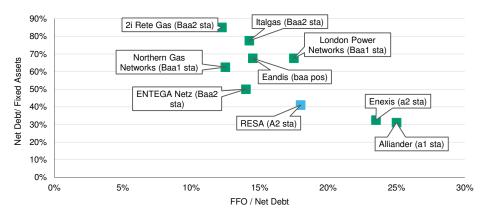
# Update to credit analysis

## **Summary**

The credit profile of RESA S.A. (RESA, A2 stable) reflects (1) the low-risk business profile of its electricity and gas regulated distribution network operations in the Walloon Region (A2 stable), underpinned by a relatively transparent and supportive regulatory framework; (2) the benefits from the bond covenant package, which limits dividend distributions to 60% of its net income and restricts distributions if its net debt/regulated asset base (RAB) rises above 55%; and (3) the ultimate ownership by the province of Liège and other municipalities, which results in a balanced financial policy. These factors are mitigated by the short track record of the regulatory framework in the Walloon Region in the context of European peers because of the recent transition of tariff-setting responsibilities from the national to the regional regulator.

From the financial risk perspective, RESA's credit profile is supported by the relatively modest leverage for the sector and moderate investment requirements.

Exhibit 1
RESA is less leveraged than most of its network peers



All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations, reflecting Moody's 12-18-month forward view.

Source: Moody's Investors Service

Following the adoption in May 2018 by the Walloon parliament of a decree relative to the organisation of the regional electricity and gas markets, the independence of distribution system operators (DSOs), such as RESA, has been reaffirmed and strengthened. As a result, and taking into account the existence of the bond covenant package, RESA's credit profile is

insulated from that of the group it belongs to (Publifin SCIRL [Publifin], which is involved in higher-risk activities, including energy, telecom and media, among others).

# **Credit strengths**

- » Low-risk business profile, underpinned by monopoly-regulated electricity and gas distribution network operations
- » Moderate investment requirements, which underpin modest leverage, including net debt/fixed assets of around 40%
- » Bond covenant package and public ownership, which result in a balanced dividend policy

# **Credit challenges**

- » Short track record of the regulatory framework in the Walloon Region because of the recent transfer of tariff responsibility from the national to the regional regulator
- » Potential merger with ORES in the long term

# **Rating outlook**

The stable outlook on RESA's rating reflects our expectation that the company will its maintain funds from operations (FFO)/net debt in the mid-teens in the short term, which will rise to the high teens (both in percentage terms) from 2019.

# Factors that could lead to an upgrade

Given our expectation of broadly stable credit metrics in the medium term, a rating upgrade is unlikely. Nevertheless, upward pressure could develop on the rating in the long term if distributions were to be moderated such that RESA's FFO/net debt were to rise above 25%.

# Factors that could lead to a downgrade

The rating could be downgraded if RESA's credit metrics fall below our guidance for the A2 rating.

# **Key indicators**

Exhibit 2
RESA S.A.

	Dec-15	Dec-16	Dec-17	Dec-18 proj.	Dec-19 proj.
FFO Interest Coverage	14.3x	8.9x	11.7x	11x	12x
Net Debt / Fixed Assets	22.2%	41.6%	40.6%	41%	41%
FFO / Net Debt	33.6%	16.6%	17.9%	18%	18%
RCF / Net Debt	31.1%	7.5%	12.9%	12%	14%

All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.

Source: Moody's Financial Metrics™

#### **Profile**

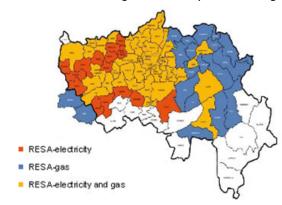
RESA S.A. (RESA) owns and operates gas and electricity distribution networks in the province of Liège, which is located in Belgium's Walloon Region. It operates around 14,000 kilometers of electricity cables and 4,000 kilometers of gas pipelines, delivering electricity to around 433,000 customers and gas to 232,000 customers. As of year-end 2017, the company had a combined RAB of around €1.3 billion.

RESA's parent company is the holding company Publifin, whose ultimate shareholders include the province of Liège (54%) and 76 municipalities in the region of Liège. Under the decree of May 2018, amending the 2001 and 2002 decrees relative to the

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

organisation of the regional electricity and gas markets, at least 75% of the share capital of a DSO such as RESA must be held directly by municipalities or their financing subsidiaries.

Exhibit 3
RESA is the main electric and gas DSO in the province of Liège



Source: The company

#### **Detailed credit considerations**

### Low-risk business profile, underpinned by monopoly-regulated activities

RESA's core business relates to the low-risk operation and management of monopoly energy distribution networks. These activities generate stable and predictable cash flow, underpinned by regulated tariffs, providing useful visibility into funding requirements.

RESA is also responsible for public lighting and certain other social and public service obligations. The contribution of these activities to the company's revenue remains nevertheless small; in addition, the costs associated with these activities are generally passed through.

#### The regulatory framework in the Walloon Region has a short track record

Historically, the Belgian federal state and each of the Belgian regions have set up their own regulatory bodies for the electricity and gas market with complementary competencies, with the national regulator Commission de Régulation de l'Électricité et du Gaz (CREG) being principally responsible for tariff setting in respect of the DSOs and the regional regulators for licensing issues. As part of the decentralisation of powers from the federal to the regional governments, on 1 July 2014, the responsibility for setting electricity and gas distribution tariffs passed from the CREG to the regional regulators, that is, the Commission Wallonne pour l'Energie (CWaPE) in the Walloon Region.

To allow for an orderly transition, the CWaPE has carried forward for the regulatory period of 2015-16 the cost-plus model used by the CREG. Under this framework, revenue is calculated as the sum of the costs supported by the DSOs (including depreciation) plus a fair margin. Costs are split between manageable and non-manageable costs: the former are based on 2012 costs indexed by inflation, while the latter are passed through. The cost of debt is treated as a non-manageable cost and is, therefore, a pass-through. The fair margin is calculated by reference to a RAB, which is based on the accounting value of fixed assets. Subsequently, the CWaPE extended its tariff methodology established for transitory tariff periods of one year each until year-end 2018, subject to minor changes only.

#### The new tariff methodology starting in 2019 will provide increased revenue predictability

In July 2017, the CWaPE published a new tariff methodology for 2019-23, which includes the introduction of a revenue-cap model, moving away from the current cost-plus model.

Under the new tariff methodology, the revenue building blocks will consist of an allowance for costs, depreciation, tax and an allowed return on the RAB of 4.05% (vanilla WACC, nominal) based on a national gearing assumption of 52.5%. Certain defined noncontrollable costs will remain a pass-through, while allowed controllable costs will be updated annually for projected inflation less a productivity factor (X factor) of 1.5% from 2020. Differences between actual and allowed costs will be borne (1) by consumers in respect of noncontrollable costs, and (2) by DSOs in respect of controllable costs. Regulatory balances arising from the over- or under-

recovery of revenue or costs will be clawed back two years later. DSOs will not face targets related to the quality of service (Q factor) during 2019-23; however, the CWaPE will likely set up performance incentives for the following regulatory period.

Exhibit 4
The WACC set by the CWaPE is comparable with that of other Belgian regulators
WACC calculation for the regulatory period of 2019-23

	Electricity and Gas - Walloon region (CWaPE 2019-2023)	Electricity and Gas - Flemish region (VREG 2017-2020)
Risk-free rate	2.71%	1.43%
Market premium	4.30%	5.01%
Beta	0.65	0.76
Cost of equity	5.50%	5.24%
Cost of debt	2.60%	2.89%
Transaction costs	0.15%	0.15%
Cost of debt incl. transaction costs	2.74%	3.04%
Debt ratio	52.5%	60.0%
Equity ratio	47.5%	40.0%
WACC (vanilla, nominal)	4.05%	3.92%

A premium for European Central Bank purchase of 0.63% was included by VREG in the risk-free rate in the Flemish region. Sources: CWaPE, VREG

The new tariff methodology introduced by the CWaPE reflects established principles of other incentive-based frameworks in Europe, while the five-year tariff period will provide significant revenue visibility. We nevertheless believe that a track record of consistent and transparent application will still have to be developed for the Walloon framework to be considered as supportive as other regulatory regimes in Western Europe.

#### Moderate investment requirements support modest leverage

RESA's capital spending programme does not present a challenge in terms of scale or growth ambitions. We expect capital spending to remain stable at €80 million-€90 million per annum in the near term, with the rollout of smart meters not expected before the next decade. The modest investment requirements, particularly compared with those of transmission network operators, underpin our expectation of a continuously modest financial leverage compared with that of the wider European peer group of energy network companies. In addition, we expect the company to maintain a balanced dividend policy (see below).

We therefore expect RESA to maintain net debt/fixed assets (which is a close proxy for the RAB) at around 40% over the medium term. Similarly, we expect RESA to maintain broadly stable FFO/net debt around 18% as a result of its shift to the new tariff methodology. In particular, RESA will benefit from a lower cost of debt (around 1.6% currently) than that embedded in the WACC set by the CWaPE (2.7%). Our FFO/net debt guidance reflects the characteristics of the new tariff methodology, notably the potential for a mismatch between regulatory and accounting depreciation.

FFO / Net debt (as adjusted, rhs) Net debt as adjusted (€ million, lhs) • • • • • Moody's guidance (rhs) 700 35% 600 30% 500 25% 400 20% 300 15% 200 10% 100 5% 0 **Λ%** 2015 2017 2018E 2019E 2020E 2016

Exhibit 5
We expect RESA to maintain FFO/net debt at or just above our guidance for the current rating

Ratios are based on 'Adjusted' financial data and incorporates Moody's Global Standard Adjustments for Non-Financial Corporations. The 2018-20 estimates represent Moody's view, not that of the issuer.

Sources: Moody's Financial Metrics™, Moody's Investors Service

Because of the requirement to transfer personnel from Nethys to RESA (see below) by May 2019, the company could incur additional costs of up to €8 million according to management. However, the impact on RESA's financial profile will ultimately depend on (1) the extent to which the additional costs will be recovered through tariffs on a timely basis, and (2) any efficiency measures that the company might take as a mitigant.

#### Bond covenant package and public ownership result in a balanced dividend policy

RESA's creditors benefit from the covenants under the bond documentation, which limit dividend distributions to 60% of its net income and restrict distributions if its net debt/RAB exceeds 55%.

In addition, we believe Publifin's status as a publicly owned company provides some benefit to RESA, given the balanced financial policy applied by the public shareholders to Publifin and its subsidiaries. Finally, there is the potential protection offered to creditors that, in the case of bankruptcy of a DSO such as RESA, public law entities controlling the DSO may exercise a pre-emption right, which would, in principle, result in the acquisition of the assets and liabilities of the DSO.

#### May 2018 decree confirms the delinkage from Nethys

Following the recommendations made in a July 2017 report concluding a six-month inquiry into the transparency and functioning of the Publifin group, the Walloon parliament adopted in May 2018 a new decree, amending the 2001 and 2002 decrees relative to the organisation of the regional electricity and gas markets. This new decree is designed to enhance the governance, transparency and oversight of electric and gas distribution network operators (DNOs) in the Walloon Region, which have 12 months from the date of the decree to comply with most clauses (see RESA S.A.: Walloon parliament's final decree confirms delinkage from Nethys, May 2018).

We believe that the decree reinforces the independence of RESA as a DNO and, as such, also insulates it against the credit quality of the wider group it belongs to by, among others, (1) requiring that more than 75% of the share capital and voting rights of DNOs are owned directly by municipalities or their financing subsidiaries; (2) prohibiting DNOs from undertaking activities other than their core business, with only limited exceptions subject to the CWaPE's approval; (3) requiring DNOs to have their own personnel, thus removing operational links with other entities; and (4) requiring that board members of DNOs are independent. As a result, RESA's ownership has moved from the intermediate holding company Nethys to the ultimate holding company Publifin.

Finally, the decree has reiterated the role of the CWaPE in overseeing the activities of DNOs in the Walloon Region and ensuring their full independence.  $^{1}$ 

Exhibit 6

Simplified ownership and corporate structure Province of Liège Seraing municipality Liège Herstal Flémalle 72 other municipality municipality municipalities municipality 53.9% 4.8% 2.5% 28.8% 8.0% 2.0% **Publifin SCIRL** 100% 100% **FINANPART** (A2 stable) 100% **Nethys SA** 

Sources: The company, Moody's Investors Service

#### Potential merger with ORES unlikely in the short to medium term

Following the reorganisation of the energy distribution network sector, which took place in the Flanders region and which ultimately led to the merger of Eandis System Operator CVBA with Infrax CVBA on 1 July 2018 to create <u>FLUVIUS SYSTEM OPERATOR CVBA</u> (A3 positive), political discussions have been ongoing around a potential merger between RESA and the other main Walloon DSO ORES scrl. However, we understand that RESA's shareholders have so far opposed such a merger, and we believe it is unlikely that such a transaction could be resumed in the short term, given the forthcoming regional elections in May 2019. The credit impact, if any, of a potential merger would depend on the post-transaction corporate structure, capital structure and ownership.

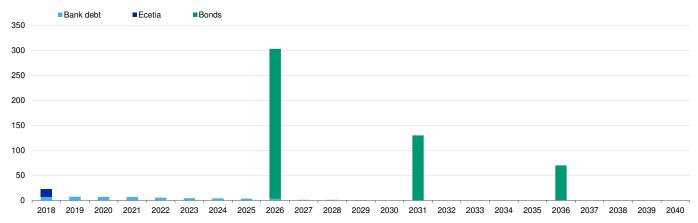
VOO, Elicio, etc.

Under the terms and conditions of the bonds, noteholders benefit from a put option in case of a change of control, defined as municipalities, provinces or intermunicipal associations holding (solely or in aggregate) less than 50% +1 of the shares in RESA.

## Liquidity analysis

RESA's strong liquidity position is supported by the combination of (1) a cash position of around €36 million as of 31 December 2017, and (2) a €30 million three-year committed credit facility. We believe that, together with solid cash generation, these sources are sufficient to cover the company's capital spending and expected dividend payments over the next three years. RESA's debt maturities mostly consist of the bonds issued in July 2016, with no maturity expected before 2026.

Exhibit 7
RESA's debt maturities mostly comprise the bonds issued in 2016 (in € million)



Source: RESA

# Rating methodology and scorecard factors

Our assessment of RESA reflects the application of our <u>Regulated Electric and Gas Networks</u> rating methodology, published in March 2017. The grid-indicated rating is in line with the company's actual rating.

Exhibit 8
Rating factors

Regulated Electric and Gas Networks Industry Grid [1][2]	Curi FY 12/3		Moody's 12-18 Month Forward View As of October 2018 [3]		
Factor 1 : Regulatory Environment and Asset Ownership Model (40%)	Measure	Score	Measure	Score	
a) Stability and Predictability of Regulatory Regime	Baa	Baa	Baa	Baa	
b) Asset Ownership Model	Aaa	Aaa Aaa A		Aaa	
c) Cost and Investment Recovery (Ability and Timeliness)	Α	Α	Α	Α	
d) Revenue Risk	Aa	Aa	Aa	Aa	
Factor 2 : Scale and Complexity of Capital Program (10%)					
a) Scale and Complexity of Capital Program	Aa	Aa	А	Α	
Factor 3 : Financial Policy (10%)					
a) Financial Policy	Α	Α	Α	А	
Factor 4 : Leverage and Coverage (40%)					
a) FFO Interest Coverage (3 Year Avg)	11.2x	Aaa	11x - 13x	Aaa	
b) Net Debt / Fixed Assets (3 Year Avg)	34.9%	Aa	40% - 42%	Aa	
c) FFO / Net Debt (3 Year Avg)	20.6%	Α	17% - 19%	A/Baa	
d) RCF / Net Debt (3 Year Avg)	14.5%	Α	12% - 14%	Baa	
Rating:					
Indicated Rating from Grid Factors 1-4		A1		A1/A2	
Rating Lift	0	0	0	0	
a) Indicated Rating from Grid		A1		A1/A2	
b) Actual Rating Assigned				A2	

<sup>[1]</sup> All ratios based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.

# **Ratings**

Exhibit 9

Category	Moody's Rating
RESA S.A.	
Outlook	Stable
Issuer Rating -Dom Curr	A2
Senior Unsecured -Dom Curr	A2
Source: Moody's Investors Service	·

<sup>[2]</sup> As of 31/12/2017.

<sup>[3]</sup> This represents Moody's forward view, not the view of the issuer, and unless noted in the text, does not incorporate significant acquisitions and divestitures. Sources: Moody's Financial Metrics™, Moody's Investors Service

# **Appendix**

Exhibit 10

RESA S.A. Peer comparison table

		RESA S.A.		Eandis Syst	em Operator (	CVBA1	All	iander N.V.		Enexi	s Holding N.V.	
		A2 stable		A3 positi	ve (mid-baa B	CA)	Aa2 s	table (a1 BCA)	)	Aa3 s	table (a2 BCA)	)
(in EUR millions)	FYE Dec-15	FYE Dec-16	FYE Dec-17	FYE Dec-15	FYE Dec-16	FYE Dec-17	FYE Dec-15	FYE Dec-16	FYE Dec-17	FYE Dec-15	FYE Dec-16	FYE Dec-17
Revenue	272	263	280	2,316	2,454	2,652	1,540	1,584	1,697	1,353	1,376	1,380
Funds from Operations	94	88	95	423	709	943	503	465	528	553	574	574
BITDA .	125	120	130	778	1,046	1,274	634	559	658	730	728	718
Total Debt	281	576	568	6,390	6,093	5,516	2,028	1,916	2,166	2,417	2,444	2,647
Net Debt	281	533	531	6,387	6,091	5,484	1,914	1,853	2,066	1,760	2,246	2,361
Total Assets	1,419	1,467	1,784	9,004	8,978	8,667	7,838	7,839	8,201	7,194	7,415	7,791
FFO / Net Debt	33.6%	16.7%	17.9%	6.6%	11.6%	17.2%	26.3%	25.1%	25.5%	31.4%	25.5%	24.3%
RCF/ Net Debt	31.1%	7.7%	12.9%	3.7%	8.9%	13.8%	19.4%	20.1%	20.1%	23.9%	20.6%	19.9%
FFO Interest Coverage	14.3x	9.0x	11.7x	3.0x	4.5x	6.4x	7.8x	8.4x	9.9x	6.6x	8.3x	9.8x
Net Debt / Fixed Assets	22.2%	41.6%	40.6%	81.4%	77.6%	69.4%	29.2%	27.9%	29.8%	28.3%	33.1%	33.4%

<sup>&</sup>lt;sup>1</sup>Metrics and financials for Economic Group Eandis. Source: Moody's Financial Metrics™

Exhibit 11
RESA S.A.'s Moody's-adjusted debt breakdown

(in EUR Millions)	2015	2016	2017
As reported Debt	125.0	575.8	567.9
Operating Leases	2.3	-	-
Analyst Adjustment <sup>1</sup>	153.8	-	-
Moody's-Adjusted Debt	281.0	575.8	567.9

 $<sup>^{1}</sup>$ This adjustment corresponds to €153.8 millions of intercompany loans, which were refinanced in 2016.

# Exhibit 12 RESA S.A.'s Moody's-adjusted EBITDA breakdown

(in EUR Millions)	2015	2016	2017
As Reported EBITDA	119.2	117.4	129.0
Unusual	5.3	1.7	0.9
Operating Leases	0.6	-	-
Moody's-Adjusted EBITDA	125.0	119.2	129.9

All figures are calculated using Moody's estimates and standard adjustments. Source: Moody's Financial Metrics  $^{\text{TM}}$ 

# **Endnotes**

1 In particular, the decree dated 11 April 2014 assigned to the CWaPE the responsibility to assess that there are no cross-subsidies between energy distribution operations and other activities. In addition, the decree dated 19 January 2017 prohibits subsidies between regulated and unregulated activities.

All figures are calculated using Moody's estimates and standard adjustments Sources: Moody's Financial Metrics  $^{\text{TM}}$ 

© 2018 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S INVESTORS SERVICE, INC. AND ITS RATINGS AFFILIATES ("MIS") ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT-LIKE SECURITIES, AND MOODY'S PUBLICATIONS MAY INCLUDE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES. 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. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS AND MOODY'S OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. CREDIT RATINGS AND MOODY'S PUBLICATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. NEITHER CREDIT RATINGS AND MOODY'S PUBLICATIONS COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS AND PUBLISHES MOODY'S PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE. HOLDING, OR SALE.

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

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

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

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

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

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY SUCH RATING OR 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 rating, agreed to pay to Moody's Investors Service, Inc. for appraisal and rating services rendered by it fees ranging from \$1,500 to approximately \$2,500,000. MCO and MIS also maintain policies and procedures to address the independence of MIS's ratings and rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold ratings from MIS and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at <a href="https://www.moodys.com">www.moodys.com</a> under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

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

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

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any rating, agreed to pay to MJKK or MSFJ (as applicable) for appraisal and rating services rendered by it fees ranging from JPY200,000 to approximately JPY350,000,000.

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

REPORT NUMBER 1144120

#### **CLIENT SERVICES**

 Americas
 1-212-553-1653

 Asia Pacific
 852-3551-3077

 Japan
 81-3-5408-4100

 EMEA
 44-20-7772-5454



2 November 2018