

Norddeutsche Landesbank GZ - Public-Sector Covered Bonds

Covered Bonds / Germany

Contacts	Patrick Widmayer - +49 (697) 073-0715 - Patrick.Widmayer@moodys.com Gerrit Hiller - +44 (207) 772-8654 - Gerrit.Hiller@moodys.com	
Monitoring	Monitor.CB@moodys.com	Click on the icon to download data into Excel & to see Glossary of terms used
Client Service Desk	London: +44 20 7772-5454, csdlondon@moodys.com	Click here to access the covered bond programme webpage on moodys.com

Reporting as of: 30/06/2025 All amounts in EUR (unless otherwise specified)

For information on how to read this report, see the latest
Moody's Covered Bonds Sector Update

Data as provided to Moody's Investors Service (note 1)

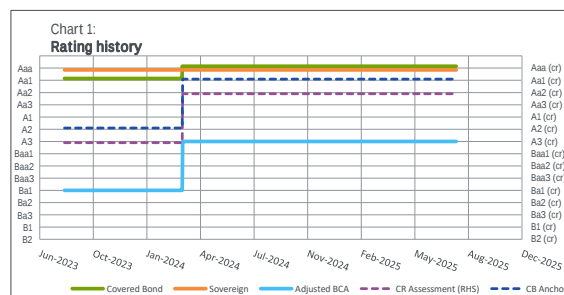
I. Programme Overview

Overview

Total outstanding liabilities:	EUR	10,604,535,135
Total assets in the Cover Pool:	EUR	11,480,344,884
Issuer name / CR Assessment:	Norddeutsche Landesbank GZ / Aa2(cr)	
Group or parent name / CR Assessment:	n/a	

Ratings

Covered bonds rating:	Aaa
Entity used in Moody's EL & TPI analysis:	Norddeutsche Landesbank - Girozentrale -
CB anchor:	Aa1
CR Assessment:	Aa2(cr)
Adjusted BCA / SUR:	a3 / Aa2
Unsecured claim used for Moody's EL analysis:	Yes



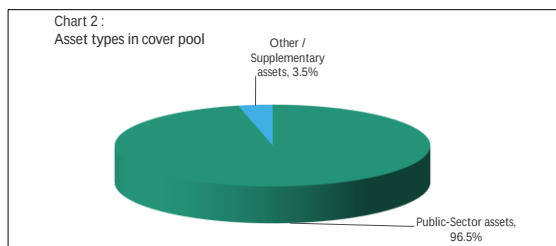
II. Value of the Cover Pool

Collateral quality

Collateral Score:	6.3%
Collateral Score excl. systemic risk:	n/a

Cover Pool losses

Collateral Risk (Collateral Score post-haircut):	3.2%	30%
Market Risk:	7.3%	70%
	10.5%	100%



III. Over-Collateralisation Levels

(notes 2 & 3)

Over-Collateralisation (OC) figures presented below include Eligible only collateral. Over-Collateralisation levels are provided on any of the following: nominal basis or unstressed NPV basis or on stressed NPV basis. NPV stress assumptions applied as required by the legal framework for German Pfandbriefe.

Current situation

Committed OC (Stressed NPV):	2.0%
Current OC (Unstressed NPV):	7.3%
OC consistent with current rating (note 4)	0.0%

Besides 2% committed OC on NPV basis, in accordance with German Pfandbrief Act, the issuer is also required to hold additional 2% OC calculated on nominal basis.

Sensitivity scenario CB anchor

OC consistent with current rating		
Scenario 1: CB anchor is lowered by	1 notch	0.0%

IV. Timely Payment Indicator & TPI Leeway

Timely Payment Indicator (TPI):	High
TPI Leeway:	6

Extract from TPI table

CB Anchor	High
Aaa	Aaa
Aa1	Aaa
Aa2	Aaa
Aa3	Aaa
A1	Aaa
A2	Aaa
A3	Aaa
Baa1	Aaa
Baa2	Aa1

Legal framework

Does a specific covered bond law apply for this programme:	Yes, Pfandbrief Act
Main country in which collateral is based / issuer is based:	Germany / Germany
Programme setup / structure:	Bank issuer holding cover pool

Timely principal payments

Maturity type:	Soft Bullet
Committed liquidity reserve for principal amount of all hard bullet bonds to be funded at least 180 days before maturity:	n/a
Committed liquidity reserve for principal amount of all soft bullet bonds to be funded at least 180 days before initial maturity:	Yes
Maximum length of maturity extension:	> 6 months but ≤ 12 months
Trigger for maturity extension ('Y' means applicable, 'N' means not applicable):	
(N) Issuer insolvency-type event(s)	(Y) Cover pool insolvency-type event(s)
(N) Issuer resolution / early intervention measure(s)	(N) Other(s)
(N) Breach of liquidity requirements (actual/potential)	
Final decision on trigger:	Administrator

(note 1) The data reported in this PO is based on information provided by the issuer and may include certain assumptions made by Moody's. Moody's accepts no responsibility for the information provided to it and, whilst it believes the assumptions it has made are reasonable, cannot guarantee that they are or will remain accurate. Although Moody's encourages all issuers to provide reporting data in a consistent manner, there may be differences in the way that certain data is categorised by issuers. The data reporting template (which issuers are requested to use) is available on request. Credit ratings, TPI and TPI Leeway shown in this PO are as of publication date.

(note 2) This assumes the Covered Bonds rating is not constrained by the TPI. Also to the extent rating assumptions change following a downgrade or an upgrade of the issuer, the necessary OC stated here may also change. This is especially significant in the case of CR assessments of A3(cr) or Baa1(cr), as the necessary OC following a 1 notch downgrade may then be substantially higher than the amount suggested here as market risks are considered more critically by Moody's at this time. In any event, the necessary OC amounts stated here are subject to change at any time at Moody's discretion.

(note 3) This is the minimum OC calculated to be consistent with the current rating under Moody's expected loss model. However, the level of OC consistent with a given rating level may differ from this amount where ratings are capped under the TPI framework and, for example, where committee discretion is applied.

(note 4) The OC consistent with the current rating is the minimum level of over-collateralisation which is necessary to support the covered bond rating at its current level on the basis of the pool as per the cut-off date. The sensitivity run is based on certain assumptions, including that the Covered Bonds rating is not constrained by the TPI. Further, this sensitivity run is a model output only and therefore a simplification as it does not take into account certain assumptions that may change as an issuer is downgraded, and as a result the actual OC number consistent with the current rating may be higher than shown. The OC required may also differ from the model output in situations when committee discretion is applied. In any event, the OC amounts stated here are subject to change at any time at Moody's discretion.

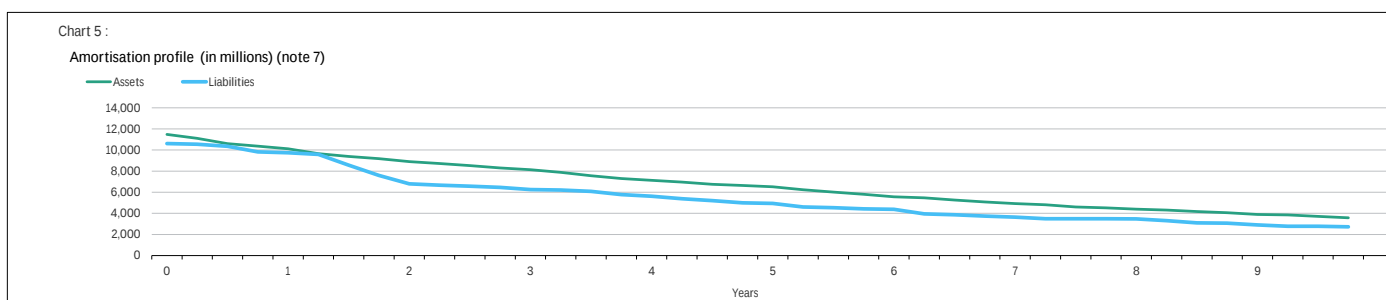
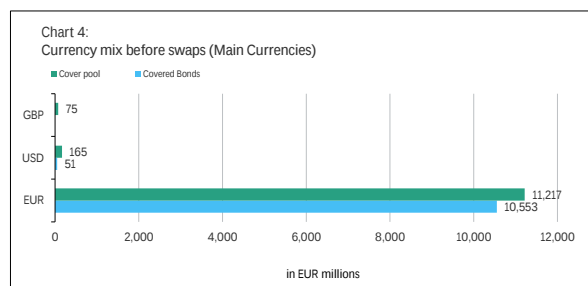
V. Asset Liability Profile

Interest Rate & Duration Mismatch (note 5)

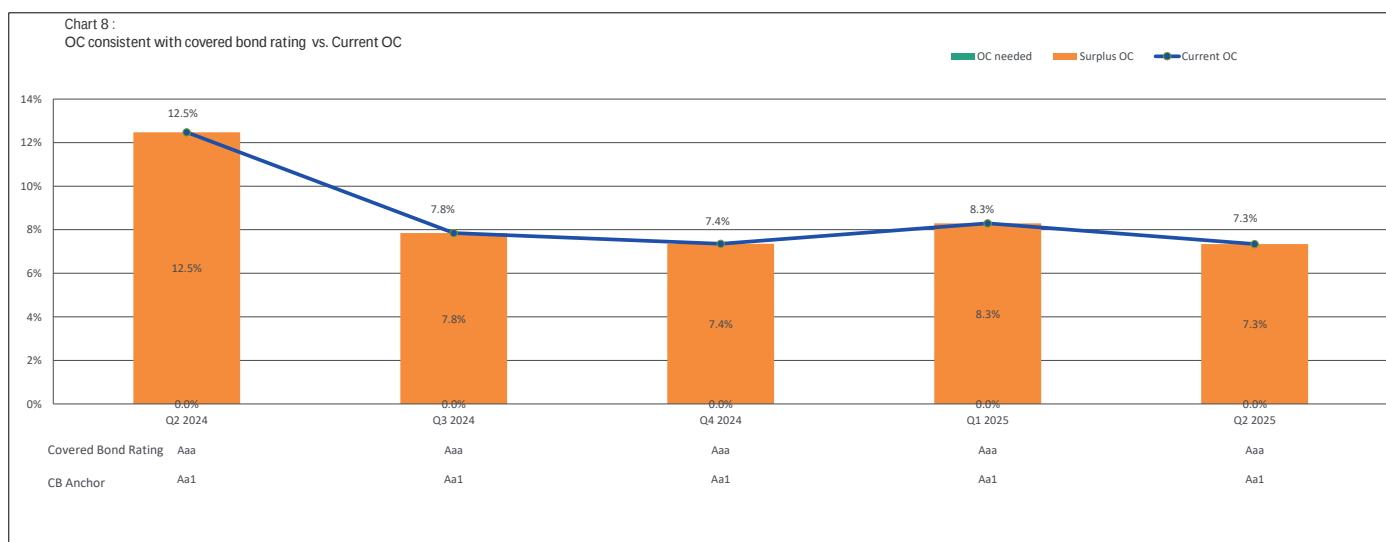
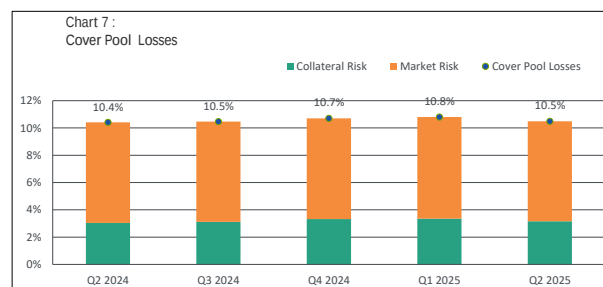
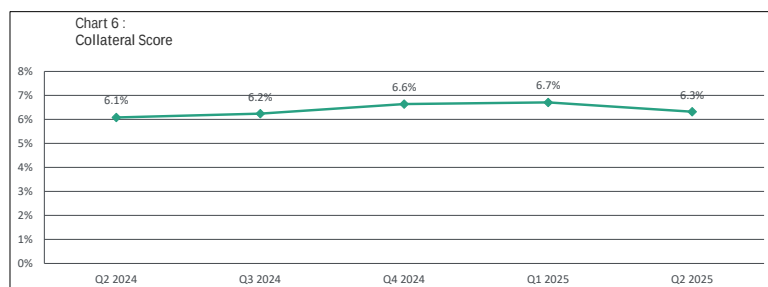
Fixed rate assets in the cover pool:	85.9%
Fixed rate covered bonds outstanding:	97.6%
WAL of outstanding covered bonds:	6.1 years
floating / fixed rate	8.6 y / 6.0 y
WAL of the cover pool:	7.7 years
floating / fixed rate / time to reset	4.6 y / 8.2 y / 8.3 y

Swap Arrangements

Interest rate swap(s) in the Cover Pool:	No
Intra-group interest rate swap(s) provider(s):	No
Currency swap(s) in the Cover Pool:	No
Intra-group currency swap(s) provider(s):	No



VI. Performance Evolution



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

(note 5) This assumes no prepayment.

(note 6) Based on principal flows only. Assumptions include no prepayments, principal collections limited to the portion of assets that make up the amount of the liabilities plus committed OC, no further CB issuance and no further assets added to the cover pool.

(note 7) Assumptions include no swap in place in Cover Pool, no prepayment and no further CB issuance.

VII. Cover Pool Information - Public Sector Assets

Overview

Asset type:	Public Sector
Asset balance:	11,075,344,884
WA remaining Term (in months):	154
Number of borrowers:	1,249
Number of loans / bonds:	3,728
Exposure to the 10 largest borrowers:	17.9%
Average exposure to borrowers:	8,867,370

Specific Loan and Borrower characteristics

Repo eligible loans / bonds:	8.7%
Percentage of fixed rate loans / bonds:	90.1%
Percentage of bullet loans/ bonds:	17.1%
Loans / bonds in non-domestic currency:	2.4%
Performance	
Loans / bonds in arrears (≥ 2months - < 6months):	0.0%
Loans / bonds in arrears (≥ 6months - < 12months):	0.0%
Loans / bonds in arrears (≥ 12months):	0.0%
Loans / bonds in a foreclosure procedure:	0.0%

Table A : Borrower type by country

	Germany	Austria	France	Other	Totals
Direct claim against supranational	0.0%	0.0%	0.0%	0.0%	0.0%
Direct claim against sovereign	0.0%	3.6%	0.0%	0.5%	4.0%
Loan with guarantee of sovereign	0.4%	0.0%	0.3%	3.8%	4.4%
Direct claim against region/federal state	6.0%	0.0%	0.0%	1.4%	7.4%
Loan with guarantee of region/federal state	6.5%	0.0%	0.3%	0.5%	7.3%
Direct claim against municipality	52.3%	0.0%	0.0%	0.2%	52.5%
Loan with guarantee of municipality	4.6%	0.0%	1.1%	0.4%	6.0%
Others	17.3%	0.0%	0.1%	1.0%	18.4%
	87.1%	3.6%	1.8%	7.5%	

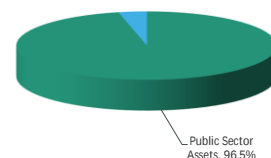
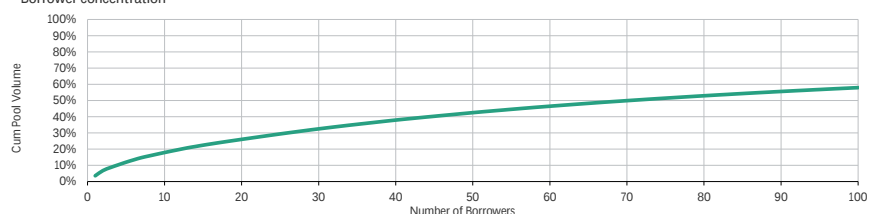
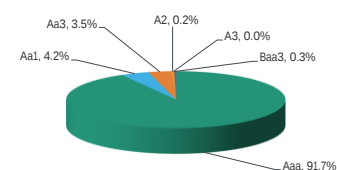
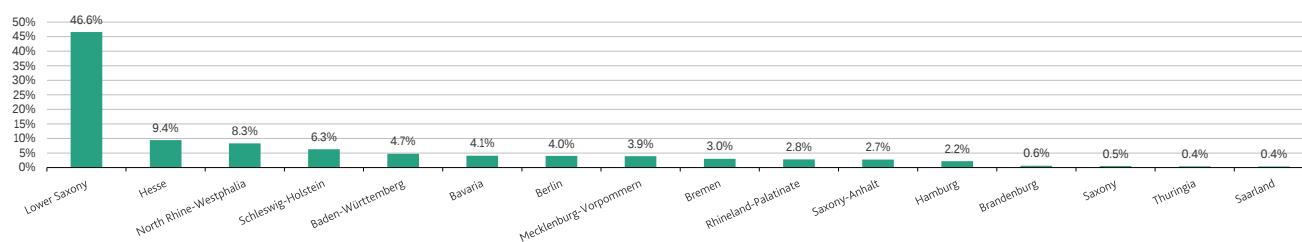
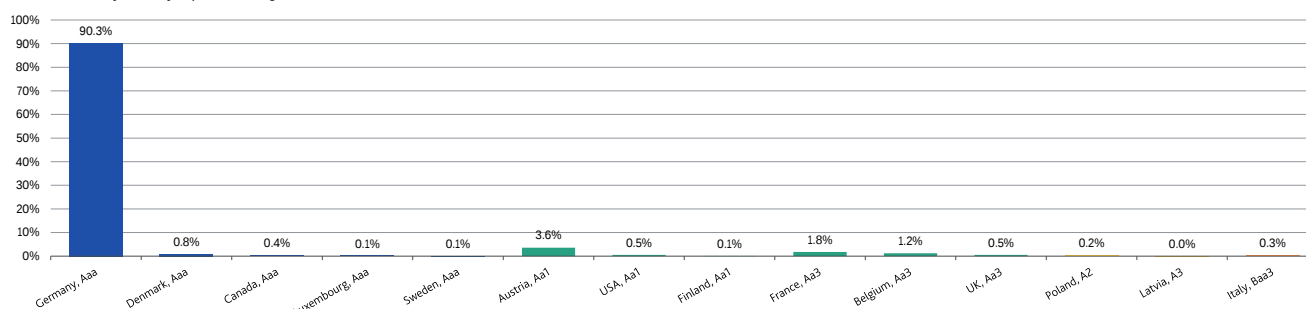
Chart B:
Percentage of public sector assetsChart C:
Borrower concentrationChart D:
Pool distribution by country exposure ratingChart E:
Main country regional distributionChart F:
Distribution by country exposure, rating

Table A and Chart C are based on debtor data. Charts D, E and F are based on guarantor data or, on unavailability of such information, on debtor data, as reported by the issuer.

VIII. Cover Pool Information - Supplementary Assets

Overview

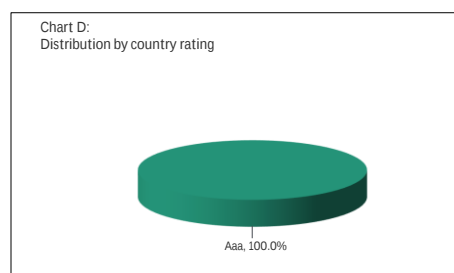
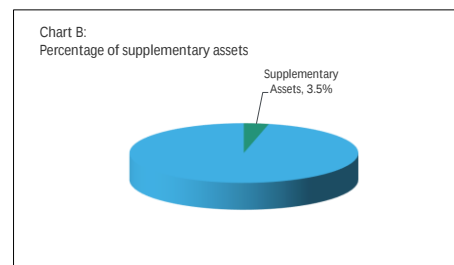
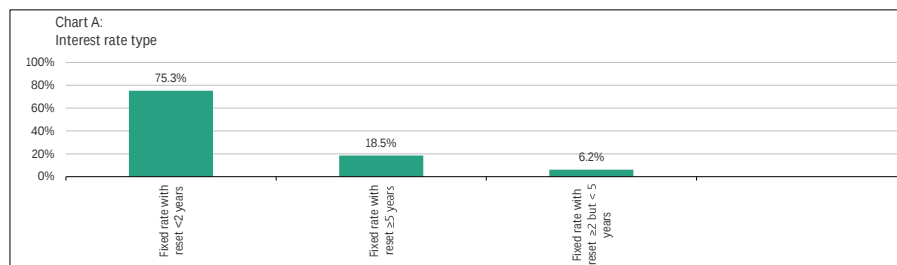
Asset type:	Supplementary Assets
Asset balance:	405,000,000
WA remaining Term (in months):	22
Number of assets:	19
Number of borrowers:	12
Average assets size:	21,315,789
Average exposure to borrowers:	33,750,000

Specific Loan and Borrower characteristics

Repo eligible assets:	61.7%
Percentage of fixed rate assets:	100.0%
Percentage of bullet assets:	100.0%
Assets in non-domestic currency:	0.0%

Performance

Assets in arrears (≥ 2months - < 6months):	0.0%
Assets in arrears (≥ 6months - < 12months):	0.0%
Assets in arrears (≥ 12months):	0.0%
Assets in a enforcement procedure:	0.0%



IX. Liabilities Information: Last 50 Issuances as reported by the issuer

ISIN	Series Number	ESG bond type, if applicable	Outstanding Amount	Issuance Date	Expected Maturity	Extended Maturity	Interest Rate Type	Coupon	Principal Payment
XFN800NIAV04	n/d		EUR 65,000,000	28/02/2025	28/02/2050	28/02/2051	Fixed rate	3.650%	Soft Bullet
XFN800NIQ765	n/d		EUR 5,000,000	24/01/2025	26/01/2040	26/01/2041	Fixed rate	2.800%	Soft Bullet
XFN800NIQ716	n/d		EUR 20,000,000	22/01/2025	22/01/2041	22/01/2042	Fixed rate	2.800%	Soft Bullet
XFN800NIQ658	n/d		EUR 30,000,000	21/01/2025	21/01/2041	21/01/2042	Fixed rate	2.750%	Soft Bullet
XFN800NIQ542	n/d		EUR 20,000,000	15/01/2025	15/01/2041	15/01/2042	Fixed rate	2.840%	Soft Bullet
XFN800NIQ583	n/d		EUR 10,000,000	15/01/2025	15/01/2041	15/01/2042	Fixed rate	2.860%	Soft Bullet
XFN800NI4867	n/d		EUR 15,000,000	24/10/2024	11/10/2027	11/10/2028	Fixed rate	4.830%	Soft Bullet
XFN800NIAV64	n/d		EUR 10,000,000	10/07/2024	10/07/2054	10/07/2055	Fixed rate	3.115%	Soft Bullet
XFN800NIAV72	n/d		EUR 15,000,000	10/07/2024	09/07/2049	09/07/2050	Fixed rate	3.125%	Soft Bullet
XFN800NIAT76	n/d		EUR 10,000,000	03/06/2024	03/06/2041	03/06/2042	Fixed rate	3.830%	Soft Bullet
XFN800NIAS69	n/d		EUR 19,000,000	30/04/2024	30/04/2049	30/04/2050	Fixed rate	3.265%	Soft Bullet
DE000NLB42D9	n/d		EUR 20,000,000	10/04/2024	10/04/2054	10/04/2055	Fixed rate	3.910%	Soft Bullet
XFN800NIAP88	n/d		EUR 27,000,000	25/03/2024	25/03/2054	25/03/2055	Fixed rate	3.115%	Soft Bullet
DE000NLB40FB	n/d		EUR 750,000,000	14/02/2024	14/05/2027	14/05/2028	Fixed rate	2.875%	Soft Bullet
XFN800NIY843	n/d		EUR 11,000,000	14/02/2024	14/02/2039	14/02/2040	Fixed rate	3.800%	Soft Bullet
XFN800NIJ007	n/d		EUR 3,000,000	12/02/2024	12/02/2035	12/02/2036	Fixed rate	3.000%	Soft Bullet
DE000NLB40E1	n/d		EUR 50,000,000	05/02/2024	05/02/2027	05/02/2028	Floating rate	EURIBOR6MD + 15 bps	Soft Bullet
XFN800NIQ757	n/d		EUR 5,000,000	26/01/2024	26/01/2040	26/01/2041	Fixed rate	2.800%	Soft Bullet
XFN800NIQ708	n/d		EUR 20,000,000	22/01/2024	22/01/2041	22/01/2042	Fixed rate	2.800%	Soft Bullet
XFN800NIQ641	n/d		EUR 30,000,000	19/01/2024	21/01/2041	21/01/2042	Fixed rate	2.750%	Soft Bullet
XFN800NIQ534	n/d		EUR 20,000,000	15/01/2024	15/01/2041	15/01/2042	Fixed rate	2.840%	Soft Bullet
XFN800NIQ575	n/d		EUR 10,000,000	15/01/2024	15/01/2041	15/01/2042	Fixed rate	2.860%	Soft Bullet
XFN800NIJAK83	n/d		EUR 12,000,000	08/01/2024	08/01/2044	08/01/2045	Fixed rate	3.700%	Soft Bullet
XFN800NIJAK75	n/d		EUR 7,000,000	20/12/2023	20/12/2040	20/12/2041	Fixed rate	3.410%	Soft Bullet
XFN800NIJAK59	n/d		EUR 15,000,000	11/12/2023	11/12/2043	11/12/2044	Fixed rate	3.235%	Soft Bullet
XFN800NIJAK67	n/d		EUR 10,000,000	11/12/2023	11/12/2043	11/12/2044	Fixed rate	3.235%	Soft Bullet
XFN800NIJAK34	n/d		EUR 20,000,000	04/12/2023	06/12/2038	06/12/2039	Fixed rate	3.415%	Soft Bullet
XFN800NIJAK42	n/d		EUR 20,000,000	04/12/2023	04/12/2043	04/12/2044	Fixed rate	3.405%	Soft Bullet
DE000NLB4XE3	n/d		EUR 65,000,000	21/11/2023	21/11/2033	21/11/2034	Fixed rate	3.500%	Soft Bullet
XFN800NIJAH62	n/d		EUR 100,000,000	20/10/2023	20/10/2048	20/10/2049	Fixed rate	4.150%	Soft Bullet
XFN800NIJAH88	n/d		EUR 10,000,000	18/10/2023	18/10/2038	18/10/2039	Fixed rate	3.635%	Soft Bullet
XFN800NIJAH13	n/d		EUR 11,000,000	05/10/2023	05/10/2043	05/10/2044	Fixed rate	4.060%	Soft Bullet
XFN800NIJAG71	n/d		EUR 5,000,000	25/09/2023	25/09/2048	25/09/2049	Fixed rate	4.160%	Soft Bullet
XFN800NIJAG89	n/d		EUR 5,000,000	21/09/2023	21/09/2048	21/09/2049	Fixed rate	4.000%	Soft Bullet
XFN800NIJAG14	n/d		EUR 3,000,000	17/08/2023	17/08/2035	17/08/2036	Fixed rate	4.080%	Soft Bullet
XFN800NIAE57	n/d		EUR 5,000,000	23/05/2023	23/05/2047	23/05/2048	Fixed rate	3.700%	Soft Bullet
XFN800NIAE32	n/d		EUR 4,000,000	10/05/2023	10/05/2035	10/05/2036	Fixed rate	3.210%	Soft Bullet
XFN800NIJN994	n/d		EUR 3,000,000	09/02/2023	09/02/2035	09/02/2036	Fixed rate	3.000%	Soft Bullet
XFN800NIQ740	n/d		EUR 5,000,000	26/01/2023	26/01/2040	26/01/2041	Fixed rate	2.800%	Soft Bullet
XFN800NIQ690	n/d		EUR 20,000,000	23/01/2023	22/01/2041	22/01/2042	Fixed rate	2.800%	Soft Bullet
XFN800NIQ633	n/d		EUR 30,000,000	20/01/2023	21/01/2041	21/01/2042	Fixed rate	2.750%	Soft Bullet
DE000NLB34X4	n/d		EUR 38,500,000	16/01/2023	15/07/2027	15/07/2028	Fixed rate	2.750%	Soft Bullet
XFN800NIQ526	n/d		EUR 20,000,000	16/01/2023	15/01/2041	15/01/2042	Fixed rate	2.840%	Soft Bullet
XFN800NIQ567	n/d		EUR 10,000,000	16/01/2023	15/01/2041	15/01/2042	Fixed rate	2.860%	Soft Bullet
XFN800NIY553	n/d		EUR 160,000,000	30/12/2022	07/02/2042	07/02/2043	Fixed rate	0.745%	Soft Bullet
XFN800NIJZ121	n/d		EUR 100,000,000	30/12/2022	18/05/2037	18/05/2038	Fixed rate	2.030%	Soft Bullet
XFN800NIJZ808	n/d		EUR 75,000,000	30/12/2022	27/09/2035	27/09/2036	Fixed rate	2.850%	Soft Bullet
XFN800NIJZ816	n/d		EUR 75,000,000	30/12/2022	29/09/2036	29/09/2037	Fixed rate	2.847%	Soft Bullet
XFN800NIJZ824	n/d		EUR 75,000,000	30/12/2022	28/09/2037	28/09/2038	Fixed rate	2.825%	Soft Bullet
XFN800NIAA36	n/d		EUR 5,500,000	27/12/2022	27/12/2045	27/12/2046	Fixed rate	3.710%	Soft Bullet

© 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 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 Calificadora de Riesgo S.A. (collectively, the "Moody's Non-NRSRO CRAs") are all indirectly wholly-owned credit rating agency subsidiaries of MCO. None of the Moody's Non-NRSRO CRAs is a Nationally Recognized Statistical Rating Organization.

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657 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. 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.