

4 May 2021 – Neuss, Germany

Rating Action / Update:

Creditreform Rating has set the unsolicited corporate issuer and issue ratings of Total SE to **A+ / stable**

Creditreform Rating (CRA) has adjusted the unsolicited, public corporate issuer ratings of Total SE (hereafter also referred to 'the Company'), Total Capital S.A. and Total Capital International S.A., as well as the unsolicited corporate issue ratings of long-term local currency senior unsecured notes issued by Total Capital S.A. and Total Capital International S.A. from **AA-** to **A+**. The outlook of all these ratings has been revised from **negative** to **stable**. We also refer to the previous year's report dating from 7 November 2019, which contains further essential information regarding Total SE (former Total S.A.).

Current relevant factors for the rating

The following considerations were of specific relevance for the rating assessment:

- Significant decline in sales as well as net loss in the 2020 financial year due to lower average oil and gas prices, as well as a decline in production in the oil business
- High asset impairments due to lower price assumptions in impairment tests
- Significant deterioration in the results of our 2020 financial ratio analysis
- Volatile, competitive and oil price-sensitive business environment
- After low of 16 USD Brent price per barrel in April 2020, oil and gas prices have recovered to around 67 USD Brent price per barrel as of April 2021
- Cost savings
- Sufficient liquidity as of 31 December 2020 and as of 31 March 2021
- Good business development in the first quarter of 2021
- Strong global market position, significant scale
- Good geographical diversification

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ESG criteria:

CRA generally considers ESG factors (environment, social and governance) within its rating decisions. In the case of Total SE, we have identified ESG factors with significant influence on the following categories, which is described in the sections below.

E) Environment (S) Social (G) Governance

- (E): Current focus on fossil energy sources and production materials
- (E): Impairments of USD 8.5 billion on stranded oil sands assets in Canada based on new oil price assumptions and in line with Total's new climate ambitions
- (E): Risks of further impairments on assets in the short to mid-term
- (E): Mid- to long term risks for the oil and gas industry business model and the financing e.g. regarding to EU-Taxonomy

Due to societal and political changes with regard to fossil fuels based on European and international environmental and climate protection targets, we see Total's business model and strategy impaired in the medium to long term. In the short term, this has manifested in the last year as impairment charges on oil production assets of a significant magnitude. Our assessment is reinforced by a general trend towards Decarbonization which can be seen e.g. in the development of electric mobility by major car manufacturers and in the expansion of renewable energies. We

nevertheless assume that oil and gas will continue to play a significant role in the energy sector and industrial production in the long term, but with gradually decreasing relevance.

Due to the social and political changes with a view to fossil fuels, and based on European and international environmental and climate protection goals, we see the Total's business model and strategy as ambitious in the medium to long term.

Total has a sustainability strategy with the following goals:

- Net zero emissions for its global business by 2050 or earlier (scope 1+2)
- Net zero emissions for all production and energy products used by its customers in Europe by 2050 or earlier (EU, Norway and the UK) (scope 1+2+3)
- Reduce the average carbon intensity of energy products used by its customers by more than 60% by 2050, with intermediate steps of 15% by 2030 and 35% by 2040 (scope 1+2+3)

Total believes that natural gas is a key component in the energy transition, especially as an alternative to coal. However, methane, which is released when gas is burned, has become a target for environmentalists. The fuel is increasingly being scrutinized for methane emissions, which are far more harmful than carbon dioxide emissions. In our opinion, it will be essential for Total SE's European Business that natural gas activities are classified as EU-Taxonomy compliant. In this regard, however, as far as we know, the Taxonomy regulation delegated act C(2021) 2800/3 are still provisional regarding the gas industry. In our opinion, there are still various uncertainties as to whether and, if so, which natural gas activities can be regarded as Taxonomy compliant. We consider that in the long term there may be a risk that the Company will be stuck with its stranded assets, as potential customers could opt for other low-carbon alternatives instead of gas, or the regulatory framework regarding natural gas as an energy source could tighten. In the case of costly gas projects, it usually takes decades before the investment can be recouped. Nevertheless, we see a concretization of the Group's ESG / sustainability goals as generally positive.

A BloombergNEF and Bloomberg Intelligence investigation into climate change preparedness among global oil and gas companies, which found that the oil and gas industry is far from ready to make the transition, reinforces our assessment (press release of March 2021)¹. Only 12 of the 39 companies analyzed have set net-zero targets for operational emissions. According to the results of the composite Bloomberg Climate Transition Scores, Total SE ranked first in the oil and gas sector.

In addition, Total is socially engaged and supports projects in education, development, and the environment. In the wake of the COVID-19 pandemic, the Company provided fuel vouchers to medical and nursing home staff in France. Moreover, fuel, food and health packages were donated worldwide.

Total pursues various measures for employee and customer satisfaction as well as in relation to the observance of human rights. In 2020, 25% and 27% of the members of the Executive Committee and the Administrative Committee were women. Based on public information, the impression arises, that the Total Group operates a satisfactory social and corporate governance.

¹www.bloomberg.com/company/press/integrated-european-majors-lead-on-preparedness-for-a-low-carbon-world-among-39-global-og-companies/

Please note:

The scenarios are based on information available at the time of the rating. Within the forecast horizon, circumstances may occur that could lead to a change of the rating out of the indicated range.

We see the concretization of the Group's ESG / sustainability goals for the time being as compensating for the rating, but we do not rule out that Total SE's business model may be negatively affected by ESG factors in the future.

A general valid description of Creditreform Rating AG, as well as a valid description of corporate ratings for understanding and assessing ESG factors in the context of the credit rating process, can be found [here](#).

Rating result

The current unsolicited corporate issuer rating of **A+** attests Total SE a high level of creditworthiness, representing a low default risk. The main reason for the rating adjustment is impaired business performance of the Company in 2020 which was impacted by lower oil and gas prices due to controversies within OPEC+, as well as the impact of the COVID-19 pandemic. Macroeconomic developments which reflected a decline in demand for oil and gas, led to a reduction in production, as well as an impairment effect, and thus significantly burdened the Group's operating business in the 2020 financial year. The cash flow protection measures taken by the company have mitigated the financial effects. Nevertheless, the resulting significant deterioration in the outcome of the key financial ratios analysis, as well as the negative operating business performance for the 2020 financial year, are the primary reasons for the downgrade.

Outlook

The one-year outlook for the unsolicited corporate issuer rating is **stable**. We assume that, with progress towards a sustainable containment of the COVID-19 pandemic, and an economic recovery in 2021 and 2022, oil and gas prices as well as demand will improve. This in turn should improve both sales and - with a higher capacity utilization of the production facilities - profit margins, thus causing the annual result for 2021 to be more positive. The shift into relatively new business areas such as low-carbon power generation, energy efficiency projects, and - in particular within the new strategy - the expansion of LNG, also contribute to this. The Total Group's improved business performance in the first quarter of 2021 supports our assessment of a stable outlook.

Best-case scenario: AA-

In our best-case scenario for one year, we assume a rating of AA-. In this scenario, a noticeable economic recovery begins in 2021, leading to a normalization of demand and prices on the oil and gas market. As a result, refining and petrochemical margins will improve and lead to an increase in cash flow. The group continues to follow efficiency optimization measures as well as strict financial discipline. The financial ratios are recovering to the pre-crisis level. Other internal or external risks do not prevent an upgrade. Since we consider the industry to be comparatively sensitive to the economic cycle, and highly sensitive to the price of crude oil, Total remains significantly influenced by exogenous, hardly controllable factors, which may affect our rating decision in the future. Therefore, an upgrade would only be possible with significantly improved financial ratios based on sustainable, profitable growth.

Worst-case scenario: A

In the worst-case scenario for one year, we assume a rating of A. We assume that the economic environment will remain low or recover only very slowly, which will keep demand low and continue to put pressure on commodity prices, especially if there is no sufficient easing of the pandemic situation and the vaccination campaign progresses slowly. Over time, any shortfalls in

income would cause the high level of cash and cash equivalents to shrink and debt to further increase. The key financial ratios 2021 remain at the level for 2020.

Business development and outlook

The fiscal year 2020 was dominated by the impact of the COVID-19 pandemic, which led to massive restrictions on society and the global economy, as well as severely affecting global demand for raw materials. In addition to the declining demand for crude oil and a massive oversupply on the oil market, controversies between the OPEC+ countries were also responsible for the fall in prices. In the second quarter of 2020, the Brent barrel price fell below USD 20. This also had a significant impact on production and on the global distribution and service of petroleum products, so that the Group recorded a significant decline in sales and a strongly negative result.

Table 1: Financials of Total SE | Source: Total SE Annual financial report 2020, standardized by CRA

Total SE Selected key figures of the financial statement analysis Basis: Annual financial report of 31.12. (IFRS, Group)	CRA standardized figures ²	
	2019	2020
Sales (million USD)	176,249	119,704
EBITDA (million USD)	32,225	17,023
EBIT (million USD)	16,228	-5,584
EAT (million USD)	11,438	-7,336
EAT after transfer (million USD)	11,267	-7,242
Total assets (million USD)	258,732	250,309
Equity ratio (%)	45.07	40.19
Capital lock-up period (days)	58.80	71.88
Short-term capital lock-up (%)	21.20	30.06
Net total debt / EBITDA adj. (factor)	3.63	7.35
Ratio of interest expenses to total debt (%)	2.19	1.89
Return on Investment (%)	5.39	-2.11

In the 2020 financial year, with more than 105,000 employees worldwide, the Total Group achieved revenues from sales of USD 119,704 million (2019: USD 176,249 million), an EBIT of USD -5,584 million (2019: USD 16,228 million), and an EAT after transfer of USD -7,242 million (2019: USD 11,267 million). Due to the sharp drop in oil prices and the decline in demand related to the COVID-19 pandemic, all four of the Group's business segments saw decline (see Table 2), especially the Exploration & Production segment. Moreover, net income adjustments totaling USD -11,301 million were made in 2020, including a significant impairment, particularly on oil sands assets in Canada of USD 8,465 million, linked to new price assumptions used for assets impairment tests.

² For analytical purposes, CRA adjusted the original values in the financial statements in the context of its financial ratio analysis. For example, when calculating the analytical equity ratio, deferred tax assets, goodwill (entirely or partly), and internally-generated intangible assets are subtracted from the original equity, whilst deferred tax liabilities are added. Net total debt takes all balance sheet liabilities into account. Therefore, the key financial figures shown often deviate from the original values of the company.

Table 2: Business segment information of Total SE | Source: Total SE Annual financial report 2020

Business segments ³	Revenues from sales		Operating income		Net operating income	
	2019	2020	2019	2020	2019	2020
Exploration & Production	38,590	23,456	10,542	-5,514	6,580	-5,025
Integrated Gas, Renewables & Power	20,992	17,632	1,184	-527	2,773	338
Refining & Chemicals	116,973	71,588	3,342	-814	3,194	-1,148
Marketing & Services	66,887	45,232	2,052	1,441	1,555	963
Corporate	135	240	-863	-901	-666	-696
Intercompany	-67,328	-38,444	-	-	-	-
Total	176,249	119,704	16,257	-6,315	13,436	-5,568
Net cost of net debt					-1,998	-1,768
Non-controlling interests					-171	94
Net income – group share					11,267	-7,242

The analysis of the structured financial key ratios shows a significant deterioration compared to the previous year. In addition to its diminished financial strength, the considerably reduced profitability of the Company in 2020 is a major factor here. Due to the Group's negative annual result, the Creditreform Rating adjusted equity ratio fell noticeably from 45.07% to 40.19%, although continuing to remain at a good level. On the one hand, as a result of a cut in EBITDA of USD 17,023 million (2019: USD 32,225 million), the ratio of the analytical key figure Net total debt / EBITDA adj. doubled to 7.35 (2019: 3.63), indicating a reduction of earnings and diminished debt servicing capacity of the Group. On the other hand, the Company was able to reduce the ratio of interest expenses to total debt from 2.19 to a solid 1.89. In addition to a slight increase in total debt of USD 7,590 million, this is primarily due to lower financial interest on debt and other financial expenses.

As of 31 December 2020, the ratio of cash and cash equivalents, which accounted for 12.5% of the balance sheet total, was at a solid level. The cash and quick ratios, with 48.35% and 100.42% (2019: 38.94% and 96.99%), as well as the current ratio with 127.54% (2019: 124.82%), were also respectable. As of 31 December 2020, the Company had a strong liquidity position with cash and cash equivalents of USD 31,268 million (2019: USD 27,352 million) and a total amount of confirmed lines of credit granted by international banks to Total SE and Group companies of USD 16,282 million, of which USD 11,808 million was unused.

Long-term debt amounted to USD 60,203 million as of 31 December 2020 (2019: USD 47,773 million), of which 55% had a maturity of more than five years. Current borrowings, which consisted mainly of commercial papers, treasury bills and bank loan drawings, amounted to USD 17,099 million (2019: USD 14,819 million). Total uses a range of programs for the non-recourse sale of receivables with different banks. As of 31 December 2020, the net total value of receivables sold amounted to USD 6,446 million, alongside reverse factoring of USD 23 million.

³ Original values of Total SE without analytical adjustment by CRA

Although Total reported a net loss in 2020, the Company intends to maintain its dividend payout. Against the background of a challenging market environment, we take a critical view of the dividend policy; on the other hand, we judge the decision of 23 March 2020 to suspend the Company's further share buybacks as positive. In 2020, the cash flow from investments of USD 15,354 million (2019: USD 19,237 million) exceeded the cash flow from operating activities of USD 14,803 million (2019: USD 24,685 million), but with the sale of assets of USD 2,455 million (2019: USD 2060 million), the negative difference was offset.

In 2020, Total presented its climate goal to become a broad-based energy Company and achieve zero net emissions for its global business by 2050. To achieve this goal, Total intends to diversify its energy mix. Over the period 2020-2030, the Company aims to increase electricity and renewables to 15% (2019: 5%) and natural gas to 50% (2019: 40%) of sales, while crude output will be reduced from 55% to 35%. The transformation will strengthen Total's business profile and give it a certain degree of independence from the oil business. In addition, the Group will be better positioned in a low-carbon environment and able to hedge against the cyclical nature of the oil and gas sector. Based on its strategic alignment, we see this transformation process as positive.

In line with this strategy, the Group doubled its wind and solar production capacity in the renewable energy sector in 2020 (from 3 GW at the end of 2019 to 6.5 GW at the end of 2020), thus increasing its target from 25 to 35 GW for 2025. Total currently allocates more than 10% of its investments in renewable energies and electricity. The Group intends to increase this share to an average of more than 15% between 2021 and 2025 and to more than 20% between 2026 and 2030. In addition, the Group's presence in the entire gas value chain is being expanded, especially in LNG (liquefied natural gas). This not only promotes the switch from coal to gas for power generation, but also significantly reduces CO₂ emissions. Total is the second-largest liquefied natural gas company in the world. In the natural gas chain, growth will go hand in hand with the incorporation of an increasing proportion of biogas and hydrogen. In 2020, the Company created two business areas, one for biogas and one for green and blue hydrogen, with the aim of reducing the carbon intensity of its gas-fired power plants.

Due to a significant recovery in oil and gas prices and a stronger gas trading business, Total's earnings improved strongly in the first quarter of 2021, largely returning to pre-pandemic levels (see Table 3). In addition, the strategy adopted towards renewable energy has increasingly paid off, with only the refinery and marketing segments recording slight declines due to lower refining margins and weak fuel demand due to lockdowns. In January 2021, two perpetual subordinated notes were issued, each in the amount of EUR 1,500 million. The USD 500 million bond issued in 2011 and maturing in January 2021 was refunded. As of 31 March 2021, the Company had cash and cash equivalents of USD 30,285 million and the remaining balance of the committed syndicated credit line of USD 2,646 million, which was fully refunded on 1 April 2021. On 26 April 2021, after increased militant attacks in northern Mozambique, Total announced the withdrawal of personnel from its LNG project in Mozambique, declaring force majeure as the cause. As a result of this incident, the project is expected to be delayed for at least one year. This means that the first LNG from the project will be produced in 2025. Overall, the Group's good business performance in the first quarter of 2021 confirms our stable outlook for Total's rating. However, concerns remain about the strength of the recovery in demand growth as the number of COVID cases soars in several major oil-consuming countries such as India and Brazil.

Table 3: The development of business of Total SE | Source: Consolidated results for 2020 and Q1 2021, reported information

Total SE				
In million USD	2019	2020	Q1 2020	Q1 2021
Revenues from sales	176,249	119,704	38,577	38,633
Net income	11,438	-7,336	2	3,412
Net adj. income	12,090	4,067	1,799	3,062
Cash flow from operating activities	24,685	14,803	1,299	5,598

In the light of a recovery in global demand and relatively stable oil and gas prices (about 60 USD / b), the Group expects a 10% increase in sales for the financial year compared to the previous year. The Company's strict cost discipline will continue. After reducing operating costs by USD 1.1 billion in 2020 compared to 2019, the Company aims to save USD 0.5 billion in 2021. Net capital expenditure for 2021 is expected to be USD 12 -13 billion, of which narrowly 50% will go into renewables and electricity.

With its integrated business model, the Company is well established in the market and has a fundamentally solid position. Even though the level of the Total's financials has deteriorated due to the consequences of the COVID-19 pandemic in 2020, we expect a stabilization of results as well as an improved cash flow generation in the coming years, (as can already be seen in the Group results for Q1 2021), which should have a positive impact on the Company's profitability and financial stability ratios. However, how quickly the Company's financials improve depends on oil price levels, as well as the recovery of global demand, which is still affected by the COVID-19 pandemic. In spite of the last financial year's downward trend in earnings and profits, the Group's liquidity situation is adequate and should allow corresponding room for maneuver for the expected investments to tap future growth potential in relation to the transformation strategy of the Total Group.

Issue rating

Further issuer ratings

In addition to the rating of Total SE, the following issuers and their issues have been rated.

- Total Capital S.A.
- Total Capital International S.A.

Issuer rating of Total Capital S.A.

Total Capital S.A. ("the issuer") is a wholly-owned subsidiary (with the exception of six shares held by directors of Total Capital S.A.) of Total S.A., which was incorporated in France on 15 December 1999, and is governed by French law. The issuer's principal business is to act as a finance Company on behalf of the Total Group by issuing debt securities and commercial paper. The development of the business of Total Capital S.A. is largely determined by the financial requirements of the Group's companies, both in France and abroad. As a wholly-owned subsidiary of Total SE, the issuer is dependent on the performance of the Group and the ability of its members to generate sufficient income to satisfy its payment obligations to other capital market participants. The payment of all amounts due to in relation to notes issued by Total Capital S.A.

under the EUR 40 billion EMTN Programme are irrevocably and unconditionally guaranteed by Total SE. The issuer's financial statements are fully consolidated in the financial statements of the Group. For these reasons, we derive the unsolicited corporate issuer rating of Total Capital S.A. from the unsolicited corporate issuer rating of Total SE, i.e. **A+** with **stable** outlook.

Issuer rating of Total Capital International S.A.

Total Capital International S.A. ("the issuer") is a wholly-owned subsidiary (with the exception of five shares held by directors of Total Capital International S.A.) of Total SE, which was incorporated in France on 13 December 2004 and is governed by French law. The issuer's principal business is to act as a finance Company on behalf of the Total Group by issuing debt securities. The development of the business of Total Capital International S.A. is largely determined by the financial requirements of the Group's companies both in France and abroad. As a wholly-owned subsidiary of Total SE, the issuer is dependent on the performance of the Group and the ability of its members to generate sufficient income to satisfy its payment obligations to other capital market participants. The payment of all amounts due to in relation to notes issued by Total Capital International S.A. under the EUR 40 billion EMTN Programme are irrevocably and unconditionally guaranteed by Total SE. The issuer's financial statements are fully consolidated in the financial statements of the Group. For these reasons, we derive the unsolicited corporate issuer rating of Total Capital International S.A. from the unsolicited corporate issuer rating of Total SE, i.e. **A+** with **stable** outlook.

Issue rating details

The rating objects of this issue rating are exclusively the long-term senior unsecured notes, denominated in euro, issued by Total Capital S.A., and Total Capital International S.A. (issuers), which are included in the list of ECB-eligible marketable assets. The ECB list of eligible marketable assets can be found on the website of the ECB.

The notes were issued under the EMTN Programme with its latest prospectus of 9 June 2020 and the supplements from 13 August 2020, and from 12 November 2020. This EMTN Programme amounts to EUR 40 billion. The notes and coupons under the EMTN Programme constitute unsubordinated, unsecured obligations of the issuers, and rank at least pari passu among themselves and all other present and future unsecured obligations of the issuers.

Corporate issue rating result

We have provided the debt securities issued by Total Capital S.A. and Total Capital International S.A. with a rating of **A+ / stable**. The decision is mainly based on the corporate rating of Total SE respectively Total Capital S.A. and Total Capital International S.A. and takes into account the specific characteristics of the notes, namely the guarantee of Total SE, which has unconditionally and irrevocably guaranteed the due payment of all sums expressed to be payable by Total Capital S.A. and Total Capital International S.A. under the notes, receipts and coupons. Other types of debt instruments or issues denominated in other currencies than EUR have not been rated by CRA. For a list of all currently valid ratings and additional information, please consult the website of Creditreform Rating AG.

Overview

Table 4: Overview of CRA Ratings | Source: CRA

Rating Category	Details	
	Date	Rating
Total SE (Issuer)	04.05.2021	A+ / stable
Total Capital S.A. (Issuer)	04.05.2021	A+ / stable
Total Capital International S.A. (Issuer)	04.05.2021	A+ / stable
Long-Term Local Currency (LC) Senior Unsecured Issues	04.05.2021	A+ / stable
Other	--	n.r.

Table 5: Overview of 2020 Euro Medium Term Note Programme | Source: Base Prospectus dated 09.06.2020

Overview of 2020 EMTN Programme			
Volume	EUR 40,000,000,000	Maturity	Depending on respective bond
Issuer / Guarantor	Total SE (Guarantor) Total Capital S.A. Total Capital International S.A.	Coupon	Depending on respective bond
Arranger	Citigroup Global Markets Limited	Currency	Depending on respective bond
Credit enhancement	none	ISIN	Depending on respective bond

All future LT LC senior unsecured notes issued by Total Capital S.A. and Total Capital International S.A. with similar conditions to the current EMTN Programme, denominated in euro and included in the list of ECB-eligible marketable assets will, until further notice, receive the same ratings as the current LT LC senior unsecured notes issued under the EMTN Programme. Notes issued under the Programme in any currency other than EUR, or other types of debt instruments, have not yet been rated by CRA. For a list of all currently valid ratings and additional information, please consult the website of Creditreform Rating AG. For the time being, other emission classes, or Programmes and issues not denominated in EUR, will not be assessed.

Appendix

Rating history

The rating history is available under:

<https://www.creditreform-rating.de/en/ratings/published-ratings.html>

Table 6: Unsolicited corporate issuer rating of Total SE | Source: CRA

Event	Rating date	Publication date	Monitoring period	Result
Initial Rating	07.11.2019	15.11.2019	Withdrawal of the rating	AA- / stable

Table 7: Unsolicited corporate issuer rating of Total Capital S.A. | Source: CRA

Event	Rating date	Publication date	Monitoring period	Result
Initial rating	07.11.2019	15.11.2019	Withdrawal of the rating	AA- / stable

Table 8: Unsolicited corporate issuer rating of Total Capital International S.A. | Source: CRA

Event	Rating date	Publication date	Monitoring period	Result
Initial rating	07.11.2019	15.11.2019	Withdrawal of the rating	AA- / stable

Table 9: Unsolicited Corporate issues / LT LC Senior Unsecured issues issued by Total Capital S.A., and Total Capital International S.A. | Source: CRA

Event	Rating date	Publication date	Monitoring period	Result
Initial rating	07.11.2019	15.11.2019	Withdrawal of the rating	AA- / stable

Regulatory requirements

The rating⁴ was not endorsed by Creditreform Rating AG (Article 4 (3) of the CRA-Regulation).

The present rating is, in the regulatory sense, an unsolicited rating that is public. The analysis was carried out on a voluntary basis by Creditreform Rating AG, which was not commissioned by the issuer or any other third party to prepare the present rating.

The rating is based on the analysis of published information and on internal evaluation methods for the assessment of companies and issues. The rating object was informed of the intention of creating or updating an unsolicited rating before the rating was determined.

The rating object participated in the creation of the rating as follows:

With Rated Entity or Related Third Party Participation	No
With access to Internal Documents	No
With Access to Management	No

A management meeting did not take place within the framework of the rating process.

⁴ In these regulatory requirements the term "rating" is used in relation to all ratings issued by Creditreform Rating AG in connection to this report. This may concern several companies and their various issues.

The documents submitted and information gathered were sufficient to meet the requirements of Creditreform Rating AG's rating methodologies.

The rating was conducted based on the following rating methodologies and the basic document.

Rating methodology	Version number	Date
Corporate Ratings	2.3	29.05.2019
Non-financial Corporate Issue Ratings	1.0	October 2016
Rating Criteria and Definitions	1.3	January 2018

The documents contain a description of the rating categories and a definition of default.

The rating was carried out by the following analysts:

Name	Function	Mail-Address
Natallia Berthold	Lead analyst	N.Berthold@creditreform-rating.de
Christian Konieczny	Analyst	C.Konieczny@creditreform-rating.de

The rating was approved by the following person (person approving credit ratings, PAC):

Name	Function	Mail-Address
Stephan Giebler	PAC	G.Giebler@creditreform-rating.de

On 4 May 2021, the analysts presented the rating to the rating committee and the rating was determined. The rating result was communicated to the Company on 4 May 2021. There has not been a subsequent change to the rating.

The rating will be monitored until Creditreform Rating AG withdraws the rating. The rating can be adjusted as part of the monitoring, if crucial assessment parameters change.

In 2011, Creditreform Rating AG was registered within the European Union according to EU Regulation 1060/2009 (CRA-Regulation). Based on this registration, Creditreform Rating AG is allowed to issue credit ratings within the EU and is bound to comply with the provisions of the CRA-Regulation.

ESG-factors

You can find out whether ESG factors were relevant to the rating in the upper section of this rating report "Relevant rating factors".

A general valid description for Creditreform Rating AG, as well as a valid description of corporate ratings for understanding and assessing ESG factors in the context of the credit rating process, can be found [here](#).

Conflicts of interest

No conflicts of interest were identified during the rating process that might influence the analyses and judgements of the rating analysts involved or any other natural person whose services are placed at the disposal or under the control of Creditreform Rating AG and who are directly involved in credit rating activities or in approving credit ratings and rating outlooks.

In the event of providing ancillary services to the rated entity, Creditreform Rating AG will disclose all ancillary services in the credit rating report.

Rules on the presentation of credit ratings and rating outlooks

The approval of credit ratings and rating outlooks follows our internal policies and procedures. In line with our "Rating Committee Policy", all credit ratings and rating outlooks are approved by a rating committee based on the principle of unanimity.

To prepare this credit rating, Creditreform Rating AG has used following substantially material sources:

Corporate issuer rating:

1. Annual report
2. Website
3. Internet research

Corporate issue rating:

1. Corporate issuer rating incl. information used for the corporate issuer rating
2. Documents on issues / instruments

There are no other attributes and limitations of the credit rating or rating outlook other than those displayed on the Creditreform Rating AG website. Furthermore, Creditreform Rating AG considers as satisfactory the quality and extent of information available on the rated entity. With respect to the rated entity, Creditreform Rating AG regarded available historical data as sufficient.

Between the time of disclosure of the credit rating to the rated entity and the public disclosure, no amendments were made to the credit rating.

The Basic Data Information Card indicates the principal methodology or version of methodology that was used in determining the rating, with a reference to its comprehensive description.

In cases where the credit rating is based on more than one methodology or where reference only to the principal methodology might cause investors to overlook other important aspects of the credit rating, including any significant adjustments and deviations, Creditreform Rating AG explains this fact in the credit rating report and indicates how the different methodologies or other aspects are taken into account in the credit rating. This information is integrated in the credit rating report.

The meaning of each rating category, the definition of default or recovery and any appropriate risk warning, including a sensitivity analysis of the relevant key rating assumptions such as mathematical or correlation assumptions, accompanied by worst-case scenario credit ratings and best-case scenario credit ratings are explained.

The date at which the credit rating was initially released for distribution and the date when it was last updated, including any rating outlooks, is indicated clearly and prominently in the Basic Data Information Card as a "rating action"; initial release is indicated as "initial rating", other updates are indicated as an "update", "upgrade" or "downgrade", "not rated", "confirmed", "selective default" or "default".

In the case of a rating outlook, the time horizon is provided during which a change in the credit rating is expected. This information is available within the Basic Data Information Card.

In accordance with Article 11 (2) EU-Regulation (EC) No 1060/2009, a registered or certified credit rating agency shall make available, in a central repository established by ESMA, information on

its historical performance data including the rating transition frequency and information about credit ratings issued in the past and on their changes. Requested data are available at the [ESMA website](#).

An explanatory statement of the meaning of Creditreform Rating AG's default rates are available in the credit rating methodologies disclosed on the website.

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