

# MOODY'S

## INVESTORS SERVICE

### RATING METHODOLOGY

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## Rating Methodology

# Environmental Services and Waste Management

This rating methodology replaces the *Environmental Services and Waste Management Companies* methodology published in April 2018. We have reordered and have made editorial updates to various sections of the methodology. These updates do not change our methodological approach.

### Scope

This methodology applies to private-sector companies globally that are primarily\* engaged in providing environmental services, including industrial cleanup, nuclear decommissioning and disposal, freshwater and wastewater processing, and post-storm restoration. This methodology also applies to companies globally that are primarily engaged in providing solid waste management services, including collection, transfer, disposal, and recycling services for residential, commercial, industrial and municipal customers. Companies rated using this methodology may also perform services in ancillary areas, such as hazardous waste disposal. The environmental services sub-sector includes all waste management other than solid waste management.

\*The determination of a company's primary business is generally based on the preponderance of the company's business risks, which are usually proportionate to the company's revenues, earnings and cash flows.

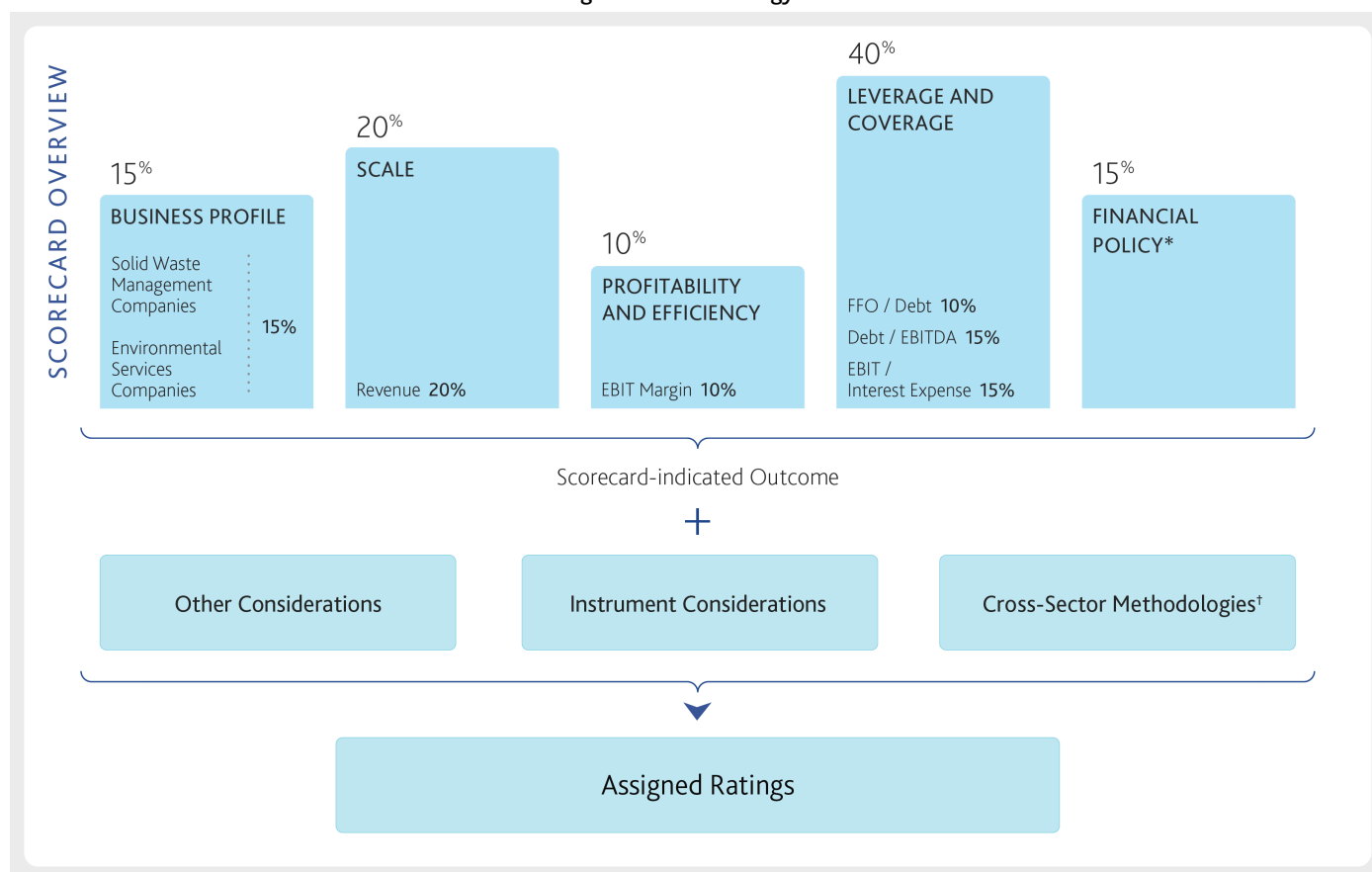
## Rating approach

In this rating methodology, we explain our general approach to assessing credit risk of issuers in the environmental services and waste management industry globally, including the qualitative and quantitative factors that are likely to affect rating outcomes in this sector. We seek to incorporate all material credit considerations in ratings and to take the most forward-looking perspective that visibility into these risks and mitigants permits.

The following schematic illustrates our general framework for the analysis of environmental services and waste management companies, which includes the use of a scorecard.<sup>1</sup> The scorecard-indicated outcome is not expected to match the actual rating for each company. For more information, see the "Other considerations" and "Limitations" sections.

Exhibit 1

### Illustration of the environmental services and waste management methodology framework



\* This factor has no sub-factors.

† Some of the methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

Source: Moody's Investors Service

## Environmental services and waste management scorecard

For general information about how we use the scorecard and for a discussion of scorecard mechanics, please see the "Using the scorecard to arrive at a scorecard-indicated outcome" section. The scorecard does not include or address every factor that a rating committee may consider in assigning ratings in this sector. Please see the "Other considerations" and "Limitations" sections.

Exhibit 2

### Environmental services and waste management scorecard

|   | Weight | Aaa   | Aa  | A  | Baa  | Ba  | B   | Caa  | Ca   |
|---|--------|---|---|--|--|---|---|--|--|
| <b>Factor: Business Profile (15%)</b>               |        |   |   |  |  |   |   |  |  |
| Business Profile – Solid Waste Management Companies | 15%    | Expected to have top market positions across multiple major countries or regions and services that include all elements of the waste stream. Has a sustainably high level of waste internalization. | Expected to have leading market positions across multiple major countries or regions and services that include all elements of the waste stream. Has a sustainably high level of waste internalization. | Expected to have leading market positions across several major countries or regions and services across a wide range of the waste stream. Some degree of revenue concentration may exist. Has a high level of waste internalization. | Expected to have a sustainable market position in at least one major country or region and services across several elements of the waste stream. Single market revenue concentration may exist. Has a meaningful level of waste internalization. | Multi-regional player offering services across several elements of the waste stream. Has a strong competitive position in its key markets. Revenues are relatively concentrated. Has a moderate level of waste internalization. | Regional player with services across at least two elements of the waste stream and a sustainable competitive position in several of its markets. Revenues are relatively concentrated. Has a modest level of waste internalization. | Regional or local market player with services in one or two elements of the waste stream and a tenuous competitive position in its markets. Has a modest level of waste internalization. | Local market player with a deteriorating competitive position. Service offerings limited to waste collection or hauling and no landfill.                             |
| Business Profile – Environmental Services Companies | 15%    | Expected to have a very strong and sustainable business position across multiple major regions or countries and a broad range of environmental businesses. Extremely high barriers to entry.        | Expected to have a strong, sustainable business position across multiple major regions or countries and a range of environmental businesses. High barriers to entry.                                    | Expected to have a strong business position across multiple major regions or countries and a number of environmental businesses. Meaningful barriers to entry.   | Expected to have a solid business position across multiple large regions or countries and several environmental businesses. Moderate barriers to entry.  | Multi-region player with a competitive business position in several environmental businesses; revenues are somewhat concentrated. Some barriers to entry.   | Regional player with a competitive business position in at least two environmental businesses. Revenues are relatively concentrated. Low barriers to entry.   | Regional or local player with a somewhat competitive business position in one or two environmental businesses. Revenues are highly concentrated. No barriers to entry.                   | Local player with no meaningful competitive advantage and a marginally profitable or loss-making business position in a narrow aspect of the environmental business. |
| <b>Factor: Scale (20%)</b>                          |        |   |   |  |  |   |   |  |  |
| Revenue (USD Billion)                               | 20%    | ≥ \$40  | \$20 - \$40   | \$10 - \$20  | \$5 - \$10   | \$1 - \$5   | \$0.15 - \$1  | \$0.05 - \$0.15  | < \$0.05   |
| <b>Factor: Profitability and Efficiency (10%)</b>   |        |   |   |  |  |   |   |  |  |
| EBIT Margin %                                       | 10%    | ≥ 40%   | 30% - 40%   | 20% - 30%  | 10% - 20%  | 5% - 10%  | 2.5% - 5%   | 1% - 2.5%  | < 1%   |

|  | Weight | Aaa  | Aa  | A   | Baa  | Ba  | B  | Caa  | Ca   |
|--|--------|--|---|---|--|---|--|--|--|
| <b>Factor: Leverage and Coverage (40%)</b> |        |  |   |   |  |   |  |  |  |
| FFO / Debt                                 | 10%    | ≥ 55%  | 45% - 55%   | 35% - 45%   | 25% - 35%  | 15% - 25%   | 5% - 15%   | (5)% - 5%  | < (5)%   |
| Debt / EBITDA <sup>[1]</sup>               | 15%    | < 0.5x   | 0.5x - 1x   | 1x - 2x   | 2x - 3x  | 3x - 4x   | 4x - 5.5x  | 5.5x - 7x  | ≥ 7x   |
| EBIT / Interest Expense                    | 15%    | ≥ 18x  | 10x - 18x   | 5x - 10x  | 3x - 5x  | 2x - 3x   | 1x - 2x  | 0.5x - 1x  | < 0.5x   |
| <b>Factor: Financial Policy (15%)</b>      |        |  |   |   |  |   |  |  |  |
| Financial Policy                           | 15%    | Expected to have extremely conservative financial policies; very stable metrics; public commitment to a very strong credit profile over the long term. | Expected to have very stable and conservative financial policies; stable metrics; minimal event risk that would cause a rating transition; public commitment to a strong credit profile over the long term. | Expected to have predictable financial policies that preserve creditor interests. Although modest event risk exists, the effect on leverage is likely to be small and temporary; strong commitment to a solid credit profile. | Expected to have financial policies that balance the interest of creditors and shareholders; some risk that debt-funded acquisitions or shareholder distributions could lead to a weaker credit profile. | Expected to have financial policies that tend to favor shareholders over creditors; above-average financial risk resulting from shareholder distributions, acquisitions or other significant capital structure changes. | Expected to have financial policies that favor shareholders over creditors; high financial risk resulting from shareholder distributions, acquisitions or other significant capital structure changes. | Expected to have financial policies that create elevated risk of debt restructuring in varied economic environments. | Expected to have financial policies that create elevated risk of debt restructuring even in healthy economic environments. |

[1] When debt is zero, the score is Aaa. When debt is positive and EBITDA is negative, the score is Ca.

Source: Moody's Investors Service

## Sector overview

Environmental services companies provide services for various industries but they have a common need to optimize sizable asset bases, to build and utilize customer relationships, and to secure contracts that provide more predictable workflow. In most cases, intermediate to long-term revenue growth opportunities are underpinned by growing environmental awareness. However, short-term demand is subject to significant variability, particularly in markets that are fast-growing or highly sensitive to the overall pace of economic activity.

Solid waste management companies use similar business models and strategies for increasing returns on invested capital. Route density and waste internalization — where collected waste is disposed in company-owned landfills — provide efficiencies that usually support robust margins. Low product substitution and the fairly steady demand nature of waste creation dampen revenue volatility. Differences in geographic scope, aggregate size, and concentration in one or more of collection, transfer, disposal, recycling or other service are the primary operating differentiators among solid waste management companies.

## Discussion of the scorecard factors

In this section, we explain our general approach for scoring each scorecard factor or sub-factor, and we describe why they are meaningful as credit indicators.

### Factor: Business Profile (15% weight)

#### Why it matters

The business profile of an environmental services or waste management company is important because it greatly influences its ability to generate sustainable earnings and operating cash flows. Entry into this industry often requires significant investment, such as costs associated with developing landfill sites or building response capabilities for environmental cleanup projects. Large enterprises with more geographically diverse operations are better positioned to fund these investments and to achieve an adequate return on the investment. Moreover, companies with a more robust business profile, characterized by strong presence across multiple markets or geographies, are better able to weather the business cycle or other operating risks affecting the sector.

#### How we assess it for the scorecard

In assessing this factor, we differentiate between the environmental services sub-sector and the solid waste management sub-sector in recognition of the differences in their respective business models and keys to success. For clarity, the environmental services sub-sector includes all waste management other than solid waste management.

For environmental services companies, competition revolves around performance, price, substitution, and ability to perform specialized environmental services. Barriers to entry can be high in cases of unique assets.

For solid waste management companies, a broad range of waste disposal service elements across the waste stream and high waste internalization are key levers for sustaining market share and pricing power. Geographic scope, aggregate size and concentration in one or more of collection, transfer, disposal, recycling or other operations are the primary operating differentiators among solid waste management companies.

### Factor: Scale (20% weight)

#### Why it matters

Scale is an important indicator of the overall depth of a company's business and its success in attracting a variety of customers, as well as its resilience to shocks, such as sudden shifts in demand or rapid cost increases.

Scale also can be an indicator of greater resilience to changes in product demand, geographic diversity, cost absorption, R&D capabilities and bargaining strength with customers and suppliers.

#### How we assess it for the scorecard

Scoring for this factor is based on one sub-factor: Revenue.

#### REVENUE:

Scale is measured (or estimated in the case of forward-looking expectations) using total reported revenue in billions of US dollars.

**Factor: Profitability and Efficiency (10% weight)****Why it matters**

Profits matter because they are needed to generate sustainable cash flow and maintain a competitive position.

Although revenue volatility for solid waste management companies is typically lower than GDP volatility, financial flexibility is important because companies need adequate funds to be able to adapt to changes in market conditions.

This factor comprises one sub-factor.

*EBIT Margin*

The ratio of earnings before interest and taxes to revenue (EBIT Margin) is an indicator of a company's operating success and the effectiveness of management. Service offering, company-specific operations and market-wide conditions can affect operating efficiency and profitability.

**How we assess it for the scorecard**

Scoring for this factor is based on one sub-factor: EBIT Margin.

**EBIT MARGIN:**

The numerator is EBIT, and the denominator is revenue.

**Factor: Leverage and Coverage (40% weight)****Why it matters**

Leverage and coverage measures provide important indications of how much financial risk an environmental services or waste management company is willing to undertake. These metrics are also important indicators of a company's financial flexibility, its ability to invest in growth opportunities and its ability to meet debt obligations.

This factor comprises three sub-factors:

*FFO / Debt*

The ratio of funds from operations to total debt (FFO/Debt) is an indicator of a company's financial flexibility and its ability to repay debt before investments in working capital, dividends and capital expenditures.

*Debt / EBITDA*

The ratio of total debt to earnings before interest, taxes, depreciation and amortization (Debt/EBITDA) is an indicator of debt serviceability and financial leverage. The ratio is commonly used in this sector as a proxy for comparative financial strength.

*EBIT / Interest Expense*

The ratio of earnings before interest and taxes to interest expense (EBIT/Interest Expense) is an indicator of a company's ability to meet its interest obligations.

**How we assess it for the scorecard**

Scoring for this factor is based on three sub-factors: FFO/Debt; Debt/EBITDA; and EBIT/Interest Expense.

**FFO / DEBT:**

The numerator is FFO, and the denominator is total debt.

**DEBT / EBITDA:**

The numerator is total debt, and the denominator is EBITDA.

**EBIT / INTEREST EXPENSE:**

The numerator is EBIT, and the denominator is interest expense.

## Factor: Financial Policy (15% weight)

### Why it matters

Management and board tolerance for financial risk is a rating determinant because it directly affects debt levels, credit quality, and the risk of adverse changes in financing and capital structure.

Our assessment of financial policies includes the perceived tolerance of a company's governing board and management for financial risk and the future direction for the company's capital structure. Considerations include a company's public commitments in this area, its track record for adhering to commitments, and our views on the ability of the company to achieve its targets.

Financial risk tolerance serves as a guidepost to investment and capital allocation. An expectation that management will be committed to sustaining an improved credit profile is often necessary to support an upgrade. For example, we may not upgrade a company that has built flexibility within its rating category if we believe the company will use that flexibility to fund a strategic acquisition, a cash distribution to shareholders, or spin-off or other leveraging transaction. Conversely, a company's credit rating may be better able to withstand a moderate leveraging event if management places a high priority on returning credit metrics to pre-transaction levels and has consistently demonstrated the commitment to do so through prior actions.

### How we assess it for the scorecard

We assess the issuer's desired capital structure or targeted credit profile, history of prior actions and adherence to its commitments. Attention is paid to management's operating performance and use of cash flow through different phases of economic cycles. Also of interest is the way in which management responds to key events, such as changes in the credit markets and liquidity environment, legal actions, competitive challenges, and regulatory pressures.

Management's appetite for M&A activity is assessed with a focus on the type of transactions (i.e. core competency or new business) and funding decisions. Frequency and materiality of acquisitions and previous financing choices are evaluated. A history of debt-financed or credit-transforming acquisitions will generally result in a lower score for this factor.

We also consider a company and its owners' past record of balancing shareholder returns and debt holders' interests. A track record of favoring shareholder returns at the expense of debt holders is likely to be viewed negatively in scoring this factor.

## Other considerations

Ratings may reflect consideration of additional factors that are not in the scorecard, usually because the factor's credit importance varies widely among the issuers in the sector or because the factor may be important only under certain circumstances or for a subset of issuers. Such factors include financial controls and the quality of financial reporting; corporate legal structure; the quality and experience of management; assessments of corporate governance as well as environmental and social considerations; exposure to uncertain licensing regimes; and possible government interference in some countries. Regulatory, litigation, liquidity, technology and reputational risk as well as changes to consumer and business spending patterns, competitor strategies and macroeconomic trends also affect ratings.

Following are some examples of additional considerations that may be reflected in our ratings and that may cause ratings to be different from scorecard-indicated outcomes.

### Management Strategy

The quality of management is an important factor supporting a company's credit strength. Assessing the execution of business plans over time can be helpful in assessing management's business strategies, policies, and philosophies and in evaluating management performance relative to performance of competitors and our projections. Management's track record of adhering to stated plans, commitments and guidelines provides insight into management's likely future performance, including in stressed situations.

### Environmental, Social and Governance Considerations

Environmental, social and governance (ESG) considerations may affect the ratings of issuers in the environmental services and waste management sector. For information about our approach to assessing ESG issues, please see our methodology that describes our general principles for assessing these risks.<sup>2</sup>

Among the areas of focus in corporate governance, for example, are audit committee financial expertise, the incentives created by executive compensation packages, related party transactions, interactions with outside auditors, and ownership structure.

### Financial Controls

We rely on the accuracy of audited financial statements to assign and monitor ratings in this sector. The quality of financial statements may be influenced by internal controls, including the proper tone at the top, centralized operations, and consistency in accounting policies and procedures. Auditors' reports on the effectiveness of internal controls, auditors' comments in financial reports and unusual restatements of financial statements or delays in regulatory filings may indicate weaknesses in internal controls.

### Liquidity

Liquidity is an important rating consideration for all environmental services and waste management companies, although it may not have a substantial impact in discriminating between two issuers with a similar credit profile. Liquidity can be particularly important for companies in highly seasonal operating environments where working capital needs must be considered, and ratings can be heavily affected by extremely weak liquidity. We form an opinion on likely near-term liquidity requirements from the perspective of both sources and uses of cash. For more details on our approach, please see our liquidity cross-sector methodology.<sup>3</sup>

### Event Risk

We also recognize the possibility that an unexpected event could cause a sudden and sharp decline in an issuer's fundamental creditworthiness, which may cause actual ratings to be lower than the scorecard-indicated outcome. Event risks — which are varied and can range from leveraged recapitalizations to sudden regulatory changes or liabilities from an accident — can overwhelm even a stable, well-capitalized firm. Some other types of event risks include M&A, asset sales, spin-offs, shareholder distributions, litigation, pandemics, significant cyber-crime events and geopolitical conflicts.

### Parental Support

Ownership can provide ratings lift for a particular company in the environmental services and waste management sector if it is owned by a highly rated owner(s) and is viewed to be of strategic importance to those owners. In our analysis of parental support, we consider whether the parent has the financial capacity and strategic incentives to provide support to the issuer in times of stress or financial need (e.g., a major capital investment or advantaged operating agreement), or has already done so in the past. Conversely, if the parent puts a high dividend burden on the issuer, which in turn reduces its flexibility, the ratings would reflect this risk.

Government-related issuers may receive ratings uplift due to expected government support. However, for certain issuers, government ownership can have a negative impact on the underlying Baseline Credit Assessment.<sup>4</sup> For example, price controls, onerous taxation and high distributions can have a negative effect on an issuer's underlying credit profile.

## Using the scorecard to arrive at a scorecard-indicated outcome

### 1. Measurement or estimation of factors in the scorecard

In the "Discussion of the scorecard factors" section, we explain our analytical approach for scoring each scorecard factor or sub-factor,<sup>5</sup> and we describe why they are meaningful as credit indicators.

The information used in assessing the sub-factors is generally found in or calculated from information in the company's financial statements or regulatory filings, derived from other observations or estimated by Moody's analysts. We may also incorporate non-public information.

Our ratings are forward-looking and reflect our expectations for future financial and operating performance. However, historical results are helpful in understanding patterns and trends of a company's performance as well as for peer comparisons. Financial metrics,<sup>6</sup> unless otherwise indicated, are typically calculated based on an annual or 12-month period. However, the factors in the scorecard can be assessed using various time periods. For example, rating committees may find it analytically useful to examine both historical and expected future performance for periods of several years or more.

All of the quantitative credit metrics incorporate our standard adjustments<sup>7</sup> to income statement, cash flow statement and balance sheet amounts for items such as underfunded pension obligations and operating leases. We may also make other analytical adjustments that are specific to a particular company.

### 2. Mapping scorecard factors to a numeric score

After estimating or calculating each factor or sub-factor, each outcome is mapped to a broad Moody's rating category (Aaa, Aa, A, Baa, Ba, B, Caa or Ca, also called alpha categories) and to a numeric score.



Qualitative factors are scored based on the description by broad rating category in the scorecard. The numeric value of each alpha score is based on the scale below.

Exhibit 3

| Aaa | Aa | A | Baa | Ba | B  | Caa | Ca |
|-----|----|---|-----|----|----|-----|----|
| 1   | 3  | 6 | 9   | 12 | 15 | 18  | 20 |

Source: Moody's Investors Service

### 3. Determining the overall scorecard-indicated outcome

The numeric score for each sub-factor (or each factor, when the factor has no sub-factors) is multiplied by the weight for that sub-factor (or factor), with the results then summed to produce an aggregate numeric score. The aggregate numeric score is then mapped back to a scorecard-indicated outcome based on the ranges in the table below.

Exhibit 4

#### Scorecard-indicated outcome

| Scorecard-indicated outcome | Aggregate numeric score |
|-----------------------------|-------------------------|
| Aaa                         | $x < 1.5$               |
| Aa1                         | $1.5 \leq x < 2.5$      |
| Aa2                         | $2.5 \leq x < 3.5$      |
| Aa3                         | $3.5 \leq x < 4.5$      |
| A1                          | $4.5 \leq x < 5.5$      |
| A2                          | $5.5 \leq x < 6.5$      |
| A3                          | $6.5 \leq x < 7.5$      |
| Baa1                        | $7.5 \leq x < 8.5$      |
| Baa2                        | $8.5 \leq x < 9.5$      |
| Baa3                        | $9.5 \leq x < 10.5$     |
| Ba1                         | $10.5 \leq x < 11.5$    |
| Ba2                         | $11.5 \leq x < 12.5$    |
| Ba3                         | $12.5 \leq x < 13.5$    |
| B1                          | $13.5 \leq x < 14.5$    |
| B2                          | $14.5 \leq x < 15.5$    |
| B3                          | $15.5 \leq x < 16.5$    |
| Caa1                        | $16.5 \leq x < 17.5$    |
| Caa2                        | $17.5 \leq x < 18.5$    |
| Caa3                        | $18.5 \leq x < 19.5$    |
| Ca                          | $x \geq 19.5$           |

Source: Moody's Investors Service

For example, an issuer with an aggregate numeric score of 11.7 would have a Ba2 scorecard-indicated outcome.

In general, the scorecard-indicated outcome is oriented to the corporate family rating (CFR) for speculative-grade issuers and to the senior unsecured rating for investment-grade issuers. For issuers that benefit from rating uplift from parental support, government ownership or other institutional support, we consider the underlying credit strength or Baseline Credit Assessment for comparison to the scorecard-indicated outcome. For an explanation of the Baseline Credit Assessment, please refer to *Rating Symbols and Definitions* and to our cross-sector methodology for government-related issuers.<sup>2</sup>

### Assigning issuer-level and instrument-level ratings

After considering the scorecard-indicated outcome, other considerations and relevant cross-sector methodologies, we typically assign a CFR to speculative-grade issuers or a senior unsecured rating for investment-grade issuers. For issuers that benefit from rating uplift from government ownership, we may assign a Baseline Credit Assessment.<sup>2</sup>

Individual debt instrument ratings may be notched up or down from the CFR or the senior unsecured rating to reflect our assessment of differences in expected loss related to an instrument's seniority level and collateral. The documents that provide broad guidance for such notching decisions are the rating methodology on loss given default for speculative-grade non-financial companies, the methodology for notching corporate instrument ratings based on differences in security and priority of claim, and the methodology for assigning short-term ratings.<sup>10</sup>

## Key rating assumptions

For information about key rating assumptions that apply to methodologies generally, please see *Rating Symbols and Definitions*.<sup>11</sup>

## Limitations

In the preceding sections, we have discussed the scorecard factors and many of the other considerations that may be important in assigning ratings. In this section, we discuss limitations that pertain to the scorecard and to the overall rating methodology.

### Limitations of the scorecard

There are various reasons why scorecard-indicated outcomes may not map closely to actual ratings.

The scorecard in this rating methodology is a relatively simple reference tool that can be used in most cases to approximate credit profiles of companies in this sector and to explain, in summary form, many of the factors that are generally most important in assigning ratings to these companies. Credit loss and recovery considerations, which are typically more important as an issuer gets closer to default, may not be fully captured in the scorecard. The scorecard is also limited by its upper and lower bounds, causing scorecard-indicated outcomes to be less likely to align with ratings for issuers at the upper and lower ends of the rating scale.

The weights for each factor and sub-factor in the scorecard represent an approximation of their importance for rating decisions across the sector, but the actual importance of a particular factor may vary substantially based on an individual company's circumstances.

Factors that are outside the scorecard, including those discussed above in the "Other considerations" section, may be important for ratings, and their relative importance may also vary from company to company. In addition, certain broad methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector.<sup>12</sup> Examples of such considerations include the following: how sovereign credit quality affects non-sovereign issuers, the assessment of credit support from other entities, the relative ranking of different classes of debt and hybrid securities, and the assignment of short-term ratings.

We may use the scorecard over various historical or forward-looking time periods. Furthermore, in our ratings we often incorporate directional views of risks and mitigants in a qualitative way.

### General limitations of the methodology

This methodology document does not include an exhaustive description of all factors that we may consider in assigning ratings in this sector. Companies in the sector may face new risks or new combinations of risks, and they may develop new strategies to mitigate risk. We seek to incorporate all material credit considerations in ratings and to take the most forward-looking perspective that visibility into these risks and mitigants permits.

Ratings reflect our expectations for an issuer's future performance; however, as the forward horizon lengthens, uncertainty increases and the utility of precise estimates, as scorecard inputs or in other considerations, typically diminishes. Our forward-looking opinions are based on assumptions that may prove, in hindsight, to have been incorrect. Reasons for this could include unanticipated changes in any of the following: the macroeconomic environment, general financial market conditions, industry competition, disruptive technology, or regulatory and legal actions. In any case, predicting the future is subject to substantial uncertainty.

## Moody's related publications

Credit ratings are primarily determined through the application of sector credit rating methodologies. Certain broad methodological considerations (described in one or more cross-sector rating methodologies) may also be relevant to the determination of credit ratings of issuers and instruments. A list of sector and cross-sector credit rating methodologies can be found [here](#).

For data summarizing the historical robustness and predictive power of credit ratings, please click [here](#).

For further information, please refer to *Rating Symbols and Definitions*, which is available [here](#).

*Moody's Basic Definitions for Credit Statistics (User's Guide)* can be found [here](#).

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## Endnotes

- [1](#) In our methodologies and research, the terms "scorecard" and "grid" are used interchangeably.
- [2](#) A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.
- [3](#) A link to a list of our cross-sector methodologies can be found in the "Moody's related publications" section.
- [4](#) For an explanation of the Baseline Credit Assessment, please refer to *Rating Symbols and Definitions* and to our cross-sector methodology for government-related issuers. A link to a list of our sector and cross-sector methodologies and a link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.
- [5](#) When a factor comprises sub-factors, we score at the sub-factor level. Some factors do not have sub-factors, in which case we score at the factor level.
- [6](#) For definitions of our most common metrics, see *Moody's Basic Definitions for Credit Statistics (User's Guide)*. A link can be found in the "Moody's related publications" section.
- [7](#) For an explanation of our standard adjustments, see the cross-sector methodology that describes our financial statement adjustments in the analysis of non-financial corporations. A link can be found in the "Moody's related publications" section.
- [8](#) A link to a list of our sector and cross-sector methodologies and a link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.
- [9](#) For an explanation of the Baseline Credit Assessment, please refer to *Rating Symbols and Definitions* and to our cross-sector methodology for government-related issuers. A link to a list of our sector and cross-sector methodologies and a link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.
- [10](#) A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.
- [11](#) A link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.
- [12](#) A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

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