MOODY'S INVESTORS SERVICE

RATING METHODOLOGY

Midstream Energy

This rating methodology replaces the *Midstream Energy* methodology published in May 2017. This update clarifies the scope of this methodology, in particular its applicability to non-operating companies that own minority stakes in operating companies engaged in the midstream business. This update also includes an appendix that discusses additional rating considerations for these entities and describes how we apply the scorecard.

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Introduction

In this rating methodology, we explain our general approach to assessing credit risk for issuers in the midstream energy sector globally, including the qualitative and quantitative factors that are likely to affect rating outcomes in this sector.

We discuss the scorecard used for this sector. The scorecard[1] is a relatively simple reference tool that can be used in most cases to approximate credit profiles in this sector and to explain, in summary form, many of the factors that are generally most important in assigning ratings to issuers in this sector. The scorecard factors may be evaluated using historical or forward-looking data or both.

We also discuss other rating considerations, which are factors that are assessed outside 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. In addition, some of the methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector. [2] Furthermore, since ratings are forward-looking, we often incorporate directional views of risks and mitigants in a qualitative way.

As a result, the scorecard-indicated outcome is not expected to match the actual rating for each issuer.

Our presentation of this rating methodology proceeds with (i) the scope of this methodology; (ii) the scorecard framework; (iii) a discussion of the scorecard factors; (iv) other rating considerations not reflected in the scorecard; (v) the assignment of issuer-level and instrument-level ratings; (vi) methodology assumptions; and (vii) limitations.

1 In our methodologies and research, the terms "scorecard" and "grid" are used interchangeably.

2 A link to an index of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

In Appendix A, we describe how we use the scorecard to arrive at a scorecard-indicated outcome. Appendix B shows the full view of the scorecard factors, sub-factors, weights and thresholds. Appendix C provides a description of the credit characteristics of master limited partnerships. Appendix D describes additional considerations for holding companies that own solely a minority interest in a midstream operating company or companies.

Scope of This Methodology

This methodology applies to midstream energy companies globally,[3] except certain midstream sub-sectors, as noted below. In broad terms, midstream energy companies employ fixed infrastructure to connect energy production (upstream activities) to downstream markets, including petroleum refiners. The customers of midstream energy companies are mainly other energy companies. Companies rated under this methodology are primarily[4] engaged in one or several aspects of the midstream energy business, including oil and natural gas gathering systems; pipelines that transport crude oil, petroleum products, natural gas or chemicals; natural gas processing, fractionation,[5] liquefaction or re-gasification; or storage of energy and related products (including in-ground natural gas storage and tank farms).

Certain sub-sectors within the midstream sector are rated under other methodologies.[6] Companies that generate at least two-thirds of their cash flow from natural gas long-haul transportation and ancillary activities that are tariff-regulated, or where contract terms are set within a tariff-regulated framework, are rated under other methodologies (please see our methodologies for natural gas pipelines,[7] regulated electric and gas utilities, and regulated electric and gas networks). Midstream energy project financings are rated under applicable project methodologies, including our methodology for generic project finance.

Although certain midstream companies have some exploration and production, petroleum refining or marketing as part of their business mix, companies that are primarily engaged in these activities are rated under other methodologies (please see our methodologies for independent exploration and production companies, integrated oil companies, and refining and marketing companies). Companies that connect upstream and downstream energy markets via surface or water-borne transportation are also rated under separate methodologies (please see our methodologies for shipping and for surface transportation and logistics).

The midstream sector comprises companies with diverse levels of scale, types of assets and mixes of businesses. Different hydrocarbon products (e.g., natural gas, natural gas liquids, crude oil or petroleum products) require different types of infrastructure. Also, the business profiles of midstream companies

[3] This methodology is also applicable to holding companies with activities limited to owning minority interests in operating companies engaged in the midstream energy business as described above. To be rated under this methodology, we would typically expect the issuer to have at least 15% direct or indirect ownership on a sustainable, forward-looking basis and to have some meaningful influence or control over decisions at the operating company. For details on specific credit considerations for these types of holding companies and guidance for scoring these companies under the midstream energy scorecard, please see Appendix D. Holding companies that have minority equity stakes in more than three midstream operating companies would typically be rated under our methodology for investment holding companies and conglomerates. A link to an index of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

[4] The determination of an issuer's primary business is generally based on the sector from which it generates the majority of expected cash flows.

[5] Natural gas processing generally refers to the removal of natural gas liquids (or condensate) to conform the natural gas to maximum energy content requirements for injection into a common carrier pipeline. Fractionation generally refers to the further processing of undifferentiated natural gas liquids into components, including ethane, propane, butane, isobutane and pentane.

[6] A link to an index of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

[7] We classify as natural gas pipelines companies that generate at least two-thirds of their cash flow from natural gas pipelines and ancillary activities provided that they are not organized as a master limited partnership (MLP) or similar growth-oriented yield vehicle (yieldco) and do not own an MLP or yieldco. For clarity, natural gas pipelines that are owned by an MLP or yieldco are rated under the natural gas pipeline methodology.

vary greatly, spanning higher risk activities with volume and commodity price exposure (e.g., natural gas processing, marketing and trading) to lower risk long-term contracted assets and fee-based services (e.g., crude oil or gas pipelines or storage).

Leverage has been a defining characteristic for many issuers in the sector, partly due to the stable business profiles of many players and partly due to the eligibility of these assets in certain jurisdictions for tax-advantaged partnership structures that require high levels of cash flow distribution. Certain other companies, while not structured as partnerships, have adopted the high-cash-payout business model as a means to attract equity capital. The sector has also been characterized by an orientation to growth that is often debt-financed, including organic expansion and mergers and acquisitions. As a result, credit profiles in the sector can vary greatly and have generally spanned from mid-to-low investment grade to the lower end of the speculative portion of the rating scale.

Rated midstream issuers have predominantly been based in the US, and many are master limited partnerships (MLPs), a structure that incentivizes cash flow growth and high cash payouts. Please see Appendix C for a description of MLPs and some of the principal additional credit considerations for issuers with this type of structure.

Scorecard Framework

The scorecard in this rating methodology is composed of four factors. Some of the four factors comprise a number of sub-factors.

EXHIBIT 1

Midstream Energy Industry Scorecard

Factor	Factor Weighting	Sub-factor	Sub-factor Weighting
Scale	25%	Property, Plant & Equipment, Net (PP&E)	10%
		EBITDA	15%
Business Profile	25%	Estimated Price and Volume Risk Exposure	25%
Leverage and Coverage	40%	EBITDA / Interest Expense	10%
		Debt / EBITDA	20%
		(FFO – Maintenance CAPEX) / Distributions	10%
Financial Policy	10%	--*	10%
Total	**100%**	**Total**	**100%**

* *This factor has no sub-factors.*

Please see Appendix A for general information relating to how we use the scorecard and for a discussion of scorecard mechanics. The scorecard does not include every rating consideration.[8] Appendix D describes additional considerations for holding companies that own solely a minority interest in a midstream operating company or companies..

8 Please see the "Other Rating Considerations" and "Limitations" sections.

Discussion of the Scorecard Factors

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

Factor 1: Scale (25% Weight)

Why It Matters

Size typically plays an important role in gauging the credit strength of a midstream company, because it influences many of the core attributes that drive its resiliency to stress. These attributes may include, among other aspects, operational and financial flexibility, economies of scale, and the breadth of a company's product and service offerings, customers and market reach.

Operations of larger midstream companies tend to weather temporary disruptions better, owing to a generally broader mix of product and service offerings, geographical spread and exposure to producing basins. Larger companies may also derive economies of scale from the allocation of fixed costs across a broader asset base and from more-competitive supply procurement, ultimately helping to support a stable or growing market position. These attributes are particularly meaningful in industries such as midstream, where there is a heavy orientation toward cash-flow growth and acquisition-led expansion.

Size may also enhance financial flexibility because larger companies tend to benefit from readier access to capital markets and alternative financing sources.

The factor comprises two sub-factors:

Property, Plant and Equipment (PP&E), Net

Net PP&E is an important indicator of scale in the midstream energy sector, where cash flow is generated largely from fixed assets.

Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA)

EBITDA is an important indicator of the size of an issuer's operational profits and is a proxy for the size of its cash flows.

How We Assess It for the Scorecard

Scale is measured (or estimated in the case of forward-looking expectations) using net PP&E and EBITDA. For companies that have made significant acquisitions, we may use pro forma net PP&E and EBITDA.

PROPERTY, PLANT & EQUIPMENT (PP&E), NET:

We use PP&E net of accumulated depreciation and amortization, expressed in millions of US dollars.

EBITDA:

We use EBITDA expressed in millions of US dollars.

FACTOR 1
Scale (25%)

Sub-factor	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
PP&E, Net (USD Million)*	10%	≥ 60,000	40,000 - 60,000	25,000 - 40,000	15,000 - 25,000	5,000 – 15,000	1,000 - 5,000	500 - 1,000	< 500
EBITDA (USD Million)**	15%	≥ 7,500	5,000 - 7,500	3,000 - 5,000	1,000 - 3,000	500 - 1,000	100 - 500	0 - 100	< 0

* For the linear scoring scale, the Aaa endpoint value is 75,000. A value of 75,000 or better equates to a numeric score of 0.5. The Ca endpoint value is 0. A value of 0 or worse equates to a numeric score of 20.5.

** For the linear scoring scale, the Aaa endpoint value is 10,000. A value of 10,000 or better equates to a numeric score of 0.5. The Ca endpoint value is (50). A value of (50) or worse equates to a numeric score of 20.5.

Factor 2: Business Profile (25% Weight)

Why It Matters

The business profile of a midstream energy company's asset portfolio has a large influence on its ability to generate operating cash flow and on the stability and sustainability of those flows. In turn, cash flow stability extensively drives credit risk in the sector, owing to issuers' significant debt service obligations and the high distribution payouts they typically make.

Different types of business operations within the midstream sector are affected by varying degrees of business risk. Operating assets characterized by low exposure to commodity price and volume risk, such as interstate refined products, natural gas or crude oil pipelines, tend to show predictable and stable long-term cash flow generation. Conversely, midstream companies that have expanded into upstream or downstream businesses may operate assets that entail relatively high exposure to commodity price and volume risk, making consistent cash flow stability less easily achievable.

Even for the same operating activity, the business risk of different companies (and in turn their cash flow volatility) can and often does vary greatly depending on the quality of operated assets, geographic location or customer base. For example, a network of assets in a particular region, such as pipelines or contracted gathering systems, may hold dominant positions with producers/shippers, and competitors seeking to enter the region would have difficulty replicating the network economically. Certain assets may also have a critical position in a market, providing structural protection or effectively acting as an operational barrier to entry for potential competitors, all of which helps offset the intrinsic limitations of smaller scale. We note that while larger scale generally confers flexibility or an operational competitive advantage, smaller midstream energy companies with a more limited range of operations may also demonstrate strengths in their business profile that may mitigate limited scale.

How We Assess It for the Scorecard

The scoring of this sub-factor is based on a forward-looking qualitative assessment of an issuer's estimated price and volume risk exposure, and the stability afforded by its contracts and market position.

Because midstream companies often operate various assets that are exposed to different price and volume risk, in our overall assessment we typically consider each of the individual business segments that may carry a singular risk profile. We then typically rank the underlying risk of all identifiable segments by the size of the segment to form an opinion of the company's overall business risk profile.

We typically consider, for a given company, the classification of business segments as reported by public sources and adjust it based on our view of the granular risks tied to the underlying assets in each of these segments. For example, we may break down a reported segment into sub-segments (using reported or private information, or our own estimates) based on our view of material differences in the price and volume risk exposure of the various functions this segment encompasses,.

We generally use EBITDA to estimate the relative importance of each business line. In cases where we consider that EBITDA does not accurately reflect the relative size and risks of a certain business lines, we may use a different proxy, such as net PP&E.

For companies operating across different jurisdictions (across countries, states or provinces), we typically apply the same approach when gauging the regulatory and political risks a midstream company is exposed to. For example, in the US and Canada, intrastate and intra-provincial pipelines are subject to regulation at the state or provincial level, which can be more light-handed than national regulation. On the other hand, interstate pipelines in the US are regulated by the Federal Energy Regulatory Commission (FERC), which governs wholesale rates. The same applies to US intrastate pipelines with connections to FERC-regulated interstate pipelines. Ultimately, the varying regulatory frameworks carry different price and volume risks that may affect our overall assessment of business profile.

We note that the overall assessment of a company's business profile is not a point-in-time, sum-of-the-parts assessment, because even a modest prospective exposure to higher risk businesses, such as marketing and trading, can significantly raise the overall risk profile of an enterprise. As such, we ultimately make a qualitative assessment based on our view of a company's future strategic direction and underlying price and volume trends. Our assessment also focuses on the degree of perceived risk and on the time horizon for any materialization of this risk.

In the chart below and in the descriptions that follow it, we provide an indicative overview of price and volume risk exposures by business segment. The list encompasses the primary midstream business activities, but it is not exhaustive. The business profile score we assign ultimately depends on the specificities of each midstream activity that drive its price and volume risks. Specificities that bring differentiation in the degree of price and volume exposure include varying degrees of supply and demand fundamentals, the quality, tenor and structure of contracts, the strength and diversity of customers, the significance of market-driven revenues, geographic diversity, competition, and regulatory risk.

A midstream energy company characterized by a portfolio of assets that generates a contractually supported, fee-based[9] cash flow stream, is regulated and faces minimal competitive challenges, is diversified by service type and geographic location,[10] and operates in markets protected by de facto barriers to entry would typically be regarded as having a strong business profile. Such a company is more likely to be able to support balance sheet leverage and relatively high cash distribution payouts. Conversely, a midstream energy company with an asset base generating spot transactions[11] unsupported by longer term contracts and thereby exposed to price and volume risk, operating in markets with minimal barriers to entry and facing full frontal competition, and with limited service or

9 Fee-based contracts support a strong business profile because, under their terms, the processor typically takes limited or no commodity price risk and is compensated on a fee basis for volumes processed. Similarly, clauses limiting volume risk, such as minimum volume commitments (MVC), tend to support cash flow stability.

10 For companies operating in sectors where volume or price movements are extensively driven by weather conditions (e.g., retail distribution), geographic diversity can help reduce sensitivity in any one market.

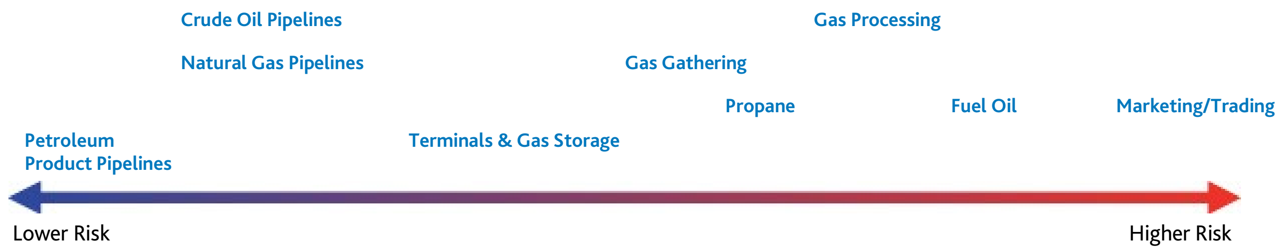
11 Market-based rate-setting or intense competition can potentially lead to discounting of rates or re-contracting competition.

geographic diversification can be expected to experience cash flow volatility that would not support balance sheet leverage and high distribution payouts.

When assessing exposure to commodity price risk, we generally consider the underlying price risk exposure, both direct and indirect. Indirect exposure relates to the impact commodity prices could have on customers or end markets, for example on drilling programs and hydrocarbon production. We note that, while hedging can mitigate direct exposure to commodity price risks, indirect risks typically remain.

EXHIBIT 2

The Midstream Risk Spectrum



Source: Moody's Investors Service

Following is an indicative overview of price and volume risk exposures by business segment:

Petroleum product pipelines: Petroleum product pipelines are typically considered the most stable of pipeline transportation assets, ranking as least risky along the business risk spectrum. Demand-driven petroleum product volumes tend to be highly stable, and they are not connected to depleting exploration and production (E&P) assets. High barriers to entry for new capacity, including rights-of-way, generally limit competition and promote volume stability. Product pipelines are generally subject to relatively light-handed regulation and less prone to regulatory risk than natural gas and crude oil pipelines. Contracts tend to be longer term, with contract rates typically adjusted annually on an inflation-indexed basis.

Natural gas pipelines: Natural gas pipelines are considered only slightly more risky than product pipelines because of their generic connection to natural gas reserves that can deplete over time. However, they typically remain relatively low risk, drawing the preponderance of their revenues from volume-insensitive demand charges typically set by regulation, under long-term contracts or a combination of the two.

> In the US and Canada, intrastate and intra-provincial natural gas pipelines are considered incrementally riskier than federally regulated interstate pipelines. Compared with interstate or national pipelines, intrastate revenues generally are more sensitive to market conditions, particularly locational basis differentials, with rates negotiated with shippers on shorter term contracts.

Distinctions also exist between "demand pull" gas pipelines and "supply push" gas pipelines, particularly in terms of their customers. Demand pull pipelines transport natural gas primarily to commercial end users, such as gas distribution utilities and electric utilities with gas-fired generation. These customers typically exhibit a consistent track record of renewing their transportation contracts (and more often tend to have investment-grade ratings). Conversely, supply push pipelines, which transport natural gas out of producing basins, tend to be of lower credit quality, with a wider dispersion of E&P contract counterparties, many of which tend to be speculative-grade-rated and are exposed to depleting resource bases.

Crude oil pipelines: Crude oil pipelines are typically considered relatively low risk activities,[12] with their positioning relative to natural gas pipelines generally dependent on market-specific outlooks for long-term production. Where growth projections for long-term crude oil production are softer than for natural gas,[13] crude oil pipelines bear greater volumetric risk exposure, and vice versa.

Terminals and natural gas storage:[14] We generally consider terminal operations and natural gas storage as carrying moderate price risk, but proportionately greater volumetric risk. Contract terms are short to medium term, and utilization can be highly sensitive to local market conditions. Terminal and storage operations have often been extended further downstream to also include export facilities including crude oil and natural gas liquids (NGLs), and are typically integrated into a larger midstream asset base, providing them with greater cash flow stability and thereby diminishing the risk relative to standalone operations. We assess the terminalling and storage of non-hydrocarbon and other bulk commodities (which are typically unregulated) based on the commodity type, demand characteristics, geographic location, specific contract terms and volumetric exposure.

Natural gas gathering and processing (G&P): G&P can be a volatile business subject to commodity price and volume (throughput) risk. We consider gas processing to be the riskier component of G&P. Natural gas processing can be exposed to both volumetric risk and to direct commodity price risk. Different processing contract structures (keep-whole, percentage-of-proceeds and fee-based contracts) subject processing margins to varying degrees of commodity price risk, with keep-whole structures entailing the greatest exposure. In keep-whole contracts, the processor retains the NGLs removed from the gas stream and is obligated to reimburse the producer with gas equivalent in energy value, directly exposing processing margins to both NGL and gas price risk. Common in this sector, percentage-of-proceeds contracts also expose processors to commodity price risk in that all or a portion of their compensation is linked to the market price of the gas or liquids processed.

Natural gas gathering is the less risky component of G&P, because the business is predominantly fee-based. However, gas gathering is exposed to throughput risk and requires ongoing capital expenditures for well connections. While most gathering contracts are supported by either acreage dedications or minimum volume commitments (MVCs), acreage dedication offers little support if the producing field is uneconomic and not being drilled, or if it is in decline. Gathering systems are somewhat protected by competitive barriers to entry, because gathering systems, once in place and supported by acreage dedications, generally will not attract competing systems. By the same token, contractual MVCs tend to solve for volumetric risk but can render contracts uneconomical in an environment of low gas prices and can invite pressure to renegotiate or, in a producer bankruptcy, even contract rejection.

Regardless of contract structure, natural gas gathering and processing is also exposed indirectly to commodity price risk, given the sensitivity of G&P volumes to natural gas prices. When natural gas prices are weak, producers are inclined to reduce their drilling investment. When processing spreads are low, producers are inclined to minimize the percentage of their production that is processed, subject to ongoing compliance with pipeline content specifications. And to the extent liquids extraction from wet gas streams is uneconomic (as when ethane pricing on an energy equivalency basis falls below natural gas), ethane recovery will be rejected, reducing NGL volumes in the aggregate.

12 In the US, rates and terms of service for natural gas and crude oil pipelines are regulated by the Federal Energy Regulatory Commission. Unlike gas pipelines, however, crude oil pipeline rates are set and adjusted according to an index set at the producer price index (PPI), allowing for rate predictability.

13 In North America, this has been the case in many regions for long periods of time. In all cases, the relative outlooks of oil and gas production can be region-specific and can change over time. For example, technological advances have allowed petroleum production from basins that were not previously economical.

14 Natural gas storage in this section refers to unregulated gas storage, as opposed to regulated gas storage conducted by natural gas pipelines or distribution utilities.

We typically regard G&P operations as having a more favorable impact on business profile when they benefit from an established competitive position in a long-lived, low-cost field (or one with growing production) and when they are accompanied by a predominance of fee-based contracts. Having basin diversity, meaning discrete G&P assets operating across multiple producing basins, is also helpful in mitigating price and volumetric risk. An absence of keep-whole processing contracts or contracts with terms that mitigate negative processing margins also contribute to a more favorable business profile.

By contrast, we typically view as less favorable small G&P operations concentrated in a single basin or a small set of fields, where there is a high degree of customer concentration, where production is declining or reinvestment needs are high, or where commodity price exposure is significant.

Propane and fuel oil distribution:[15] Propane and fuel oil retailing are fragmented, highly seasonal businesses that ordinarily see most of the demand for their product during the winter heating season. Financial performance is typically a function of weather and thus relatively volatile and difficult to predict. Working capital needs can also be significant given the seasonal nature of consumption and the necessity of building inventories prior to the annual heating season. Of the two businesses, the fuel oil business tends to be more competitive and customer churn can be significant. Geographic diversity can help reduce sensitivity to weather or economic conditions in any one market.

Energy marketing and trading: Marketing and trading is at the high end of the risk spectrum due to the volatility of cash flow, the need for strong risk management and internal controls, margin risk and the potentially significant, sudden use of working capital for collateral posting. Volumes are difficult to predict, driven by commodity prices, weather and market technical factors. When gauging the relative risk of marketing and trading, we typically consider counterparty credit quality, the company's track record in trading execution, its liquidity resources, and its risk management capability, policies and procedures.

FACTOR 2

Business Profile (25%)

Sub-factor	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
Estimated Price and Volume Risk Exposure	25%	Expected to have zero medium-to-long-term volume risk; no direct commodity price risk; strong commercial outlook or protected market; and high proportion of long-term contracts with highly rated counterparties.	Expected to have modest long-term volume risk but no medium-term risk, no direct commodity price risk; strong commercial outlook or protected market; and high proportion of medium- and long-term contracts with highly rated counterparties.	Expected to have limited medium-term volume risk; no direct commodity price risk; strong commercial outlook or protected market; high proportion of medium-term contracts with highly rated counterparties.	Expected to have modest near-to-medium-term volume risk; limited direct commodity price risk; strong commercial outlook.	Expected to have somewhat elevated volume risk; modest direct commodity price risk.	Expected to have substantial volume risk; substantial direct commodity price risk.	Expected to have very high price and volume risk.	Fully exposed to price and volume risk.

15 Companies primarily engaged in propane or fuel oil distribution, or energy marketing and trading are rated under separate methodologies.

Factor 3: Leverage and Coverage (40% Weight)

Why It Matters

Leverage and coverage measures are indicators of a company's financial flexibility and long-term viability, including its ability to adapt to changes in the economic and business environments in the segments in which it operates. Maintaining financial flexibility is crucial for midstream MLPs given their heavy reliance on external sources of capital, and investors in the sector generally have expectations of high payouts.

The factor comprises three sub-factors:

EBITDA / Interest Expense

The ratio of earnings before interest, taxes, depreciation and amortization (EBITDA) / Interest Expense is used as an indicator of an issuer's ability to pay interest and other fixed charges from its operating performance.

Debt / EBITDA

The ratio of debt to EBITDA is an indicator of debt serviceability and leverage. The ratio is commonly used in this sector as a proxy for comparative financial strength.

(FFO – Maintenance Capital Expenditures) / Distributions

The ratio of funds from operations (minus maintenance capital expenditures) to distributions is an indicator of an issuer's financial flexibility. High distribution coverage provides a company with a financial cushion during periods of relatively weak earnings, particularly companies with higher levels of cash flow volatility.

While strong distribution coverage is evidence of a company's capacity to repay debt, MLPs typically manage to very low levels of distribution coverage, usually just over 1x, in order to maximize distributions to unitholders. Distribution coverage under 1x suggests that the MLP is borrowing in order to pay distributions, a strong credit negative. In that case, if a company cannot improve its coverage by increasing distributable cash flow, it may cut the distribution to support its credit profile. Although typically rare, distribution cuts in periods of financial stress may also have the added benefit of retaining cash in the business to finance spending or shore up an over-leveraged balance sheet.

To estimate maintenance capital expenditures, we generally rely on public disclosures. If maintenance capital spending is not disclosed and we cannot estimate it based on available information, we typically use a company's annual depreciation and amortization expense.

How We Assess It for the Scorecard

EBITDA / INTEREST EXPENSE

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

DEBT / EBITDA

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

(FFO – MAINTENANCE CAPITAL EXPENDITURES) / DISTRIBUTIONS

The numerator is FFO minus maintenance capital expenditures, and the denominator is distributions.

Distributions are the sum of common, preferred and minority dividends.

FACTOR 3

Leverage and Coverage (40%)

Sub-factor	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
EBITDA / Interest Expense*	10%	≥ 20x	15 - 20x	10 - 15x	5 - 10x	2.5 - 5x	1 – 2.5x	0.5 - 1x	< 0.5x
Debt / EBITDA**	20%	≤ 0.5x	0.5 - 1.5x	1.5 - 3.5x	3.5 - 4.5x	4.5 - 5.5x	5.5 - 6.5x	6.5 - 7.5x	> 7.5
(FFO – Maintenance CAPEX) / Distributions***	10%	≥ 10x	5 - 10x	2 - 5x	1.2 - 2x	1 - 1.2x	0.7- 1x	0.5 - 0.7x	< 0.5x

* For the linear scoring scale, the Aaa endpoint value is 30x. A value of 30x or better equates to a numeric score of 0.5. The Ca endpoint value is 0x. A value of 0x or worse equates to a numeric score of 20.5.

** For the linear scoring scale, the Aaa endpoint value is 0.10x. A value of 0.10x or better equates to a numeric score of 0.5. The Ca endpoint value is 10x. A value of 10x or worse equates to a numeric score of 20.5, as does negative EBITDA.

***For the linear scoring scale, the Aaa endpoint value is 15x. A value of 15x or better equates to a numeric score of 0.5. The Ca endpoint value is 0x. A value of 0x or worse equates to a numeric score of 20.5.

Factor 4: Financial Policy (10% Weight)

Why It Matters

Management and board tolerance for financial risk is an important 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 an issuer's governing board and management for financial risk and the future direction for the company's capital structure. Considerations include an issuer's public commitments in this area, its track record for adhering to commitments, and our views on the ability of the issuer 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 the ratings of an issuer that has built flexibility within its rating category if we believe the company will use that flexibility to fund a strategic acquisition, cash distribution to shareholders, spin-off or other leveraging transaction. This is particularly relevant in the case of an MLP, because the governance model weighs heavily on financial policy given the separation of ownership (the MLP common unitholders) and control (by the General Partner, or GP). Under a typical MLP partnership agreement, the GP exerts total control over the MLP, with common unitholders having no control. Because the GP's financial policies are largely focused on the interests of the MLP's yield-oriented equity holder base, the company's capacity to achieve the highest ratings is typically constrained.

Conversely, an issuer'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. Liquidity management[16] is an important aspect of overall risk management and can provide insight into risk tolerance.

How We Assess It for the Scorecard

Financial Policy

We assess the issuer's desired capital structure or targeted credit profile, history of prior actions, including its track record of risk and liquidity management, and adherence to its commitments.

16 Liquidity management is distinct from the level of liquidity, which is discussed in the "Other Rating Considerations" section of this report.

Attention is paid to management's operating performance and use of cash flow through different phases of economic and industry 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. For example, MLPs' distribution-growth model tends to foster acquisition strategies that often carry the risk of investing in areas in which the company lacks in-house expertise, or in business lines that require strong internal controls, such as marketing and trading. Our assessment would thus focus on the frequency, business relevance and materiality of acquisitions, and on previous financing choices. A history of debt-financed or credit-transforming acquisitions will generally result in a lower score for this factor.

We also consider an issuer's and, in the case of an MLP, the general partner's record of balancing pressure for distributions and debtholders' interests, and an MLP's frequent need to access debt and equity markets. As a result, financial policy scores for MLPs tend to be lower than for other midstream companies, with the scorings of even the stronger entities typically capped at Baa.

Also, in cases where the GP is a substantial owner of common units we typically see less risk relative to other MLPs. In this regard, where publicly traded general partners carry their own debt obligations and depend primarily on distributions from the MLP for debt service, a leveraged general partner may increase the distribution pressure on its affiliated MLP, or create some type of event risk that we would consider credit negative for the MLP. On the other hand, simpler partnership structures — where the MLP buys in the general partner and eliminates incentive distribution rights, for example — would typically score higher.

FACTOR 4

Financial Policy (10%)

Factor	Factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
Financial Policy	10%	Expected to have extremely conservative financial policies (including risk and liquidity management); very stable metrics; essentially no event risk; and public commitment to very strong credit profile over the long term.	Expected to have very conservative financial policies (including risk and liquidity management); stable metrics; minimal event risk that would cause a rating transition; and public commitment to strong credit profile over the long term.	Expected to have predictable financial policies (including risk and liquidity management) 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 (including risk and liquidity management) 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 (including risk and liquidity management) 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 (including risk and liquidity management) that favor shareholders over creditors; high financial risk resulting from shareholder distributions, acquisitions or other significant capital structure changes.	Expected to have financial policies (including risk and liquidity management) that create elevated risk of debt restructuring in varied economic environments.	Expected to have financial policies (including risk and liquidity management) that create elevated risk of debt restructuring even in healthy economic environments.

Other Rating Considerations

Ratings may include 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 an issuer'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. A record of consistency provides insight into management's likely future performance in stressed situations and can be an indicator of management's tendency to depart significantly from its stated plans and guidelines.

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 midstream energy 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.[17]

While midstream businesses generally do not require substantial working capital, MLPs can be vulnerable to liquidity problems given their high distribution payouts, which leave little discretionary cash flow available for debt reduction and growth capital spending beyond maintenance spending. MLPs also tend to be more vulnerable after acquisitions, when they often have large amounts of short-term debt outstanding. In turn, midstream MLPs generally maintain sizable credit facilities, primarily to finance acquisitions and capital spending. In cases in which MLPs are unable to refinance maturing debt or renew their bank lines, they may face substantial liquidity pressure.

[17] A link to an index of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

Rating General Partners

We assess MLPs on a stand-alone basis as well as on a consolidated basis, including debt of the GP sponsor if it relies on distributions from the MLP to service its debt and to fund its own distributions. A corporate family rating is typically assigned at the uppermost entity with rated debt in the legal organization. The debt instruments of non-investment grade GPs and their affiliates are rated in accordance with the Moody's loss given default cross-sector methodology.[18]

We typically rate GP sponsors zero to three notches below investment-grade MLPs, depending on the degree of explicit or implicit insulation between the general partner (GP) and the MLP provided by the partnership agreement, financial policies or corporate governance mechanisms. We also typically consider whether the GP has its own assets that provide cash flow to service its debt.

For GPs without independent businesses that rely solely on distributions from the MLP, we typically rate the GP's debt two to three notches below the MLP's debt rating, acknowledging the leveraged nature of this cash flow stream. Although the GP's debt is typically non-recourse to the MLP, deterioration in the GP's credit quality could cause the MLP's ratings to be downgraded, although not necessarily in lock step.

Non-Wholly Owned Subsidiaries

Some companies in the midstream energy sector choose to dilute their equity stake in certain material subsidiaries, for example through an initial public offering, which may in some cases negatively impact future financial flexibility. While improving cash holdings on a one-off basis, selling minority interests in subsidiaries may have a negative impact on cash flows available to the parent company that may not be fully reflected in consolidated financial statements.[19] The parent's share of dividend flows from a non-wholly owned subsidiary are reduced, and minority stakes can increase structural subordination, since dividend flows to minority interest holders are made before the cash flows are available to service debt at the parent company. While less frequent, sale of a minority stake may be accompanied by policies protective of the subsidiary that further limit the parent's financial flexibility, for instance restrictions on cash pooling with other members of the corporate family, limitations on dividends and distributions, or arms-length business requirements. Minority stakeholders may have seats on the board of the subsidiary. In many cases, we consider the impact of non-wholly owned subsidiaries qualitatively. However, in some cases we may find that an additional view of financial results, such as analyzing cash flows on a proportional consolidation basis, may be very useful to augment our analysis based on consolidated financial statements. When equity dilution or structural subordination arising from non-wholly owned subsidiaries is material and negative, the credit impact is captured in ratings but may not be fully reflected in scorecard-indicated outcomes.

For companies that hold material minority interest stakes, consolidated funds from operations typically includes the dividends received from the minority subsidiary, while none of its debt is consolidated. When such dividends are material to the company's cash flows, these cash flows may be subject to interruption if they are required for the minority subsidiary's debt service, capital expenditures or other cash needs. When minority interest dividends are material, we may also find that proportional consolidation or another additional view of financial results is useful to augment our analysis of consolidated financials. We would generally also consider structural subordination in these cases.[20]

[18] A link to an index of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

[19] For example, in the case of an equity stake reduction in a subsidiary down to 75%, in the parent's financial statements, all revenues and EBITDA of the subsidiary would typically still be consolidated at the group level.

[20] Proportional consolidation brings a portion of the minority subsidiary's debt onto the balance sheet, but this debt is structurally senior to debt at the parent company, because it is closer to the assets and cash flows of the minority subsidiary.

When these credit considerations are material, their impact is captured in ratings but may not be fully reflected in scorecard-indicated outcomes.

Additional Metrics

The metrics included in the scorecard are those that are generally most important in assigning ratings to issuers in this industry; however, we may use additional metrics to inform our analysis of specific issuers. These additional metrics may be important to our forward view of metrics that are in the scorecard or other rating factors.

For example, free cash flow is not always an important differentiator of credit profiles. Strong companies with excellent investment opportunities may demonstrate multiyear periods of negative free cash flow while retaining solid access to capital and credit, because these investments will yield stable cash flows in future years. Weaker companies with limited access to credit may have positive free cash flow for a period of time because they have curtailed the investments necessary to maintain their assets and future cash-generating prospects. However, in some cases, free cash flow can be an important driver of the future liquidity profile of an issuer, which, as noted above, can have a meaningful impact on ratings.

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, litigation, significant cyber-crime events and shareholder distributions.

Environmental and Other Regulatory Considerations

Issuers in the midstream sector are subject to varying degrees of regulatory oversight, including environmental standards, an area of increasing scrutiny, notably in the area of carbon emissions. Effects of these regulations may entail limitations on operations, higher costs and higher potential for technology disruptions and demand substitution. Regional differences in regulation, implementation or enforcement may advantage or disadvantage particular issuers. Our view of future regulations plays an important role in our expectations of future financial metrics as well as our confidence level in the ability of an issuer to generate sufficient cash flows relative to its debt burden over the medium and longer term. In some circumstances, regulatory considerations may also be a rating factor outside the scorecard, for instance when regulatory change is swift.

Carbon regulation and carbon transition represent, to varying degrees, a long-term risk for all companies involved in the production and processing of hydrocarbons. Certain aspects of the midstream energy sector have made it less exposed than some other oil and gas sectors, including long-term contracts that often insulate midstream companies from changes in commodity prices and volume risk. In addition, most midstream companies have considerable investments in infrastructure for natural gas, which has a lower carbon footprint than coal or oil. Nonetheless, carbon transition efforts will have a negative credit impact on the entire industry, which could increase counterparty credit risk for midstream energy companies. In addition, over the very long term, lower oil and gas consumption will decrease the volumes that need to be transported and/or processed, which could exert negative pressure on midstream company credit quality. As for other long-term risks that may not be quantifiable, carbon transition risks are incorporated in our ratings analysis qualitatively, based on our view of trends that extend beyond the horizon for which more precise projections are practicable. As a result, in some circumstances, carbon transition risks may not be fully reflected in scorecard-indicated outcomes.

Social Issues

For issuers in this sector, we also consider social issues that could materially affect the likelihood of default and severity of loss, for example through adverse impacts on business reputation and employee relations.

Corporate Governance

Audit committee financial expertise, the incentives created by executive compensation packages, related-party transactions, interactions with outside auditors, and ownership structure are among the areas we may consider in our assessment of how corporate governance affects the issuer's credit profile.

Parental Support

Ownership can provide ratings lift for a particular company in the midstream energy 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 crude supply 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.

A number of issuers in the midstream energy sector may be government-related issuers that may get uplift in their ratings due to expected government support. However, for certain issuers, government ownership can have a negative impact on the underlying baseline credit assessment. For example, price controls, onerous taxation and high distributions can have a negative effect on an issuer's underlying credit profile.

Other Institutional Support

In some countries, large corporate issuers are likely to receive government or banking support in the event of financial difficulties because of their overall importance to the functioning of the economy. In Japan, Moody's corporate ratings consider the unique system of support that operates there for large and systemically important organizations. Over the years, this has resulted in lower levels of default than might otherwise have occurred. Our approach considers the presence of strong group and banking system relationships that may provide support when companies encounter significant financial stress.

Assigning Issuer-Level and Instrument-Level Ratings

After considering the scorecard-indicated outcome, other rating considerations and relevant cross-sector methodologies, we typically assign a corporate family rating (CFR) to speculative-grade issuers or a senior unsecured rating for investment-grade issuers. For issuers that benefit from rating uplift from parental support, government ownership or other institutional support, we may assign a Baseline Credit Assessment.[21]

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.[22] Additional notching considerations for holding companies owning solely a minority interest in an operating company or companies can be found in Appendix D.

Assumptions

Key rating assumptions that apply in this sector include our view that sovereign credit risk is strongly correlated with that of other domestic issuers, that legal priority of claim affects average recovery on different classes of debt sufficiently to generally warrant differences in ratings for different debt classes of the same issuer, and the assumption that access to liquidity is a strong driver of credit risk.

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.

Limitations

In the preceding sections, we have discussed the scorecard factors, many of the other rating considerations that may be important in assigning ratings, and certain key assumptions. 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 tool focused on indicators for relative credit strength. 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.

[21] 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 an index 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.

[22] A link to an index of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

The weights for each sub-factor and 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 Rating Considerations" section, may be important for ratings, and their relative importance may also vary from issuer to issuer. In addition, certain broad methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector.[23] 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 rating considerations, typically diminishes. In any case, predicting the future is subject to substantial uncertainty.

[23] A link to an index of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

Appendix A: 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 sub-factor or factor,[24] 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 ratios,[25] 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[26] 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 sub-factor, the outcomes for each of the sub-factors are 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.

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

Quantitative factors are scored on a linear continuum. For each metric, the scorecard shows the range by alpha category. We use the scale below and linear interpolation to convert the metric, based on its placement within the scorecard range, to a numeric score, which may be a fraction. As a purely theoretical example, if there were a ratio of revenue to interest for which the Baa range was 50x to 100x, then the numeric score for an issuer with revenue/interest of 99x, relatively strong within this range, would score closer to 7.5, and an issuer with revenue/interest of 51x, relatively weak within this range, would score closer to 10.5. In the text or table footnotes, we define the endpoints of the line (i.e., the value of the metric that constitutes the lowest possible numeric score, and the value that constitutes the highest possible numeric score).

[24] 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.

[25] For definitions of our most common ratio terms, please see *Moody's Basic Definitions for Credit Statistics (User's Guide)*. A link can be found in the "Moody's Related Publications" section.

[26] For an explanation of our standard adjustments, please see the cross-sector methodology that describes our financial statement adjustments in the analysis of non-financial corporations.

Aaa	Aa	A	Baa	Ba	B	Caa	Ca
0.5-1.5	1.5-4.5	4.5-7.5	7.5-10.5	10.5-13.5	13.5-16.5	16.5-19.5	19.5-20.5

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 3

Scorecard-Indicated Outcome

Scorecard-Indicated Outcome	Aggregate Numeric Score
Aaa	$x \leq 1.5$
Aa1	$1.5 < x \leq 2.5$
Aa2	$2.5 < x \leq 3.5$
Aa3	$3.5 < x \leq 4.5$
A1	$4.5 < x \leq 5.5$
A2	$5.5 < x \leq 6.5$
A3	$6.5 < x \leq 7.5$
Baa1	$7.5 < x \leq 8.5$
Baa2	$8.5 < x \leq 9.5$
Baa3	$9.5 < x \leq 10.5$
Ba1	$10.5 < x \leq 11.5$
Ba2	$11.5 < x \leq 12.5$
Ba3	$12.5 < x \leq 13.5$
B1	$13.5 < x \leq 14.5$
B2	$14.5 < x \leq 15.5$
B3	$15.5 < x \leq 16.5$
Caa1	$16.5 < x \leq 17.5$
Caa2	$17.5 < x \leq 18.5$
Caa3	$18.5 < x \leq 19.5$
Ca	$19.5 < x \leq 20.5$
C	$x > 20.5$

For example, an issuer with an overall 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.[27]

[27] A link to an index 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.

Appendix B: Midstream Energy Industry Scorecard

	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
Factor 1: Scale (25%)									
PP&E, Net (USD Million)*[1]	10%	≥ 60,000	40,000 - 60,000	25,000 - 40,000	15,000 - 25,000	5,000 - 15,000	1,000 - 5,000	500 - 1,000	< 500
EBITDA (USD Million)*[2]	15%	≥ 7,500	5,000 - 7,500	3,000 - 5,000	1,000 - 3,000	500 - 1,000	100 - 500	0 - 100	< 0
Factor 2: Business Profile (25%)									
Estimated Price And Volume Risk Exposure	25%	Expected to have zero medium-to-long-term volume risk; no direct commodity price risk; strong commercial outlook or protected market; and high proportion of long-term contracts with highly rated counterparties.	Expected to have modest long-term volume risk but no medium-term risk; no direct commodity price risk; strong commercial outlook or protected market; and high proportion of medium- and long-term contracts with highly rated counterparties.	Expected to have limited medium-term volume risk; no direct commodity price risk; strong commercial outlook or protected market; high proportion of medium-term contracts with highly rated counterparties.	Expected to have modest near-to-medium-term volume risk; limited direct commodity price risk; strong commercial outlook.	Expected to have somewhat elevated volume risk; modest direct commodity price risk.	Expected to have substantial volume risk, substantial direct commodity price risk.	Expected to have very high price and volume risk.	Fully exposed to price and volume risk.
Factor 3: Leverage and Coverage (40%)									
EBITDA / Interest Expense*[3]	10%	≥ 20x	15 - 20x	10 - 15x	5 - 10x	2.5 - 5x	1 – 2.5x	0.5 - 1x	< 0.5x
Debt / EBITDA*[4]	20%	≤ 0.5x	0.5 - 1.5x	1.5 - 3.5x	3.5 - 4.5x	4.5 - 5.5x	5.5 - 6.5x	6.5 - 7.5x	> 7.5
(FFO – Maintenance CAPEX) / Distributions*[5]	10%	≥ 10x	5 - 10x	2 - 5x	1.2 - 2x	1 - 1.2x	0.7 - 1x	0.5 - 0.7x	< 0.5x

	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
Factor 4: Financial Policy (10%)									
Financial Policy	10%	Expected to have extremely conservative financial policies (including risk and liquidity management); very stable metrics; essentially no event risk; and public commitment to very strong credit profile over the long term.	Expected to have very conservative financial policies (including risk and liquidity management); stable metrics; minimal event risk that would cause a rating transition; and public commitment to strong credit profile over the long term.	Expected to have predictable financial policies (including risk and liquidity management) 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 (including risk and liquidity management) 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 (including risk and liquidity management) 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 (including risk and liquidity management) that favor shareholders over creditors; high financial risk resulting from shareholder distributions, acquisitions or other significant capital structure changes.	Expected to have financial policies (including risk and liquidity management) that create elevated risk of debt restructuring in varied economic environments.	Expected to have financial policies (including risk and liquidity management) that create elevated risk of debt restructuring even in healthy economic environments.

*[1] For the linear scoring scale, the Aaa endpoint value is 75,000. A value of 75,000 or better equates to a numeric score of 0.5. The Ca endpoint value is 0. A value of 0 or worse equates to a numeric score of 20.5.

*[2] For the linear scoring scale, the Aaa endpoint value is 10,000. A value of 10,000 or better equates to a numeric score of 0.5. The Ca endpoint value is (50). A value of (50) or worse equates to a numeric score of 20.5.

*[3] For the linear scoring scale, the Aaa endpoint value is 30x. A value of 30x or better equates to a numeric score of 0.5. The Ca endpoint value is 0x. A value of 0x or worse equates to a numeric score of 20.5.

*[4] For the linear scoring scale, the Aaa endpoint value is 0.10x. A value of 0.10x or better equates to a numeric score of 0.5. The Ca endpoint value is 10x. A value of 10x or worse equates to a numeric score of 20.5, as does negative EBITDA.

*[5] For the linear scoring scale, the Aaa endpoint value is 15x. A value of 15x or better equates to a numeric score of 0.5. The Ca endpoint value is 0x. A value of 0x or worse equates to a numeric score of 20.5.

Appendix C: Credit Characteristics of Master Limited Partnerships

Master limited partnerships (MLPs) are the dominant corporate finance model in the US midstream energy sector. Among the principal credit characteristics of an MLP are high distribution payouts, refinancing risk, corporate governance issues and complex legal structures.

MLPs have limited partners and a general partner. The limited partners hold equity units (LP units), which are typically publicly traded. The value of an MLP's equity is primarily based on distribution growth, which places pressure on the MLP to sustain this growth by acquiring assets or by undertaking construction projects, often with debt-financing.

Large midstream energy companies have embraced the MLP structure because it allows them to sell, or "drop down," an asset into a partnership but still keep control of the asset and retain a meaningful share of its cash flow over time. Also, MLPs do not pay income taxes. This tax advantage over corporations means that MLPs often have higher valuations (EBITDA multiples), which reduces the MLP's cost of capital and, in turn, provides a key reason for forming an MLP. These advantages also mean that MLPs often can bid more aggressively for assets than corporations, whose cost of capital could be higher.

An MLP generally does not pay US federal income taxes as long as it generates at least 90% of its earnings from the exploration, development, mining, production, processing, transportation or marketing of minerals and natural resources, including crude oil, natural gas, natural gas liquids (NGLs), petroleum products, coal and other minerals, and timber. Instead, an MLP's limited partners pay taxes on their share of the partnership's distributed income. Much of the cash distributions that limited partners receive is shielded by the MLP's deductions for depreciation and amortization.

Under the terms of its partnership agreement, an MLP is required on a quarterly basis to distribute all "available" cash to unit holders, typically all cash from operations after debt service, maintenance capital spending and any cash held in reserve at the discretion of the general partner. Because MLPs do not retain their earnings and may find it difficult to grow internally, they need regular access to the debt and equity markets to finance their growth plans. If growth slows, the MLP could expand into riskier business lines, such as gathering, processing, marketing or trading, to improve returns.

The MLP structure raises some corporate governance concerns. Similar to stockholders in a corporation, unitholders have limited liability; however, unitholders have very limited voting rights. Control and management authority is vested in the MLP's general partner, which could use its control to extract cash from the MLP to the detriment of creditors.

The general partner may also have incentive distribution rights (IDRs), which entitle it to an increasing share of cash distributions based on earnings targets. Typically, the general partner initially gets 2% of total distributions and limited partners get 98%. Then, as each earnings target is reached, the general partner's share of incremental distributions rises, up to 50%, the highest level. And as an MLP's distributions to the general partner rise, its cost of capital also frequently rises.

The IDR mechanism tends to place increasing cash burdens on MLPs. The more cash they generate, the more they pay out, putting MLPs on a treadmill to grow ever faster in order to keep up with expectations for rising distributions. As the general partner's percentage share of distributions rises, it becomes more difficult for the MLP to deliver equivalent growth to its unitholders, accelerating the pressure for further growth in the asset base. The MLP seeks to deliver this growth to support the price of its units. Growth, in turn, is almost always externally financed through a combination of bank debt, debt raised in the capital markets and through the issuance of new units.

Investment discipline is a positive credit characteristic of MLPs. An MLP's investment decisions are subject to the views of the credit and equity markets on a regular basis, meaning that MLPs are required to demonstrate that growth projects are worthy of attracting investors.

However, establishing an MLP increases the sponsoring parent's structural complexity and typically results in heightened structural subordination because MLPs tend to have high financial leverage. MLPs increase the complexity of analyzing the leverage of the corporate family because MLPs are not wholly owned by the parent. In some case, the parent owns the majority of ownership interests in the partnership, and in other cases it does not, which can affect the accounting treatment of the MLP's debt on the parent's balance sheet. Please see the section on non-wholly owned subsidiaries in "Other Rating Considerations."

Not all midstream energy companies are MLPs. Some are publicly or privately owned corporations, and some are limited liability companies. Some corporations and LLCs have instituted financial policies that are similar to MLPs by adopting a high-growth, high dividend model.

Appendix D: Additional Considerations for Holding Companies Owning Solely a Minority Interest in a Midstream Operating Company or Companies

A holding company that owns solely a minority interest in a midstream energy operating company, or a small number of such companies, can be rated under this methodology provided the holding company has some meaningful influence or control over decisions at the operating company or companies and typically at least a 15% direct or indirect ownership on a sustainable, forward-looking basis.

In these cases, a key component of the analysis is the rating of the operating company or, in the absence of a rating, a stand-alone credit profile of the operating company determined by a rating committee in accordance with this methodology. Additional analytical considerations include how we use the scorecard for the holding company, other holding company rating considerations and notching considerations. [28]

Holding Company Scorecard Considerations

For a holding company owning solely a minority interest in a midstream operating company or companies (minority holdco), we use characteristics of both the operating company (opco) and the minority holdco to assess the credit profile under the scorecard.

Scale and Business Profile

Scale metrics and business profile are assessed at the opco level.

Where there are minority stakes in multiple opcos,[29] we typically use a composite score based on the average of the scale or business profile scores, weighted by the value of the each ownership stake.[30]

Leverage and Coverage

In analyzing the leverage and coverage metrics of minority holdco, we typically consider the cash flow generating ability of the opco, the minority holdco's proportionate share in the dividends or distributions paid by the opco, and the overall debt burden, including the additional leverage and debt service at the minority holdco level (including any intermediate holdcos). Another important consideration is the trajectory of dividends and distributions, including any potential that they could be restricted.

EBITDA / INTEREST EXPENSE

For EBITDA, we measure or estimate the distributions received by the minority holdco, which include any common and preferred dividends, limited and general partner distributions and interest on shareholder loans. For interest expense, we measure or estimate the sum of the minority holdco's proportionate share of the opco's interest expense and the interest expense at the minority holdco level.

28 Please see the "Notching Considerations for a Minority Holding Company" section below.

29 Typically we would rate under this methodology holdcos with minority stakes in no more than three opcos. Please see the "Scope of This Methodology" section.

30 In estimating value for the weighted averages used in Appendix D, we typically use the market value of the opco on a trading exchange where available and otherwise may use multiples of EBITDA or cash flow, transaction data from sales/acquisitions of comparable midstream energy companies, or other estimation techniques. Where we are taking a weighted average of a score, the resultant numeric weighted average is rounded to the nearest integer.

DEBT / EBITDA

For debt, we use the sum of the minority holdco's proportionate share of the opco's debt and the debt at the minority holdco level (including any intermediate holdco debt). For EBITDA, we measure or estimate the distributions received by the minority holdco, which include any common and preferred dividends, limited and general partner distributions and interest on shareholder loans.

(FFO – MAINTENANCE CAPITAL EXPENDITURES) / DISTRIBUTIONS

This metric is assessed at the opco level.

To analyze leverage and coverage where there are minority stakes in multiple opcos, we typically score a composite metric calculated as the ratio of the sum of the numerators over the sum of the denominators. For example, if holdco A owns shares in opco B and opco C, the Debt / EBITDA ratio is calculated as:

1. holdco A's proportionate share of opco B debt plus holdco A's proportionate share of opco C debt plus holdco A's debt; divided by

2. holdco A's dividends received from opco B plus its dividends received from opco C

Financial Policy

We assess financial policy for the minority holdco based on our view of risks related to financial policies at both the minority holdco and opco. The financial policy score is capped at the score of the opco, or where there are multiple opcos, it is capped at a composite score, typically the average financial policy score of the opcos, weighted by the value of each ownership stake.

Other Rating Considerations for a Minority Holding Company

For a minority holdco, in addition to the other rating considerations that apply to the opco, we consider additional risks and mitigants at the minority holdco, including its management strategy, governance, financial controls, liquidity, event risk, and parental and institutional support. Typical considerations for assessing liquidity at the minority holdco include the amount and timing of cash receipts and outflows, minority holdco liquidity reserves, and the potential for interruptions in the receipt of distributions from the opco.

Notching Considerations for a Minority Holding Company

After considering the rating or stand-alone credit profile of the opco, the outcome of the minority holdco scorecard and other minority holding company rating considerations, we consider the structural subordination of lending at a minority holding company.

Broad guidance for notching considerations resulting from structural subordination at a holding company can be found in the cross-sector methodology for notching corporate instrument ratings based on differences in security and priority of claim.[31] We apply this methodology and then consider applying additional downward notching, as described below.

Where the holding company holds only a minority interest in the operating company, there are additional risks, because a minority holdco generally does not fully control the opco or have access to

[31] A link to an index of our sector and cross-sector rating methodologies can be found in the "Moody's Related Publications" section.

the opco's liquidity reserves, and credit availability is typically more restricted and more cyclical for a leveraged minority holdco than for an opco or a holdco with full ownership and control.

For a minority holdco rated under this methodology, we typically make additional downward incremental notching based on i) the degree of influence or control the minority holdco has over financial and operational decisions at the opco level and ii) the level of ownership.

To be rated under this methodology the minority holding company typically has some representation on the opco board of directors and effective veto power over changes to the opco's distribution policy that would lower the distributions the minority holding company receives. We call this moderate control. We typically consider a minority holdco to have substantial control when it has meaningful board representation or ownership rights that effectively provide it with co-control over important operational and financial decisions at the opco, including veto power over distributions, the ability of the opco to take on more debt and other material financial policies and corporate actions.

When the minority holdco owns a minority interest that is more than 30% of the midstream opco and we consider it has substantial control, we typically apply one additional downward notch from the standard downward notching for structural subordination. We typically apply a second downward notch if it has only moderate control with more than 30% ownership or substantial control with less than 30% ownership. When the holdco has moderate control and less than 30% ownership, we typically apply three notches of additional downward notching. Where there are minority stakes in multiple opcos, we typically use an average ownership level, weighted by the value of the each ownership stake.

EXHIBIT 4

Summarized Guidance on Downward Notching From Adjusted Credit Profile of Opco After Consideration of Structural Subordination

		Ownership level	
		30 to 50%	15 to 30%
Degree of influence or control	Substantial	1 notch	2 notches
	Moderate	2 notches	3 notches

As an illustrative example, holdco A has a single minority stake: 35% ownership and moderate control in opco B, which has a rating of Baa3. After taking into account the minority holding company scorecard adjustments and other rating considerations described above, we may consider that the adjusted credit profile of opco B is Ba1. Using the guidance from the cross-sector methodology for notching corporate instrument ratings based on differences in security and priority of claim, we may apply one downward notch for structural subordination at the holdco level. We would then typically apply an additional two downward notches based on minority ownership (more than 30%) and the moderate control over decisions made at the opco level, which could lead to an indicated credit profile of B1 for holdco A.

Moody's Related Publications

Credit ratings are primarily determined by 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. An index 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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