

RATING METHODOLOGY

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Unregulated Utilities and Unregulated Power Companies

This rating methodology replaces "Unregulated Utilities and Unregulated Power Companies" last revised on October 31, 2014. We have updated some outdated links and removed certain issue-specific information.

Summary

This rating methodology explains our approach to assessing credit risk for unregulated utilities and unregulated power companies globally. This document provides general guidance that helps companies, investors, and other interested market participants understand how qualitative and quantitative risk characteristics are likely to affect rating outcomes for companies in these sectors. This document does not include an exhaustive treatment of all factors that are reflected in our ratings but should enable the reader to understand the qualitative considerations and financial information and ratios that are usually most important for ratings in this sector.¹

This report includes a detailed rating grid which is a reference tool that can be used to approximate credit profiles within the unregulated utilities and unregulated power sector in most cases. The grid provides summarized guidance for the factors that are generally most important in assigning ratings to companies in these industries. However, the grid does not include every rating consideration. The weights shown for each factor in the grid represent an approximation of their importance for rating decisions but actual importance may vary substantially. In addition, the grid in this document uses historical results while ratings are based on our forward-looking expectations. As a result, the grid-indicated rating is not expected to match the actual rating of each company.

¹ This update may not be effective in some jurisdictions until certain requirements are met.

The grid contains four factors that are important in our assessments for ratings in the unregulated utilities and unregulated power companies sector:

1. Scale
2. Business Profile
3. Financial Policy
4. Leverage and Coverage

Some of these factors also encompass a number of sub-factors.

This rating methodology is not intended to be an exhaustive discussion of all factors that our analysts consider in assigning ratings in this sector. We note that our analysis for ratings in these sectors covers factors that are common across all industries such as ownership, management, liquidity, corporate legal structure, governance and country related risks which are not explained in detail in this document, as well as other factors that can be meaningful on a company-specific basis. Our ratings consider these and other qualitative considerations that do not lend themselves to a transparent presentation in a grid format. The grid used for this methodology reflects a decision to favor a relatively simple and transparent presentation rather than a more complex grid that might map grid-indicated ratings more closely to actual ratings.

Highlights of this report include:

- » An overview of the rated universe
- » A summary of the rating methodology
- » A description of factors that drive rating quality
- » Comments on the rating methodology assumptions and limitations, including a discussion of rating considerations that are not included in the grid

The Appendices show the full grid (Appendix A), and some key issues for the sector over the intermediate term (Appendix B).

This methodology describes the analytical framework used in determining credit ratings. In some instances our analysis is also guided by additional publications which describe our approach for analytical considerations that are not specific to any single sector. Examples of such considerations include but are not limited to: the assignment of short-term ratings, the relative ranking of different classes of debt and hybrid securities, how sovereign credit quality affects non-sovereign issuers, and the assessment of credit support from other entities.²

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

² A link to sector and cross-sector credit rating methodologies can be found in the Related Research section of this report.

About the Rated Universe

This methodology is applicable to unregulated utilities and unregulated power companies. The principal business of unregulated utilities is the production and/or procurement and supply to end-users of electricity, gas and other energy-related utility³ services/products (including district heating and ancillary services) in unregulated or lightly regulated markets. The principal business of unregulated power companies is the production and/or procurement and sale of electricity and, to a lesser extent, natural gas, in unregulated markets. For both subsectors, the selling price of the commodity is determined by market forces or is a negotiated contractual price agreed between the buyer and seller, as opposed to a price determined (or heavily influenced) by a regulator.

An additional distinction between unregulated utilities and unregulated power companies lies in activities outside their principal business of selling electricity or gas on an unregulated or lightly regulated basis. Specifically, unregulated utilities own and operate other material assets along the electricity and gas value chains that may have lower business risk profiles relative to their core activity and may also diversify their consolidated cash flow. These may include some combination of (i) electricity and gas network/utility activities (distribution and transmission), which continue to be regulated as monopoly businesses; (ii) other quasi-regulated activities, such as district heating; (iii) upstream oil and gas assets; and (iv) midstream assets including gas storage or LNG terminals.

Other characteristics common to unregulated utilities and unregulated power companies follow:

- » They earn the majority of earnings and cash flow from unregulated rather than regulated activities and are differentiated in this respect from both Regulated Electric and Gas Utilities and Regulated Electric and Gas Networks,⁴ while their profit motive differentiates them from U.S. Public Power Electric Utilities with Generation Exposure (there are separate rating methodologies for each of these sectors).
- » They typically have no credit enhancing structure, such as debt service reserve requirements or trustee administered waterfall of accounts, nor are there inherent curbs on their ability to grow which differentiates them from Power Generation Projects covered under a separate methodology.⁵
- » They operate in countries or sub-sovereign jurisdictions that have undergone or are undergoing a process of liberalization and deregulation of the upstream generation and wholesale markets and the downstream supply market.
- » They operate in markets where both wholesale and retail prices are, or will be, primarily set by market mechanisms, although in some countries there may be a provision for 'tariffs/providers of last resort' to ease consumers' transition to full de-regulation.
- » While the prices they charge are not regulated, many of the companies' activities typically are subject to other types of regulation. Oversight to prevent market manipulation through collusion or withholding power from the markets is typically achieved through a combination of the relevant legal framework, such as anti-trust and anti-conspiracy laws, or an energy market framework and consumer protection regulations.

³ In some countries, the word utility is synonymous with the entity that supplies electricity and gas to end-use customers, even though the market has been liberalized and the price of these products/services is unregulated. In other countries, the word utility connotes an entity that provides products and services on a price-regulated basis, and entities that provide energy products/services to end-use customers on an unregulated basis are typically called retail energy suppliers.

⁴ A link to these and other sector and cross-sector credit rating methodologies can be found in the Related Research section of this report.

⁵ A link to this and other sector and cross-sector credit rating methodologies can be found in the Related Research section of this report.

About This Rating Methodology

This report explains the rating methodology for unregulated utilities and unregulated power companies in six sections, which are summarized as follows:

1. Identification and Discussion of the Grid Factors

The business models of unregulated utilities and unregulated power companies have many similarities, and these are reflected in the close alignment of the grid factors for the two types of companies. At the same time, certain specific industry characteristics and nuances are reflected in modest differences in definitions and weightings for certain sub-factors. For example, the impact on unregulated utilities' business risk profile from ownership of assets apart from power generation and supply is captured by an additional sub-factor, 'Business mix impact on cash flow predictability', not applicable to unregulated power companies. Moreover, a greater weight is given to the 'Hedging and integration impact on cash-flow predictability' and 'Market framework and positioning' sub-factors for unregulated power companies because hedging and competitive positioning play a relatively more important role in their more narrowly-based business model than they do for unregulated utilities, whose greater breadth of business generally also contributes to more cash flow predictability.

The grids in this rating methodology focus on four broad rating factors. The four factors are comprised of sub-factors that provide further detail.

EXHIBIT 1

Unregulated Utilities and Unregulated Power Companies

Broad Rating Factor	Rating Sub-Factor	Unregulated Utility Sub-Factor Weighting	Unregulated Power Company Sub-Factor Weighting
1. Scale	Scale	10%	10%
2. Business Profile	Market diversification	10%	5%
	Hedging and integration impact on cash flow predictability	5%	10%
	Market framework and positioning	10%	15%
	Capital requirements and operational performance	5%	5%
	Business mix impact on cash flow predictability	10%	-
3. Financial Policy	Financial policy	10%	15%
4. Leverage and Coverage	(CFO Pre-W/C + Interest) / Interest Expense	10%	10%
	(CFO Pre-W/C) / Debt	15%	20%
	RCF / Debt	15%	10%
Total		100%	100%

2. Measurement or Estimation of Factors in the Grid

We explain our general approach for scoring each grid factor and show the weights used in the grids. We also provide a rationale for why each of these grid components is meaningful as a credit indicator. The information used in assessing the sub-factors is generally found in or calculated from information in company financial statements, derived from other observations or estimated by our analysts.

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 in a company's performance as well as for peer comparisons. In this case, we utilize historical data (in most cases, the most recent three years of reported results). All of the quantitative credit metrics incorporate Moody's standard adjustments to the income statement, cash flow statement and balance sheet amounts for restructuring, impairment, off-balance sheet accounts, receivable securitization programs, under-funded pension obligations, and recurring operating leases.⁶ However, the factors in the grid can be assessed using various time periods. Rating committees often find it analytically useful to examine both historical and expected future performance for periods of several years or more.

3. Mapping Grid Factors to the Rating Categories

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).

4. Assumptions, Limitations and Rating Considerations Not Included in the Grid

This section discusses limitations in the use of the grid to map against actual ratings, some of the additional factors that are not included in the grid but can be important in determining ratings, and limitations and assumptions that pertain to the overall rating methodology.

5. Determining the Overall Grid-Indicated Rating⁷

To determine the overall grid-indicated rating, we convert each of the sub-factor scores into a numeric value based upon the scale below.

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

⁶ For a description of Moody's standard adjustments, please see Moody's Approach to Global Standard Adjustments in the Analysis of Financial Statements for Non-Financial Corporations. A link to this and other sector and cross-sector credit rating methodologies can be found in the Related Research section of this report.

⁷ In general, the grid-indicated rating is oriented to the Corporate Family Rating (CFR) for speculative-grade issuers and the senior unsecured rating for investment-grade issuers. For issuers that benefit from ratings uplift due to parental support, government ownership or other institutional support, the grid-indicated rating is oriented to the baseline credit assessment. For an explanation of baseline credit assessment, please refer to our rating methodology on government-related issuers. Individual debt instrument ratings also factor in decisions on notching for seniority level and collateral. The documents that provide broad guidance for these notching decisions are our rating methodologies on loss given default for speculative grade non-financial companies and for aligning corporate instrument ratings based on differences in security and priority of claim. The link to these and other sector and cross-sector credit rating methodologies can be found in the Related Research section of this report.

The numerical score for each sub-factor is multiplied by the weight for that sub-factor with the results then summed to produce a composite weighted-factor score. The composite weighted factor score is then mapped back to an alphanumeric rating based on the ranges in the table below.

Grid-Indicated Rating

Grid-Indicated Rating	Aggregate Weighted Total Factor 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	$x \geq 19.5$

For example, an issuer with a composite weighted factor score of 11.7 would have a Ba2 grid-indicated rating.

6. Appendices

The Appendices exhibit the full grid and provide additional commentary and insights on our view of credit risks in this industry.

Discussion of the Grid Factors

The grid for unregulated utilities and unregulated power companies focuses on four broad factors:

- » Scale
- » Business Profile
- » Financial Policy
- » Leverage and Coverage

Factor 1: Scale

Why it Matters

Scale is important because it typically provides flexibility for a company to mitigate the risks associated with liberalized power and gas markets, including competition in generation and supply and the management of commodity price volatility.

Larger companies benefit from greater diversification, financial resources and liquidity relative to smaller firms, which can provide increased resiliency to external shocks, weather variability and economic downturns. Larger firms may also have increased bargaining strength with customers and suppliers, a competitive advantage.

How We Assess it For the Grid

Scale is assessed using total assets measured in USD. We also consider the size of the overall market in which the company operates. Certain companies – while smaller in scale – have focused on maintaining or building entrenched national or regional positions where they can capitalize on certain strengths such as a high market share in supply.

Sub-Factor/ (Weighting)	Aaa	Aa	A	Baa	Ba	B	Caa
Scale (USD Billion) (10%)	Total assets ≥ \$100	Total assets \$50-100	Total assets \$25-50 OR Total assets > \$10 and entrenched position in substantial national/regional market	Total assets \$10-25 OR Total assets \$5-10 and entrenched position in substantial national/regional market	Total assets \$5-10 OR Total assets \$2.5-5 and entrenched position in substantial national/regional market	Total assets \$2.5-5 OR Total assets \$1-2.5 and entrenched position in local market	Total assets < \$2.5

Factor 2: Business Profile

Why it Matters

The Business Profile factor considers an entity's ability to generate recurring cash flows to support capital intensive assets and sustain its business model and financial viability. Given the inherent volatility of energy commodity prices, an evaluation of a company's business risk profile is central to our assessment of the sustainability of an issuer's cash flows and its ability to meet its obligations over time. This includes consideration of market diversification, asset quality, competitive positioning, hedging, integration of generation and supply outlets, and business mix.

How We Assess it For the Grid

In considering the business profile of unregulated utilities and unregulated power companies, we focus on several sub-factors, including the diversification of operations, cash flow predictability, market structure and competitive position and the capital requirements of the business. For unregulated utilities, we also take into account the contribution from and risk profile of businesses beyond their core activity of the generation/procurement and supply of utility services.

Market Diversification

This grid sub-factor considers the number of uncorrelated regions, countries, or continents in which a company operates as well as the materiality of its operations. Generally speaking, the greater the degree of geographic diversification, the higher the scoring for this sub-factor assuming the geographic diversification is across stable economic regions. Issuers that operate in one concentrated geographic region are likely to be scored quite low in this sub-factor, especially if the region's market is undeveloped.

For unregulated power companies, scoring is based on the geographic diversification in the core operations. For unregulated utilities, in addition to the core operations, scoring may take into consideration the diversification of businesses outside an issuer's principal activities.

Sub-Factor/ (Weighting)	Aaa	Aa	A	Baa	Ba	B	Caa
Market Diversification ⁸	Expected to maintain material operations in 5 or more separate well developed geographic or market regions	Expected to maintain material operations in 3 or more separate well developed geographic or market regions with no one market accounting for 50% or more of EBITDA	Expected to maintain material operations in 3 or more separate well developed geographic or market regions but > 50% of EBITDA comes from a single market	Expected to maintain material operations in more than one geographic or market regions with no one market accounting for >75% of EBITDA	Expected to operate predominantly in a single well developed geographic region	Expected to operate in multiple geographic regions but power markets are undeveloped or emerging	Expected to operate in a single undeveloped or emerging power market

Hedging and Integration Impact on Cash Flow Predictability

We evaluate the relative predictability of a company's year-over-year cash flow by considering the effectiveness of its hedging strategy with respect to conventional generation, the contribution from other contractual or market arrangements (such as PPAs or capacity payments) and the extent to which a high quality customer supply base can help dampen overall cash flow volatility. A company's ability to achieve a high degree of earnings visibility with respect to its conventional power output over an extended period of time is a function of the tenor and form of contracts or hedging arrangements in place as well as the

⁸ Sub-factor weighting for Unregulated Utilities is 10% and for Unregulated Power Companies 5%

company's policy regarding how hedged its cash flows will remain in future years. The contractual arrangements for most power and utility companies tend to range from one to five years, although some can be significantly longer, with the amount of currently contracted or hedged output tending to decline on a total percentage basis in each future year. We also assess an issuer's hedging policy and practices. Some issuers' level of hedging is very consistent over time, others are more opportunistic leading to greater fluctuations, and some choose to ride the markets with relatively open positions. In addition, we consider the extent to which other contractual or market arrangements can enhance the predictability of earnings. These could include power purchase agreements (PPAs) with dependable counterparties, capacity payments under a stable market framework or output from renewable energy sources (RES) operating under an established and stable incentive framework.

We recognize that aside from customized bilateral contractual arrangements, it is generally difficult and expensive to hedge effectively beyond five years and that market liquidity is often limited to three years. We also recognize that the potential and motivation to hedge varies from market to market depending on local conditions. Issuers whose contracts or hedges provide sound visibility on a majority of expected future cash flows over the next three year period are often scored Baa or higher. Issuers that choose not to hedge or hedge over very short tenors tend to score lower in this sub-factor as their cash flows tend to be volatile.

The scoring of this sub-factor also takes into account how a sizeable downstream customer base (most typically retail customers) can help dampen overall cash flow volatility. For a given sub-factor score, companies with a substantial, high quality customer base can have a shorter tenor for contracts or hedges than companies with a less meaningful or resilient customer base. A high quality customer base would typically be characterized by sizeable market share, wide diversification by customer type and low churn, with usage patterns that are generally predictable and either stable or growing.

In addition: (1) where an unregulated utility has a large gas supply business, we take into account its procurement strategy, including consideration of the benefits/costs of any upstream gas position or portfolio of long term supply contracts; and (2) where a utility's principal business is its downstream customer base, with little or no generation capacity of its own, in scoring this sub-factor we consider the extent to which power price arrangements and hedges mitigate price and volume risk, acknowledging that the degree of hedging depends on the terms of the agreement.

Sub-Factor	Aaa	Aa	A	Baa	Ba	B	Caa
Hedging and Integration Impact on Cash Flow Predictability ⁹	Forward hedges or other contractual/ market arrangements provide a high degree of visibility on substantially all expected cash flow for the next 10 years OR Large, high quality downstream customer base in non-competitive market eliminates exposure to commodity risk over the long-term	Forward hedges or other contractual/ market arrangements provide good visibility on 75% or more of expected cash flow for the next 7 years OR good visibility on > 50% expected cash flow for the next 5 years, if underpinned by sizeable high quality customer base	Forward hedges or other contractual/ market arrangements provide good visibility on 50% or more of expected cash flow for the next 5 years OR good visibility on > 50% expected cash flow for the next 3 years, if underpinned by sizeable high quality customer base	Forward hedges or other contractual/ market arrangements provide good visibility on 50% or more of expected cash flow for the next 3 years OR good visibility on > 30% expected cash flow for the next 2 years, if underpinned by sizeable high quality customer base	Forward hedges or other contractual/ market arrangements provide good visibility on 30% or more of expected cash flow for at least the next 2 years OR good visibility on > 30% expected cash flow for at least the next year, if underpinned by sizeable high quality customer base	Minimal reliable cash flow visibility OR Limited ability to hedge OR Portfolio of contracts/hedges very short term OR Substantial short generation position versus customer base	No reliable cash flow visibility OR Hedging strategy is ineffective OR Most assets in underdeveloped markets characterised by little transparency, poor liquidity and limited potential to hedge

⁹ Sub-factor weighting for Unregulated Utilities is 5% and for Unregulated Power Companies 10%

Market Framework and Positioning - Unregulated Utilities

This rating sub-factor assesses the predictability and supportiveness of an unregulated utility's principal generation market, and its own positioning within that market. Our evaluation of the generation market will take account of how developed and settled the energy market framework is, the width of the reserve margin, and the market's susceptibility to political interference and intervention. Evidence of the credit supportiveness of a wholesale market framework may, for example, be adduced by the development of capacity markets whereby power producers are compensated for putting secured power plant capacity at the market's disposal in addition to receiving income from the sale of electricity. Our scoring also considers these elements for any substantial position an unregulated utility might have established beyond its principal market.

We assess how closely aligned a generator's fleet is expected to be to its principal market by comparing its power output by fuel/technology with the output of the market overall. Those generators whose fuel mix matches the merit order will typically benefit from higher load factors and a lower risk of mismatch between their cost drivers and the drivers of market prices. By contrast, a power generator whose generation fuel mix is significantly unbalanced in relation to the merit order will be at risk of under capacity utilization and/or more exposed to market price movements. Our assessment is prospective, and takes account of how we expect the fleet and market will evolve, including the effect of changes in environmental policies, energy efficiency legislation and other government policies. Perfect alignment is consistent with a score of Aaa. A generator is defined as being very well aligned with the market average where there is no material variance by fuel technology or plant efficiency – and is scored at A or Aa, and it would earn the higher score only when the market framework is both settled and supportive and when the portfolio is diversified. Most generators, however, have a material exposure by comparison with the market to at least one section of the merit order, and these are typically scored Baa (when that exposure is sufficiently limited and they remain well aligned with the market overall) or lower. We also take into account a generator's concentration in a single generation technology, defined as more than 50% of output.

Sub-Factor/ (Weighting)	Aaa	Aa	A	Baa	Ba	B	Caa
Market Framework & Positioning (10%)	<p>Company operates in generation markets with clear, transparent and settled market frameworks,</p> <p>AND</p> <p>Generation mix is perfectly aligned with market and is expected to mirror future changes, and diversified portfolio (no fuel/technology > 50% output)</p>	<p>Company operates in generation markets with settled and supportive market frameworks,</p> <p>AND</p> <p>Generation mix is expected to remain very well aligned with market average and diversified portfolio (no fuel/technology > 50% output)</p>	<p>Company operates in generation markets with frameworks that are supportive but may be evolving,</p> <p>AND</p> <p>Generation mix is expected to remain very well aligned with market average and some fuel/technology concentration (single technology > 50% output) may be present</p>	<p>Company operates within generation markets whose frameworks may be undergoing some change,</p> <p>Generation mix is expected to remain well aligned with market average and diversified portfolio (no fuel/technology > 50% output)</p>	<p>Company operates within generation markets whose frameworks are undergoing change,</p> <p>Generation mix is expected to remain well aligned with market average and some fuel/technology concentration (single technology > 50% output)</p> <p>OR</p> <p>Generation mix is not well aligned with market average, and is expected to remain so for the foreseeable future and diversified portfolio (no fuel/technology > 50% output)</p>	<p>Company operates the majority of its fleet in a relatively new and untested markets with high risk of adverse political interference,</p> <p>OR</p> <p>Generation mix is expected to remain mis-aligned with market average for the foreseeable future and Fuel/technology concentration (single technology > 50% output)</p>	<p>Company operates within undeveloped market frameworks, which are unfavourable to generators,</p> <p>OR</p> <p>Generation mix is expected to remain mis-aligned with market average for the foreseeable future and single generation technology</p>

Market Framework and Positioning - Unregulated Power Companies

This rating sub-factor considers the transparency and effectiveness of the wholesale power market(s) in which a company operates as well as the competitive profile and positioning of company-specific assets within the region. Aspects to consider in determining the effectiveness of a market framework include liquidity, pricing transparency, prevailing reserve margins and market demand, prospects for new generation, the length of time that the framework has been in place, the degree to which it has been tested (including in the courts) and expectations for material modifications.

Factors to consider in determining competitiveness include fleet diversification, capacity factors, cost structure, heat rates and fuel mix.

In order to score Baa or better, a company must operate predominantly in well-designed competitive market(s) and the competitive profile of its assets must be at least above average. Competitive assets that reside in a relatively new and untested wholesale power market are likely to score no better than B. Meaningful fuel concentration is also likely to impact scoring negatively.

Sub-Factor/ (Weighting)	Aaa	Aa	A	Baa	Ba	B	Caa
Market Framework & Positioning (15%)	Assets operate as a monopoly with unquestioned statutory government protection of competitive position AND Absence of fuel concentration risk	All assets operate in well designed, stable markets and company enjoys a dominant market position that provides it with a degree of pricing power AND Location, quality and cost competitiveness of assets are among the top decile and provide commanding market position with limited threat AND Absence of meaningful fuel concentration risk (e.g. no more than 50% of generation from single fuel type)	All assets operate in liquid, well designed competitive markets with supportive frameworks AND Location, quality and cost competitiveness of assets are within the top quartile and provide a clear competitive advantage or provide for contractual pass-through of costs AND Absence of meaningful fuel concentration risk (e.g. no more than 50% of generation from single fuel type)	Majority of assets operate in a liquid, well-designed competitive markets but whose frameworks may be undergoing some change AND Location, quality and cost competitiveness of assets are above average and provide some advantage or a solid market position AND Absence of meaningful fuel concentration risk (e.g. no more than 50% of generation from single fuel type)	Some assets operate in competitive markets that exhibit design weaknesses or are undergoing more substantial change OR Asset quality, cost profile and market position is average. Assets may have some exposure to environmental issues OR Presence of fuel concentration risk (e.g. more than 50% of generation from single fuel type)	Majority of assets operate in competitive markets that are oversupplied, poorly designed or new and untested or have a high risk of adverse political interference OR Asset quality, cost profile and market position are below average and assets may have significant exposure to environmental issues OR Presence of meaningful fuel concentration risk (e.g. 90% or more of generation from single fuel type)	Assets operate in markets that are persistently oversupplied, undeveloped or exhibit characteristics that are unfavorable to generators OR Assets are of questionable quality or at significant risk of shut-down due to economic and/or environmental considerations

Capital Requirements and Operational Performance

This sub-factor considers the general operational and financial risks associated with an extensive capital expenditure program and/or very complex investment projects. Companies facing a very large investment program compared to their existing asset base and/or projects of high technical complexity generally would score at the lower end of the spectrum. By contrast, companies with a relatively low capital investment requirement compared to their existing asset base would be considered less risky and typically achieve a higher score for this sub-factor.

To avoid beneficial treatment of companies which postpone maintenance investments and therefore achieve a low ratio of capital expenditures to net PP&E, we also consider the general age of a utility's asset base and its replacement requirements. Consequently, groups with significant replacement requirements might score lower on this sub-factor than the size of their planned capital expenditures might appear to warrant. For each scoring category there is an approximate guidepost of expenditures in comparison to net property, plant and equipment that would typically be found in that category, but the scoring takes all of the above-described aspects of future capital spending requirements into consideration.

While this sub-factor is primarily an assessment designed to capture the risk associated with large capital expenditure programs, the scoring also considers the impact of operational performance of the fleet on the issuer's prospective business risk.

Sub-Factor / (Weighting)	Aaa	Aa	A	Baa	Ba	B	Caa
Capital Requirements and Operational Performance (5%)	Extremely modest levels of capex needed for maintenance, environmental related expenditures or expansion of asset base, reflecting a modern, highly developed asset base (e.g. total annual future capex typically 3% or less of net PP&E).	Minimal levels of capex needed for maintenance, environmental related expenditures or expansion of asset base, reflecting a modern, well developed asset base (e.g. total annual future capex typically 5% or less of net PP&E).	Modest levels of capex needed for maintenance, environmental related expenditures or expansion of asset base, reflecting a modern, well developed asset base (e.g. total annual future capex typically 8% or less of net PP&E). Expenditures generally straightforward consisting of replacement plus a number of development projects with limited execution risk.	Manageable levels of capex needed for maintenance, environmental related expenditures or expansion of asset base (e.g. total annual future capex is typically 12% or less of net PP&E). Operational performance of the fleet is typically average relative to competitors.	Large capex program needed for maintenance, environmental related expenditures or expansion of asset base (e.g. total annual future capex is typically 15% or less of net PP&E). OR Capex program is challenging in scope and complexity and carries a degree of execution risk. OR Operational performance is somewhat below average relative to competitors.	Significant capex program needed for maintenance, environmental related expenditures or expansion of asset base (e.g. total annual future capex is typically 20% or less of net PP&E). OR Capex program is challenging in scope and complexity and carries a high degree of execution risk. OR Operational performance is decidedly below average relative to competitors.	Significant capex program needed for maintenance, environmental related expenditures or expansion of asset base (e.g. total annual future capex is typically 20% or more of net PP&E). OR Capex program is challenging in scope and complexity and carries a very high degree of execution risk. OR Severe operational challenges.

Business Mix Impact on Cash Flow Predictability - Unregulated Utilities Only

Many of the unregulated utilities in Moody's rated universe have developed from a base which included ownership of the local monopoly transmission and distribution systems. Our methodology therefore factors in that unregulated utilities with an integrated model may derive a meaningful portion of their cash flows from regulated and quasi regulated activities. These businesses can exhibit a materially lower business risk profile compared with the predominant unregulated activities and thus enhance the resilience of a utility's earnings and cash flows in the face of economic and commodity cycle downturns. Conversely, a significant contribution to earnings and cash flows from high risk operations, due to the nature of the activities (e.g. speculative energy trading) or their location (e.g. developing and unstable markets) is a credit negative.

This methodology sub-factor is designed to adjust for the influence that contributions from lower- or higher-risk businesses may have on the overall stability of a utility's earnings and cash flows. The percentages are approximate guideposts, and our scoring also reflects the relative stability or volatility of these non-core businesses. The strongest score is attributed to utilities with very high EBITDA contribution from low-risk businesses (in most cases, regulated monopolies) and generated in developed countries/markets/regulatory frameworks, typically over 35% on a sustainable basis¹⁰. The lowest possible score is attributed to an operator with over 35% of EBITDA originating from high risk businesses, countries and/or markets. Where an operator generates some contribution from both regulated activities in

¹⁰ Generally, the upper end of contribution from businesses outside the core unregulated utility business is about 49% for issuers rated under this methodology.

developed countries and higher risk operations, the factor assigned will reflect a "blend" of those different businesses.

Sub-Factor/ (Weighting)	Aaa	Aa	A	Baa	Ba	B	Caa
Business Mix Impact on Cash Flow Predictability (10%)	Very high, fully accessible contribution from low-risk businesses (typically, higher than 35% of EBITDA)	High, fully accessible contribution from low-risk businesses (typically 20-35% of EBITDA)	Sizeable, fully accessible contribution from low-risk businesses (typically 10-20% of EBITDA)	Contribution from low/higher-risk businesses limited as to scale or accessibility	Sizeable contribution from higher risk businesses / markets (typically 10-20% of EBITDA)	High contribution from higher risk businesses / markets (typically 20-35% of EBITDA)	Very high contribution from high risk businesses/ markets (typically, higher than 35% of EBITDA)

Factor 3: Financial Policy

Why It Matters

Management and board tolerance for financial risk is an important rating factor as it directly affects debt levels, credit quality and risk in the capital structure (e.g. refinancing risk, counterparty risk or exposure to interest rates or foreign exchange movements).

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 for 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, cash distribution to shareholders, spin-off or other type of 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 its credit metrics to pre-transaction levels and has consistently demonstrated the commitment to do so through prior actions.

Unregulated utilities and power companies have historically used acquisitions to consolidate market positions and advance cost synergies. The impact of an acquisition on a rating will invariably depend on the company's existing capital structure and the degree to which it is changed by the acquisition. A number of power companies have been implementing more aggressive shareholder return initiatives, including higher share repurchase activity, as top line growth has become more challenging.

How We Assess Financial Policy For The Grid

Moody's assesses the issuer's desired capital structure or targeted credit profile, history of prior actions and adherence to its commitments. Attention is paid to the issuer's operating performance over time and management's use of cash flow through different phases of economic and commodity 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.

Sub-Factor	Aaa	Aa	A	Baa	Ba	B	Caa
Financial Policy ¹¹	Long track record and expected maintenance of extremely conservative financial policy; very stable metrics; low debt levels for the industry;	Long track record and expected maintenance of a conservative financial policy; stable metrics; lower than average debt levels for the industry;	Extended track record and expected maintenance of a conservative financial policy; moderate debt leverage and a balance between shareholders and creditors;	Track record and expected maintenance of a conservative financial policy; an average level of debt for the industry and a balance between shareholders and creditors;	Track record or expectation of maintenance of a financial policy that is likely to favor shareholders over creditors; higher than average but not excessive, level of leverage;	Track record of aggressive financial policies or expected to have a financial policy that favours shareholders through high levels of leverage with only a modest cushion for creditors;	Expected to have a financial policy unfavorable to creditors with a track record of or expected policy of maintaining excessively high debt leverage;
	AND	AND					OR
	Public commitment to the highest credit quality over the long-term	Public commitment to a very high credit quality over the long-term	Not likely to increase shareholder distributions and/or make acquisitions which could lead to a weaker credit profile	Some risk that shareholder distributions and/or acquisitions could lead to a weaker credit profile;	Owners are likely to focus on extracting distributions and/or acquisitions but not at the expense of financial stability	OR	Elevated risk of debt restructuring
			Solid commitment to high credit quality	Solid commitment to targeted metrics		High financial risk resulting from shareholder distributions or acquisitions	

Factor 4: Leverage and Coverage

Why it Matters

Leverage and coverage measures are indicators for a company's financial flexibility and long term viability. Financial flexibility is critical to unregulated utilities and unregulated power companies given the cyclical and capital intensive nature of the business and potential for volatility in cash flows. In assessing the sustainability of internally generated cash flow, we believe that analyzing cash from operations before changes in working capital (CFO pre-W/C) provides one of the best measures for issuers in this sector. While both CFO pre-W/C and funds from operations (FFO) exclude working capital changes, CFO pre-W/C is different in that it captures certain changes in assets and liabilities, which could include regulatory assets and liabilities as well as cash collateral posting requirements. Working capital changes are generally viewed as less important in the financial analysis of unregulated utilities and power companies, as these items are typically related to seasonal variations in receivables and fuel inventory.

The Leverage and Coverage factor is comprised of three financial metrics:

¹¹ Sub-factor weighting for Unregulated Utilities is 10% and for Unregulated Power Companies 15%

Interest Coverage

CFO pre-W/C Interest Coverage is used as an indicator for a company's ability to pay interest from internally generated cash flow. A stronger ratio indicates greater capacity to absorb a decline in earnings and cash flow without impairing the company's ability to meet interest payments on a timely basis.

Leverage

CFO pre-W/C to Debt is an important measurement of comparative leverage among companies in this sector and is an indicator of the cash generating ability of an unregulated utility or power company relative to its debt.

Retained Cash Flow to Debt is an indicator for financial leverage and of the strength of an issuer's cash flow after dividend payments. The higher the level of retained cash flow relative to an issuer's debt, the more cash the issuer has to finance its working capital, capital expenditure program, acquisitions and/or any debt reduction.

Debt - Net vs. Gross

Leverage metrics for unregulated utilities are calculated on a "net debt" basis (defined as total debt minus unrestricted cash) while those for unregulated power companies are calculated on a gross or total debt basis. The different treatment is driven by characteristics for each business sector. For example, unregulated utilities typically have greater diversification and a lower overall business risk profile that allows their cash flow to be more stable. Moreover, when these companies keep large cash balances, it tends to reflect a conservative financial policy, such as the pre-funding of debt maturities.

By contrast, unregulated power companies tend to have a more volatile business profile and when they have substantial cash balances, it tends to be for operating requirements, potential liquidity calls associated with hedges or because they do not have sufficient committed, syndicated credit facilities. Furthermore, as a group, these companies face more pressure to provide shareholder rewards in the form of share repurchases as well as pressure to engage in mergers and acquisition activities to better compete in their more highly competitive market environment.

How We Assess It For The Grid

» CFO pre-W/C Interest Coverage:

The numerator is CFO pre-W/C plus interest expense and the denominator is interest expense.

» CFO pre-W/C to Debt:

The numerator is CFO pre-W/C, and the denominator is net debt for unregulated utilities and total debt for unregulated power companies.

» Retained Cash Flow to Debt:

The numerator is FFO minus dividends and the denominator is net debt for unregulated utilities and total debt for unregulated power companies.

3-year Average/(Weighting)	Aaa	Aa	A	Baa	Ba	B	Caa
(CFO Pre-W/C + Interest) / Interest ¹²	≥18x	13x - 18x	8x - 13x	4.2x - 8x	2.8x - 4.2x	1x - 2.8x	<1x
(CFO Pre-W/C) / Debt ^{13,14}	≥90%	60% - 90%	35% - 60%	20% - 35%	12% - 20%	5% - 12%	<5%
RCF / Debt ¹⁵	≥60%	45% - 60%	25% - 45%	15% - 25%	8% - 15%	3% - 8%	<3%

Assumptions, Limitations, and Rating Considerations That Are Not Covered in the Grid

The grid in this rating methodology represents a decision to favor simplicity that enhances transparency and to avoid greater complexity that might enable the grid to map more closely to actual ratings. Accordingly, the four rating factors in the grid do not constitute an exhaustive treatment of all of the considerations that are important for ratings of companies in the unregulated utilities and unregulated power companies sectors. In addition, our ratings incorporate expectations for future performance, while the financial information that typically is used in the grid in this document is mainly historical. In some cases, our expectations for future performance may be informed by confidential information that we can't disclose. In other cases, we estimate future results based upon past performance, industry trends, competitor actions or other factors. In either case, predicting the future is subject to the risk of substantial inaccuracy.

Assumptions that may cause our forward-looking expectations to be incorrect include unanticipated changes in any of the following factors: the macroeconomic environment and general financial market conditions, industry competition, disruptive technology, regulatory and legal actions.

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.

In choosing metrics for this rating methodology grid, we did not explicitly include certain important factors that are common to all companies in any industry such as the quality and experience of management, assessments of corporate governance and the quality of financial reporting and information disclosure. Ranking these factors by rating category in a grid would in some cases suggest too much precision in the relative ranking of particular issuers against all other issuers that are rated in various industry sectors.

Ratings may include additional factors that are difficult to quantify or that have a meaningful effect in differentiating credit quality only in some cases, but not all. Such factors include financial controls, 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. While these are important considerations, it is not possible to precisely express these in the rating methodology grid without making the grid excessively complex and significantly less transparent. Ratings may also reflect circumstances in which the weighting of a particular factor will be substantially different from the weighting suggested by the grid.

¹² Sub-factor weighting for Unregulated Utilities and Unregulated Power Companies is 10%

¹³ Sub-factor weighting for Unregulated Utilities is 15% and for Unregulated Power Companies 20%

¹⁴ Leverage metrics for unregulated utilities are calculated on a "net debt" basis (defined as total debt minus unrestricted cash) while those for unregulated power companies are calculated on a total debt basis.

¹⁵ Sub-factor weighting for Unregulated Utilities is 15% and for Unregulated Power Companies 10%

This variation in weighting rating considerations can also apply to factors that we choose not to represent in the grid. For example, liquidity is a consideration frequently critical to ratings and which may not, in other circumstances, have a substantial impact in discriminating between two issuers with a similar credit profile. As an example of the limitations, ratings can be heavily affected by extremely weak liquidity that magnifies default risk. However, two identical investment grade companies might be rated the same if their only differentiating feature is that one has a good liquidity position while the other has an extremely good liquidity position.

Other Rating Considerations

Ratings consider a number of additional considerations. These include but are not limited to: our assessment of the quality of management, corporate governance, financial controls, liquidity management, event risk and seasonality.

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 including an evaluation of management's performance relative to the performance of competitors and our projections. A record of consistency provides us with 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.

Corporate Governance

Among the areas of focus in corporate governance 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 centralized operations and the proper tone at the top and consistency in accounting policies and procedures. Auditors' comments in financial reports and unusual financial statement restatements or delays in regulatory filings may indicate weaknesses in internal controls.

Liquidity Management

Liquidity is an important rating consideration for all unregulated utilities and unregulated power companies. Liquidity can be particularly important for non-investment grade unregulated utilities and unregulated power companies where issuers typically have less operating and financial flexibility. We form an opinion on likely near-term liquidity requirements from the perspective of both sources and uses of cash, including all contingent calls on cash flow.

Event Risk

We also recognize the possibility that an unexpected event could cause a sudden and sharp decline in an issuer's fundamental creditworthiness. Typical special events include mergers and acquisitions, asset sales, spin-offs, capital restructuring programs, litigation and shareholder distributions.

Appendix A

Unregulated Utilities Methodology Factor Grid

Factor 1: Scale - 10%

	Aaa	Aa	A	Baa	Ba	B	Caa	Sub-Factor Weighting
Scale (USD billions)	Total assets ≥ \$100	Total assets \$50-100	Total assets \$25-50 OR Total assets > \$10 and entrenched position in substantial national/regional market	Total assets \$10-25 OR Total assets \$5-10 and entrenched position in substantial national/regional market	Total assets \$5 -10 OR Total assets \$2.5-5 and entrenched position in substantial national/regional market	Total assets \$2.5-5 OR Total assets \$1-2.5 and entrenched position in local market	Total assets < \$2.5	10%

Unregulated Utilities Methodology Grid

Factor 2: Business Profile - 40%

	Aaa	Aa	A	Baa	Ba	B	Caa	Sub-Factor Weighting
Market Diversification	Expected to maintain material operations in 5 or more separate well developed geographic or market regions	Expected to maintain material operations in 3 or more separate well developed geographic or market regions with no one market accounting for 50% or more of EBITDA	Expected to maintain material operations in 3 or more separate well developed geographic or market regions but > 50% of EBITDA comes from a single market	Expected to maintain material operations in more than one geographic or market regions with no one market accounting for >75% of EBITDA	Expected to operate predominantly in a single well developed geographic region	Expected to operate in multiple geographic regions but power markets are undeveloped or emerging	Expected to operate in a single undeveloped or emerging power market	10%
Hedging and Integration Impact on Cash Flow Predictability	Forward hedges or other contractual/ market arrangements provide a high degree of visibility on substantially all expected cash flow for the next 10 years	Forward hedges or other contractual/ market arrangements provide good visibility on 75% or more of expected cash flow for the next 7 years	Forward hedges or other contractual/ market arrangements provide good visibility on 50% or more of expected cash flow for the next 5 years	Forward hedges or other contractual/ market arrangements provide good visibility on 50% or more of expected cash flow for the next 3 years	Forward hedges or other contractual/ market arrangements provide good visibility on 30% or more of expected cash flow for at least the next 2 years	Minimal reliable cash flow visibility OR Limited ability to hedge	No reliable cash flow visibility OR Hedging strategy is ineffective	5%
	OR Large, high quality captive downstream customer base in non-competitive market eliminates exposure to commodity risk over the long-term	OR good visibility on > 50% expected cash flow for the next 5 years, if underpinned by sizeable high quality customer base	OR good visibility on > 50% expected cash flow for the next 3 years, if underpinned by sizeable high quality customer base	OR good visibility on > 30% expected cash flow for the next 2 years, if underpinned by sizeable high quality customer base	OR good visibility on > 30% expected cash flow for at least the next year, if underpinned by sizeable high quality customer base	OR Portfolio of contracts/hedges very short term OR Substantial short generation position versus customer base	OR Most assets in underdeveloped markets characterized by little transparency, poor liquidity and limited potential to hedge	

Unregulated Utilities Methodology Grid

Factor 2: Business Profile - 40%

	Aaa	Aa	A	Baa	Ba	B	Caa	Sub-Factor Weighting
Market Framework & Positioning	Company operates in generation markets with clear, transparent and settled market frameworks,	Company operates in generation markets with settled and supportive market frameworks,	Company operates in generation markets with frameworks that are supportive but may be evolving,	Company operates within generation markets whose frameworks may be undergoing some change,	Company operates within generation markets whose frameworks are undergoing change,	Company operates the majority of its fleet in a relatively new and untested markets with high risk of adverse political interference,	Company operates within undeveloped market frameworks, which are unfavourable to generators,	10%
	AND	AND	AND			OR	OR	
	Generation mix is perfectly aligned with market and is expected to mirror future changes, and diversified portfolio (no fuel/ technology > 50% output)	Generation mix is expected to remain very well aligned with market average and diversified portfolio (no fuel/ technology > 50% output)	Generation mix is expected to remain very well aligned with market average and some fuel/ technology concentration (single technology > 50% output) may be present	Generation mix is expected to remain well aligned with market average and diversified portfolio (no fuel/ technology > 50% output)	Generation mix is expected to remain well aligned with market average and some fuel/technology concentration (single technology > 50% output)	Generation mix is expected to remain mis-aligned with market average for the foreseeable future	Generation mix is expected to remain mis-aligned with market average for the foreseeable future	
					OR	and	and	
					Generation mix is not well aligned with market average, and is expected to remain so for the foreseeable future and diversified portfolio (no fuel/ technology > 50% output)	Fuel/ technology concentration (single technology > 50% output)	Single generation technology	

Unregulated Utilities Methodology Grid

Factor 2: Business Profile - 40%

	Aaa	Aa	A	Baa	Ba	B	Caa	Sub-Factor Weighting
Capital Requirements and Operational Performance	Extremely modest levels of capex needed for maintenance, environmental related expenditures or expansion of asset base, reflecting a modern, highly developed asset base (e.g. total annual future capex typically 3% or less of net PP&E).	Minimal levels of capex needed for maintenance, environmental related expenditures or expansion of asset base, reflecting a modern, well developed asset base (e.g. total annual future capex typically 5% or less of net PP&E).	Modest levels of capex needed for maintenance, environmental related expenditures or expansion of asset base, reflecting a modern, well developed asset base (e.g. total annual future capex typically 8% or less of net PP&E). Expenditures generally straightforward consisting of replacement plus a number of development projects with limited execution risk.	Manageable levels of capex needed for maintenance, environmental related expenditures or expansion of asset base (e.g. total annual future capex is typically 12% or less of net PP&E). Operational performance of the fleet is typically average relative to competitors.	Large capex program needed for maintenance, environmental related expenditures or expansion of asset base (e.g. total annual future capex is typically 15% or less of net PP&E) OR Capex program is challenging in scope and complexity and carries a degree of execution risk OR Operational performance is somewhat below average relative to competitors.	Significant capex program needed for maintenance, environmental related expenditures or expansion of asset base (e.g. total annual future capex is typically 20% or less of net PP&E) OR Capex program is challenging in scope and complexity and carries a high degree of execution risk OR Operational performance is decidedly below average relative to competitors.	Significant capex program needed for maintenance, environmental related expenditures or expansion of asset base (e.g. total annual future capex is typically 20% or more of net PP&E) OR Capex program is challenging in scope and complexity and carries a very high degree of execution risk OR Severe operational challenges.	5%

Unregulated Utilities Methodology Grid

Factor 2: Business Profile - 40%

	Aaa	Aa	A	Baa	Ba	B	Caa	Sub-Factor Weighting
Business Mix Impact on Cash Flow Predictability	Very high, fully accessible contribution from low-risk businesses (typically, higher than 35% of EBITDA)	High, fully accessible contribution from low-risk businesses (typically 20-35% of EBITDA)	Sizeable, fully accessible contribution from low-risk businesses (typically 10-20% of EBITDA)	Contribution from low/higher-risk businesses limited as to scale or accessibility	Sizeable contribution from higher risk businesses / markets (typically 10-20% of EBITDA)	High contribution from higher risk businesses / markets (typically 20-35% of EBITDA)	Very high contribution from high risk businesses/ markets (typically, higher than 35% of EBITDA)	10%

Factor 3: Financial Policy - 10%

	Aaa	Aa	A	Baa	Ba	B	Caa	Sub-Factor Weighting
Financial Policy	Long track record and expected maintenance of extremely conservative financial policy; very stable metrics; low debt levels for the industry; AND Public commitment to the highest credit quality over the long-term	Long track record and expected maintenance of a conservative financial policy; stable metrics; lower than average debt levels for the industry; AND Public commitment to a very high credit quality over the long-term	Extended track record and expected maintenance of a conservative financial policy; moderate debt leverage and a balance between shareholders and creditors; Not likely to increase shareholder distributions and/or make acquisitions which could lead to a weaker credit profile Solid commitment to high credit quality	Track record and expected maintenance of a conservative financial policy; an average level of debt for the industry and a balance between shareholders and creditors; Some risk that shareholder distributions and/or acquisitions could lead to a weaker credit profile; Solid commitment to targeted metrics	Track record or expectation of maintenance of a financial policy that is likely to favor shareholders over creditors; higher than average but not excessive, level of leverage; Owners are likely to focus on extracting distributions and/or acquisitions but not at the expense of financial stability	Track record of aggressive financial policies or expected to have a financial policy that favours shareholders through high levels of leverage with only a modest cushion for creditors; OR High financial risk resulting from shareholder distributions or acquisitions	Expected to have a financial policy unfavorable to creditors with a track record of or expected policy of maintaining excessively high debt leverage; OR Elevated risk of debt restructuring	10%

Unregulated Utilities Methodology Grid

Factor 4: Leverage and Coverage - 40%

3-year Average	Aaa	Aa	A	Baa	Ba	B	Caa	Sub-Factor Weighting
(CFO Pre-W/C + Interest) / Interest	≥18x	13x - 18x	8x - 13x	4.2x - 8x	2.8x - 4.2x	1x - 2.8x	<1x	10%
(CFO Pre-W/C) / Net Debt	≥90%	60% - 90%	35% - 60%	20% - 35%	12% - 20%	5% - 12%	<5%	15%
RCF / Net Debt	≥60%	45% - 60%	25% - 45%	15% - 25%	8% - 15%	3% - 8%	<3%	15%

Note: Leverage metrics for unregulated utilities are calculated on a "net debt" basis (defined as total debt minus unrestricted cash) while those for unregulated power companies are calculated on a total debt basis. The different treatment is driven by characteristics for each business sector.

Unregulated Power Companies Methodology Factor Grid

Factor 1: Scale - 10%

	Aaa	Aa	A	Baa	Ba	B	Caa	Sub-Factor Weighting
Scale (USD Billion)	Total assets ≥ \$100	Total assets \$50-100	Total assets \$25-50 OR Total assets > \$10 and entrenched position in substantial national/regional market	Total assets \$10-25 OR Total assets \$5-10 and entrenched position in substantial national/regional market	Total assets \$5 -10 OR Total assets \$2.5-5 and entrenched position in substantial national/regional market	Total assets \$2.5-5 OR Total assets \$1-2.5 and entrenched position in local market	Total assets < \$2.5	10%

Unregulated Power Companies Methodology Grid

Factor 2: Business Profile - 35%

	Aaa	Aa	A	Baa	Ba	B	Caa	Sub-Factor Weighting
Market Diversification	Expected to maintain material operations in 5 or more separate well developed geographic or market regions	Expected to maintain material operations in 3 or more separate well developed geographic or market regions with no one market accounting for 50% or more of EBITDA	Expected to maintain material operations in 3 or more separate well developed geographic or market regions but > 50% of EBITDA comes from a single market	Expected to maintain material operations in more than one geographic or market regions with no one market accounting for >75% of EBITDA	Expected to operate predominantly in a single well developed geographic region	Expected to operate in multiple geographic regions but power markets are undeveloped or emerging	Expected to operate in a single undeveloped or emerging power market	5%
Hedging and Integration Impact on Cash Flow Predictability	Forward hedges or other contractual/ market arrangements provide a high degree of visibility on substantially all expected cash flow for the next 10 years OR Large, high quality captive downstream customer base in non-competitive market eliminates exposure to commodity risk over the long-term	Forward hedges or other contractual/ market arrangements provide good visibility on 75% or more of expected cash flow for the next 7 years OR good visibility on > 50% expected cash flow for the next 5 years, if underpinned by sizeable high quality customer base	Forward hedges or other contractual/ market arrangements provide good visibility on 50% or more of expected cash flow for the next 5 years OR good visibility on > 50% expected cash flow for the next 3 years, if underpinned by sizeable high quality customer base	Forward hedges or other contractual/ market arrangements provide good visibility on 50% or more of expected cash flow for the next 3 years OR good visibility on > 30% expected cash flow for the next 2 years, if underpinned by sizeable high quality customer base	Forward hedges or other contractual/ market arrangements provide good visibility on 30% or more of expected cash flow for at least the next 2 years OR good visibility on > 30% expected cash flow for at least the next year, if underpinned by sizeable high quality customer base	Minimal reliable cash flow visibility OR Limited ability to hedge OR Portfolio of contracts/hedges very short term OR Substantial short generation position versus customer base	No reliable cash flow visibility OR Hedging strategy is ineffective OR Most assets in underdeveloped markets characterized by little transparency, poor liquidity and limited potential to hedge	10%

Unregulated Power Companies Methodology Grid

Factor 2: Business Profile - 35%

	Aaa	Aa	A	Baa	Ba	B	Caa	Sub-Factor Weighting
Market Framework & Positioning	Assets operate as a monopoly with unquestioned statutory government protection of competitive position AND Absence of fuel concentration risk	All assets operate in well designed, stable markets and company enjoys a dominant market position that provides it with a degree of pricing power AND Location, quality and cost competitiveness of assets are among the top decile and provide commanding market position with limited threat AND Absence of meaningful fuel concentration risk (e.g. no more than 50% of generation from single fuel type)	All assets operate in liquid, well designed competitive markets with supportive frameworks AND Location, quality and cost competitiveness of assets are within the top quartile and provide a clear competitive advantage or provide for contractual pass-through of costs AND Absence of meaningful fuel concentration risk (e.g. no more than 50% of generation from single fuel type)	Majority of assets operate in a liquid, well-designed competitive markets but whose frameworks may be undergoing some change AND Location, quality and cost competitiveness of assets are above average and provide some advantage or a solid market position AND Absence of meaningful fuel concentration risk (e.g. no more than 50% of generation from single fuel type)	Some assets operate in competitive market that exhibit design weaknesses or are undergoing more substantial change OR Asset quality, cost profile and market position is average. Assets may have some exposure to environmental issues OR Presence of fuel concentration risk (e.g. more than 50% of generation from single fuel type)	Majority of assets operate in competitive markets that are oversupplied, poorly designed or new and untested or have a high risk of adverse political interference OR Asset quality, cost profile and market position are below average and assets may have significant exposure to environmental issues OR Presence of meaningful fuel concentration risk (e.g. 90% or more of generation from single fuel type)	Assets operate in markets that are persistently oversupplied, undeveloped or exhibit characteristics that are unfavorable to generators OR Assets are of questionable quality or at significant risk of shut-down due to economic and/or environmental considerations	15%

Unregulated Power Companies Methodology Grid

Factor 2: Business Profile - 35%

	Aaa	Aa	A	Baa	Ba	B	Caa	Sub-Factor Weighting
Capital Requirements and Operational Performance	Extremely modest levels of capex needed for maintenance, environmental related expenditures or expansion of asset base, reflecting a modern, highly developed asset base (e.g. total annual future capex typically 3% or less of net PP&E).	Minimal levels of capex needed for maintenance, environmental related expenditures or expansion of asset base, reflecting a modern, well developed asset base (e.g. total annual future capex typically 5% or less of net PPE).	Modest levels of capex needed for maintenance, environmental related expenditures or expansion of asset base, reflecting a modern, well developed asset base (e.g. total annual future capex typically 8% or less of net PPE). Expenditures generally straightforward consisting of replacement plus a number of development projects with limited execution risk.	Manageable levels of capex needed for maintenance, environmental related expenditures or expansion of asset base (e.g. total annual future capex is typically 12% or less of net PPE).	Large capex program needed for maintenance, environmental related expenditures or expansion of asset base (e.g. total annual future capex is typically 15% or less of net PPE) OR Capex program is challenging in scope and complexity and carries a degree of execution risk OR Operational performance is somewhat below average relative to competitors.	Significant capex program needed for maintenance, environmental related expenditures or expansion of asset base (e.g. total annual future capex is typically 20% or less of net PPE) OR Capex program is challenging in scope and complexity and carries a high degree of execution risk OR Operational performance is decidedly below average relative to competitors.	Significant capex program needed for maintenance, environmental related expenditures or expansion of asset base (e.g. total annual future capex is typically 20% or more of net PPE) OR Capex program is challenging in scope and complexity and carries a very high degree of execution risk OR Severe operational challenges.	5%

Unregulated Power Companies Methodology Grid

Factor 3: Financial Policy - 15%

	Aaa	Aa	A	Baa	Ba	B	Caa	Sub-Factor Weighting
Financial Policy	Long track record and expected maintenance of extremely conservative financial policy; very stable metrics; low debt levels for the industry;	Long track record and expected maintenance of a conservative financial policy; stable metrics; lower than average debt levels for the industry;	Extended track record and expected maintenance of a conservative financial policy; moderate debt leverage and a balance between shareholders and creditors;	Track record and expected maintenance of a conservative financial policy; an average level of debt for the industry and a balance between shareholders and creditors;	Track record or expectation of maintenance of a financial policy that is likely to favor shareholders over creditors; higher than average but not excessive, level of leverage;	Track record of aggressive financial policies or expected to have a financial policy that favours shareholders through high levels of leverage with only a modest cushion for creditors;	Expected to have a financial policy unfavorable to creditors with a track record of or expected policy of maintaining excessively high debt leverage;	15%
	AND	AND						
	Public commitment to the highest credit quality over the long-term	Public commitment to a very high credit quality over the long-term	Not likely to increase shareholder distributions and/or make acquisitions which could lead to a weaker credit profile	Some risk that shareholder distributions and/or acquisitions could lead to a weaker credit profile;	Owners are likely to focus on extracting distributions and/or acquisitions but not at the expense of financial stability	OR	OR	
			Solid commitment to high credit quality	Solid commitment to targeted metrics		High financial risk resulting from shareholder distributions or acquisitions	Elevated risk of debt restructuring	

Unregulated Power Companies Methodology Grid

Factor 4: Leverage and Coverage - 40%

3-year Average	Aaa	Aa	A	Baa	Ba	B	Caa	Sub-Factor Weighting
(CFO Pre-W/C + Interest) / Interest	≥18x	13x - 18x	8x - 13x	4.2x - 8x	2.8x - 4.2x	1x - 2.8x	<1x	10%
(CFO Pre-W/C) / Debt	≥90%	60% - 90%	35% - 60%	20% - 35%	12% - 20%	5% - 12%	<5%	20%
RCF / Debt	≥60%	45% - 60%	25% - 45%	15% - 25%	8% - 15%	3% - 8%	<3%	10%

Note: Leverage metrics for unregulated utilities are calculated on a "net debt" basis (defined as total debt minus unrestricted cash) while those for unregulated power companies are calculated on a total debt basis. The different treatment is driven by characteristics for each business sector.

Appendix B: Some Key Issues for Unregulated Utilities and Unregulated Power Companies Over the Intermediate Term

Shale Gas and Fuel Price Volatility

The development of shale gas and shale gas resources in the United States, due largely to improved drilling techniques, has been a material negative for unregulated utilities and unregulated power companies, especially in North America. Specifically, the significant increase in supply has directly exerted downward pricing pressure on natural gas and, indirectly, power prices – placing particular downward pressure on gross margins derived from coal, nuclear and hydro-based generation.

Given the high correlation between natural gas and power prices, the demand/supply balance of natural gas in the lower 48 states will continue to impact both unregulated utilities and unregulated power companies. Trends that may influence the demand/supply balance over the intermediate term include weather patterns (while temporary, they can have a large impact on forward prices and ability to hedge), the state of the US economy, the export of liquefied natural gas to overseas markets and climate change legislation.

Presence and Absence of Capacity Markets

Power markets that value and compensate for capacity are a positive for credit quality of unregulated utilities and unregulated power companies. Specifically, in creating long-term price signals, capacity markets provide for a transparent cash flow stream that provides a degree of predictability to merchant generators' otherwise volatile revenue streams. There is a diversity among various geographies with some markets, especially in the US, providing value for capacity while others do not. Even within the US, some capacity markets provide longer term price signals than others. The cash flow predictability associated with capacity revenue is sometimes one of the drivers for differences in ratings between companies that solely operate in a region that highly values capacity (e.g. PSEG Locational Deliverability Area in PJM) and companies operating in regions that place little or no value on capacity (e.g. Midwest Independent System Operator). As such, the implementation of capacity markets in regions without one, or the development of a more sophisticated market in a market which currently has a rudimentary structure, could have positive rating implications.

Conventional power generation will continue to be displaced in Europe

Cash flow generated by European unregulated utilities' conventional fleets has decreased sharply because power output is under pressure from two structural trends: (1) electricity consumption will continue to decline or stagnate as energy efficiency efforts offset or partly offset any upside to power demand from recovering GDP; and (2) renewable energy will continue to increase its share of total power generated at the expense of conventional generation. Wide reserve margins – especially in Germany, Spain and Italy – have caused conventional generation load factors to decline sharply, especially for combined cycle gas turbines.

In addition to lower output, profitability and cash-flow generation will continue to be under pressure because of lower commodity prices. Lower prices for coal and carbon dioxide emission credits, combined with high reserve margins, have depressed power prices in coal-led markets. A future recovery in power prices would require a combination of stronger demand, firmer carbon dioxide credit prices and narrowing reserve margins.

Conflict between EU Energy Policy and National Interests harms European Unregulated Utilities

European Union (EU) energy policies have driven both the expansion of the renewable energy sector and the closure of older coal plants across much of Europe. The response of EU member states to the fallout from these policies (e.g. renewable energy intermittency, falling revenues for conventional power generators and rising consumer bills) has given rise to some conflict between EU objectives and the national interests of individual states. We do not see a resolution of these conflicts in the short-term, which creates uncertainty and thus risk for utilities.

- » To ensure the security of their energy supplies against the backdrop of falling energy prices, narrowing spreads and renewable energy shortfalls, some EU member states have introduced capacity payment mechanisms as a way of partially compensating existing thermal operators with quasi-regulated revenues. However, these payment mechanisms arguably run contrary to the EU's aim to increase interconnection and the coupling of regional electricity markets to provide energy supply security.
- » Reconciling the two priorities of consumer affordability and energy sustainability has become a challenge for EU member states. This is particularly true given that the widespread increase in renewable power generation (and its associated infrastructure) continues to increase the end-cost for consumers at a time of continued macroeconomic strain. The increasingly 'fixed-cost' nature of final energy tariffs is also serving to undermine the EU's efforts to promote efficiency, as a reduction in consumers' consumption may not significantly reduce costs.

Moody's Related Research

The credit ratings assigned in this sector are primarily determined by this credit rating methodology. Certain broad methodological considerations (described in one or more credit rating methodologies) may also be relevant to the determination of credit ratings of issuers and instruments in this sector. Potentially related sector and cross-sector credit rating methodologies can be found [here](#).

For data summarizing the historical robustness and predictive power of credit ratings assigned using this credit rating methodology, see [link](#).

Definitions of Moody's most common ratio terms can be found in "Moody's Basic Definitions for Credit Statistics, User's Guide", accessible via this [link](#).

Please refer to Moody's Rating Symbols & Definitions, which is available [here](#), for further information.

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