Methodology

Rating Companies in the Independent Power Producer Industry

AUGUST 2014
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Rating Companies in the Independent Power Producer Industry

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Introduction to DBRS Methodologies

• DBRS publishes rating methodologies to give issuers and investors insight into the rationale behind DBRS's rating opinions.
• In general terms, DBRS ratings are opinions that reflect the creditworthiness of an issuer, a security or an obligation. DBRS ratings assess an issuer’s ability to make timely payments on outstanding obligations (whether principal, interest, preferred share dividends or distributions) with respect to the terms of an obligation. In some cases (e.g., non-investment grade corporate issuers), DBRS ratings may also address recovery prospects for a specific instrument given the assumption of an issuer default.
• DBRS rating methodologies include consideration of historical and expected business and financial risk factors as well as industry-specific issues, regional nuances and other subjective factors and intangible considerations. Our approach incorporates a combination of both quantitative and qualitative factors.
• The considerations outlined in DBRS methodologies are not exhaustive and the relative importance of any specific consideration can vary by issuer. In certain cases, a major strength can compensate for a weakness and, conversely, a single weakness can override major strengths of the issuer in other areas. DBRS may use, and appropriately weight, several methodologies when rating issuers that are involved in multiple business lines.
• DBRS operates with a stable rating philosophy; in other words, DBRS strives to factor the impact of a cyclical economic environment into its ratings wherever possible, which minimizes rating changes due to economic cycles. Rating revisions do occur, however, when more structural changes, either positive or negative, have occurred, or appear likely to occur in the near future.
• DBRS also publishes criteria which are an important part of the rating process. Criteria typically cover areas that apply to more than one industry. Both methodologies and criteria are publicly available on the DBRS website and many criteria are listed below under “Rating the Specific Instrument and Other Criteria”.

Overview of the DBRS Rating Process

- There are generally three components to the DBRS corporate rating process: (1) an industry risk rating (IRR); (2) an issuer rating; and (3) considerations for specific securities. The figure below outlines this process.
- An IRR is a relative ranking of most industries that have a DBRS methodology, typically using just three ranges of the DBRS long-term debt rating scale (i.e., “A,” BBB and BB), without making use of the “high” or “low” descriptors. The IRR is a general indication of credit risk in an industry and considers, among other things, an industry’s: (1) profitability and cash flow; (2) competitive landscape; (3) stability; (4) regulation; and (5) other factors. An “industry,” for the purposes of the IRR, is defined as those firms that are generally the larger, more established firms within the countries where the majority of DBRS’s rated issuers are based; this remains true for DBRS methodologies that are more global in nature. The industry risk rating helps DBRS set the BRR grid (see below) in that it positions, in an approximate way, an average firm in the industry onto the BRR grid. For firms in industries with low IRRs, the IRR can, in effect, act as a constraint or “cap” on the issuer’s rating.
- The issuer rating is DBRS’s assessment of the probability of default of a specific issuer. It is a function of: (1) the business risk rating (BRR), determined by assessing each of the primary and (where relevant) additional BRR factors in the BRR grid for a specific issuer; and (2) the financial risk rating (FRR), determined by assessing each of the primary and (where relevant) additional FRR metrics. The two components, BRR and FRR, are combined to determine the issuer rating; in most cases, the BRR will have greater weight than the FRR in determining the issuer rating. Throughout the BRR and FRR determination process, DBRS performs a consistency check of the issuer on these factors against the issuer’s peers in the same industry.
- The issuer rating is then used as a basis for specific instrument ratings. DBRS assigns, for example, a recovery rating and notches up or down from the issuer rating to determine a specific instrument rating for instruments of non-investment grade corporate issuers. (See “Rating the Specific Instrument and Other Criteria” below.)

DBRS Rating Analysis Process

* Depending on the instrument, “other criteria” may include the recovery methodology for non-investment grade issuers or the preferred share and hybrid criteria, for example. Please refer to the section below entitled “Rating the Specific Instrument and Other Criteria” for a list of these criteria, as well as other criteria that may be applicable at any stage of the rating process.
Independent Power Producer Industry

• This methodology applies to corporate independent power producers; in other words, companies that sell electricity to wholesale customers/markets from multiple and dispersed power-generating assets that use a variety of proven fuel and technology types. Note that regulated utilities that may also generate electricity are covered in Rating Companies in the Regulated Electric, Natural Gas and Water Utilities Industry and electric-generation projects comprising a single (or few) asset(s) are covered in the methodology entitled Rating Project Finance.

• Per the three-tier industry risk rating system described on the previous page, this industry IRR is BBB.

• The independent power producers industry is characterized by: (1) power price volatility, although the impact varies for each company depending on the degree of merchant (unhedged) exposure; (2) the use of long term contracts, particularly with investment grade counterparties, for the off-take of electricity and input factors, such as fuel, to partially offset the merchant exposure; (3) significant barriers to entry including large capital requirements, long developmental lead times and a new facility approval process susceptible to political and social issues (e.g., NIMBY - not in my backyard); and (4) significant influence of government policy, which could vary by country, state and/or province.

• Electricity is an essential product critical to the functioning of the broader economy, whose demand is correlated with general economic growth. Electricity is unique amongst commodity products in that it cannot be stored efficiently and must be consumed when produced.

• Base-load assets (using coal, nuclear fuel or hydro resources in some cases) typically operate all day. Mid-merit or intermittent assets (such as combined-cycle gas-fired places) typically operate only at peak times during the day while peaking units (such as combustion turbines) typically only operate at peak times during the year.

• Wholesale electric markets are driven largely by regional supply and demand dynamics. This is a function of the historical development of the industry (i.e., integrated utilities largely generated their own power in their service territories) and the difficulty and cost of building long-distance transmission lines. Power markets remain largely regional (albeit with some interregional flows). Transmission constraints can also act as a natural barrier to entry within a region.

• Power generators with a heavily contracted generation portfolio are more likely to experience less volatility in profitability and cash flow compared to ones with significant merchant exposure. However, in the event of a prolonged non-force majeure outage, power generators remain liable for their contracted output, which could have a material negative impact on cash flow and profitability if the level of contracted output is high.

• Power generators are typically more contracted or hedged (for price) than other types of commodity-based businesses, resulting in greater stability than most other commodity sectors; however, power generators tend to carry more debt, which acts as an offset.

• Profitability and cash flow are also influenced by the efficiency of a generator’s assets compared with other assets in the same region (e.g., age, type of generating asset and the asset’s position vis-a-vis the overall fuel mix of the region in which it operates). Renewable-energy generators also have a distinct production risk linked to the variable nature of their respective resources, particularly for hydroelectric, wind-powered and solar-powered generators.

• Stability of any individual operator can arise from diversification by operating region, by customer, by fuel, weather effects and regulatory and political factors.

• The industry is operationally regulated, particularly with respect to the permitting of new facilities, the operations of existing assets (i.e., safety and emissions) and environmental regulation.

• In addition, evolving government policies, particularly related to long-term energy planning, continue to drive the growth strategy for electric generation companies and the resulting generation mix of their respective regions. For example, environmental targets and renewable generation credits have led to significant investments in the renewable energy sector.
• Environmental regulation and/or legislation has become more stringent over time, leading to higher capital and/or operating costs. The ability for any generator to pass on these higher costs is dependent on the regions in which they operate.
• In North America, market structures vary by region, which may or may not follow provincial or state boundaries.
# Independent Power Producer Business Risk Rating

## PRIMARY BRR FACTORS
- The BRR grid below shows the primary factors used by DBRS in determining the BRR. While these primary factors are shown in general order of importance, depending on a specific issuer’s business activities, this ranking can vary by issuer.

### Independent Power Producer - Primary BRR Factors

<table>
<thead>
<tr>
<th>Rating</th>
<th>A</th>
<th>BBB</th>
<th>BB</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contractual/Hedging/Integration Position</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Almost exclusively contracted output with strong investment-grade counterparties with a long average tenor.</td>
<td>• Significant level of contracted output with investment-grade counterparties with a moderate to average tenor.</td>
<td>• Minimal contracted output, reasonable counterparties, with a shorter average tenor.</td>
<td>• Minimal to no contracted output.</td>
</tr>
<tr>
<td></td>
<td>• Nil to minimal fuel price risk and/or recontracting risk.</td>
<td>• Some level of fuel price risk and/or recontracting risk.</td>
<td>• Significant fuel price risk and/or recontracting risk.</td>
<td>• Very significant fuel price risk and/or recontracting risk.</td>
</tr>
<tr>
<td></td>
<td>• Reasonable vertical integration with sizable retail customer base.</td>
<td>• May have some vertical integration with modest retail customer base.</td>
<td>• Not vertically integrated.</td>
<td>• Not vertically integrated.</td>
</tr>
<tr>
<td><strong>Market Position (For merchant independent power producers only)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Dominant, monopolistic position within the market</td>
<td>• Moderate competition within an oligopolistic market</td>
<td>• High level of competition within the market</td>
<td>• Very high level of competition within the market</td>
</tr>
<tr>
<td></td>
<td>• Very high barriers to entry due to the incumbent’s vast scale and strong pricing power</td>
<td>• High barriers to entry due to the incumbents’ large scale and pricing power</td>
<td>• Low barriers to entry</td>
<td>• Low barriers to entry</td>
</tr>
<tr>
<td><strong>Market Structure and Environment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Tight reserve margins</td>
<td>• Adequate reserve margins</td>
<td>• High reserve margins.</td>
<td>• Very high reserve margins.</td>
</tr>
<tr>
<td></td>
<td>• Strong long-term demand correlated to robust economic conditions.</td>
<td>• Moderate long-term demand correlated to modest economic conditions.</td>
<td>• Weak long-term demand correlated to weaker economic conditions.</td>
<td>• Contracting to flat power demand over the longer term, correlated to poor economic conditions.</td>
</tr>
<tr>
<td></td>
<td>• Operates in very established wholesale markets, with significant transparency and operating history.</td>
<td>• Operates in an established wholesale market, with reasonable transparency and operating history.</td>
<td>• Operates in a less established wholesale market that has been operating for a shorter period of time.</td>
<td>• Operates in a newly established wholesale market.</td>
</tr>
<tr>
<td><strong>Diversification</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• High fuel and technology diversification.</td>
<td>• Average fuel and technology diversification.</td>
<td>• Lower fuel and technology diversification.</td>
<td>• Minimal fuel and technology diversification.</td>
</tr>
<tr>
<td></td>
<td>• High geographic diversification in regions with low price correlation.</td>
<td>• Average geographic diversification, with some regional price correlation.</td>
<td>• Minimal geographic diversification, concentrated price correlation.</td>
<td>• Highly concentrated in one geographic area.</td>
</tr>
<tr>
<td><strong>Operational Expertise</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Very strong asset operator.</td>
<td>• Strong asset operator.</td>
<td>• Weaker asset operator.</td>
<td>• Poor asset operator.</td>
</tr>
<tr>
<td></td>
<td>• Extensive history of minimal unplanned outages.</td>
<td>• Moderate level of unplanned outages.</td>
<td>• High level of unplanned outages.</td>
<td>• Very high level of unplanned outages.</td>
</tr>
<tr>
<td></td>
<td>• Highly experienced asset developer, with long track record of developing assets on time and on or under budget.</td>
<td>• Experienced asset developer, with good track record of developing assets on time and on budget.</td>
<td>• Less experienced asset developer, with a shorter track record and less success in past development.</td>
<td>• Minimal to no experience as an asset developer.</td>
</tr>
</tbody>
</table>
Independent Power Producer - Primary BRR Factors

The following BRR risk factors are relevant to issuers in all industries (although the relevance of sovereign risk can vary considerably):

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sovereign Risk</td>
<td>The issuer rating may, in some cases, be constrained by the credit risk of the sovereign; in other words, the rating of the country in which the issuer operates generally sets a maximum rating for the issuer. If the issuer operates in multiple countries and a material amount of its business is conducted in a lower-rated country, DBRS may reflect this risk by downwardly adjusting its issuer rating.</td>
</tr>
<tr>
<td>CorporateGovernance</td>
<td>Please refer to DBRS Criteria: Evaluating Corporate Governance for further information on how DBRS evaluates corporate governance and management.</td>
</tr>
</tbody>
</table>

ADDITIONAL BRR FACTORS

- The additional BRR factors discussed below may be very important for certain issuers, depending upon their activities, but they do not necessarily apply to all issuers in the industry.

Capital Requirements

- While capital requirements affect all issuers, for companies that pursue large expansionary projects requiring significant capital, DBRS will assess how the capital project fits into its current portfolio of assets and into the region in which it will operate. The extent of the company’s flexibility to alter the timing and scale of a significant project is also a consideration.
- DBRS will also assess the financing plans for such growth projects and the related impact on the company’s financial and credit profile. Generally, DBRS would expect growth capital expenditures for assets with a risk profile consistent with the current portfolio to be financed on a basis consistent with the company’s existing capital structure. An analysis of construction risk mitigation is also an area of focus for a company that takes on significant capital expenditures.

Marketing and Trading Activities

- Firms that engage in marketing and trading activities that go beyond the scope of clearing a generator’s own production (i.e., making large speculative bets) would be viewed negatively from a business risk perspective.

Environmental Exposure

- Power generators with higher carbon dioxide emissions (i.e., thermal generation) are exposed to greater regulatory scrutiny. Environmental regulation and/or government policy changes could negatively affect profitability by increasing the cost base.
Independent Power Producer Financial Risk Rating

**PRIMARY FRR METRICS**
- The FRR grid below shows the primary FRR metrics used by DBRS to determine the FRR. While these primary FRR metrics are shown in general order of importance, depending upon an issuer’s activities, the ranking can vary by issuer.
- DBRS ratings are based heavily on future performance expectations, so while past metrics are important, any final rating will incorporate DBRS’s opinion on future metrics, a subjective but critical consideration.
- It is unusual for a company’s metrics to move in and out of the ranges noted in the grid below, particularly for cyclical industries. In the application of this matrix, DBRS looks beyond the point-in-time ratio.
- Financial metrics depend on accounting data whose governing principles vary by jurisdiction and, in some cases, industry. DBRS may adjust financial statements to permit comparisons with issuers using different accounting principles.
- Please refer to DBRS Criteria: Financial Ratios and Accounting Treatments – Non Financial Companies for definitions of, and common adjustments to, these ratios in the FRR grid below.
- Liquidity can be a material risk factor, especially for lower-rated non-investment grade issuers. DBRS will consider available sources of liquidity including cash on hand, cash flow, access to bank lines, etc., as well as uses of liquidity such as operations, capital expenditures, share buybacks and dividends for every issuer.
- DBRS considers an issuer’s financial policy including factors such as its targeted financial leverage, its dividend policy and the likelihood of share buybacks or other management actions that may favour equity holders over bondholders.
- While market pricing information (such as market capitalization or credit spreads) may on occasion be of interest to DBRS, particularly where it suggests that an issuer may have difficulty in raising capital, this information does not usually play a material role in DBRS’s more fundamental approach to assessing credit risk.

### Independent Power Producer - Primary FRR Metrics

<table>
<thead>
<tr>
<th>Primary Metric</th>
<th>A</th>
<th>BBB</th>
<th>BB</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash flow-to-debt</td>
<td>&gt; 35%</td>
<td>15% to 35%</td>
<td>7% to 15%</td>
<td>&lt; 7%</td>
</tr>
<tr>
<td>EBITDA-to-interest</td>
<td>&gt; 7.0x</td>
<td>4.0x to 7.0x</td>
<td>2.0x to 4.0x</td>
<td>&lt; 2.0x</td>
</tr>
<tr>
<td>Debt-to-capital</td>
<td>&lt; 30%</td>
<td>30% to 50%</td>
<td>50% to 65%</td>
<td>&gt; 65%</td>
</tr>
</tbody>
</table>

**ADDITIONAL FRR METRICS**
- While the primary FRR metrics above will be the most important metrics that DBRS will use in determining the FRR of an issuer, other metrics may be used, depending upon an issuer’s activities, capital structure, pension liabilities and off-balance sheet obligations.
- Profitability, particularly in the medium term, can be an important differentiator of credit risk. DBRS may assess profitability through a variety of metrics, including return on capital.
- While free cash flow (i.e., net of changes in working capital, dividends and capital expenditures, etc.) can be volatile and, on occasion, negative, DBRS may use this and/or other cash flow metrics to assess a company’s ability to generate cash to repay debt.
- In addition to the standard key credit metrics, for high-growth companies that have large expansionary projects with low construction execution risk and long-term power purchase contracts with high quality counterparties, DBRS may also consider the companies’ key credit metrics on a run-rate basis to address the timing mismatches between debt servicing obligations and the receipt of revenues that can arise during the development phase. Typically, adjustments are made to the incremental debt, interest expense and/or incremental cash flows associated with the new expansionary projects.
Blending the BRR and FRR into an Issuer Rating

- The final issuer rating is a blend of the BRR and FRR. In most cases, the BRR will have greater weight than the FRR in determining the issuer rating.
- At the low end of the rating scale, however, particularly in the B range and below, the FRR and liquidity factors play a much larger role and the BRR would, therefore, typically receive a lower weighting than it would at higher rating levels.

Rating the Specific Instrument and Other Criteria

- For non-investment grade corporate issuers, DBRS assigns a recovery rating and reflects the seniority and the expected recovery of a specific instrument, under an assumed event of default scenario, by notching up or down from the issuer rating in accordance with the principles outlined in the criteria DBRS Recovery Ratings for Non-Investment Grade Corporate Issuers.
- Preferred share and hybrid considerations are discussed under Preferred Share and Hybrid Criteria for Corporate Issuers.
- The issuer rating (which is an indicator of the probability of default of an issuer’s debt) is the basis for rating specific instruments of an issuer, where applicable. DBRS uses a hierarchy in rating long-term debt that affects issuers that have classes of debt that do not rank equally. In most cases, lower-ranking classes would receive a lower DBRS rating. For more detail on this subject, please refer to the general rating information contained in the DBRS rating policy Underlying Principles.
- For a discussion on the relationship between short- and long-term ratings and more detail on liquidity factors, please refer to the DBRS policy Short-Term and Long-Term Rating Relationships and the criteria Commercial Paper Liquidity Support Criteria for Corporate Non-Bank Issuers.
- The existence of holding companies can have a meaningful impact on individual security ratings. For more detail on this subject, please refer to the criteria Rating Holding Companies and Their Subsidiaries.
- Guarantees and other types of support are discussed in Guarantees and Other Forms of Explicit Support.
- Potential indenture and legal considerations are discussed under the criteria Trust Indentures – Representations and Warranties, Covenants and Events of Default.
- For further information on how DBRS evaluates corporate governance, please refer to DBRS Criteria: Evaluating Corporate Governance.
- Please refer to DBRS Criteria: Financial Ratios and Accounting Treatments – Non Financial Companies for definitions of, and common adjustments to, these ratios.