Research Update:

Itaipu Binacional Assigned 'BBB-' Foreign Currency And 'BBB' Local Currency Ratings; Outlook Stable

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**Overview**

- Itaipu Binacional is the largest hydro power generator in the world, in terms of electricity production. Brazil and Paraguay each own 50% of the entity and Itaipu plays an important role for both countries.
- We have assessed Itaipu's business risk profile as "strong," as it faces no demand risk and stable and predictable revenues, as determined in the Treaty of Itaipu.
- We are therefore assigning a 'BBB-' rating on Itaipu, based on our view of the "extremely high" likelihood that the Brazilian government would provide timely and sufficient extraordinary support to Itaipu in the event of financial distress.
- The stable outlook on Itaipu reflects that on the Brazilian sovereign.

**Rating Action**

On June 30, 2014, Standard & Poor's Ratings Services assigned its 'BBB-' foreign currency and 'BBB' local currency corporate credit ratings on Itaipu Binacional (Itaipu). We also assigned a stand-alone credit profile (SACP) of 'bb+' to Itaipu.

At the same time, we affirmed the 'brAAA' Brazil National Scale, corporate credit rating on the entity. The outlook on all ratings is stable.

**Rationale**

Itaipu is 50% owned by the Federative Republic of Brazil (Brazil; foreign currency: BBB-/Stable/A-3; local currency: BBB+/Stable/A-2; Brazil National Scale brAAA/Stable/--), through Eletrobras-Centrais Eletricas Brasileiras S.A. (Eletrobras; foreign currency BBB-/Stable/--; local currency BBB+/Stable/--); and 50% by the Republic of Paraguay (BB/Stable/B), through Administración Nacional de Electricidad (Ande; not rated), as determined in article III of the Treaty of Itaipu (Treaty).

The 'BBB-' foreign currency rating on Itaipu reflects our view of the entity's 'bb+' SACP, plus one notch of support, given our view of an "extremely high" likelihood of the Brazilian government providing extraordinary, timely and sufficient support for Itaipu in a financial distress situation. This opinion is based on our assessment of the following characteristics of Itaipu:
The "critical" role that Itaipu plays for the Brazilian electricity sector, as it supplies about 17% of Brazil's electricity demand. The "very strong" link with the Brazilian government, which guarantees 100% of Itaipu's debt since the construction period and actively restructured the entity's debt in 1997.

Although Itaipu is only 50% indirectly owned by Brazil, we consider that the Brazilian government will provide extraordinary support to all of Itaipu's potential cash needs based on the following factors:

- About 93% of Itaipu's revenues come from the electricity sold to Brazil, and Itaipu plays a critical role in supplying about 17% of Brazilian demand for electricity. This, in our view, mitigates the risks related with the lower sovereign ratings on Paraguay.
- In 1997, the Brazilian Treasury supported Itaipu's debt restructuring, refinancing the debt with a smooth amortization profile until 2023.
- The Brazilian government guarantees 100% of Itaipu's debt. As of Dec. 31, 2013, the Brazilian government--through the National Treasury and Eletrobras--is responsible for 99.2% of Itaipu's debt, being the most relevant creditor for the entity.
- Since the beginning of Itaipu's operations, in 1985, Brazil acquired its share of Itaipu's electricity generation and the surplus not used by Paraguay, even during times of lower energy demand in Brazil, in order to guarantee the timely payment of Itaipu's debt. In addition, Brazilian Law 5,899 and its updates, stipulates that distribution companies in the Southeast and South regions of Brazil, which represent the largest consumption markets in the country, have to acquire part of their electricity supply from Itaipu.
- In 1987, when Brazil defaulted on its debt obligations, Eletrobras continued to purchase Itaipu's electricity and make its payments on a timely basis, so that Itaipu could continue paying its debt obligations.

We assess Itaipu's business risk profile as "strong," given its "excellent" competitive advantage as it's not exposed to volume or price risks, resulting in the stability and predictability of its cash flows. The Treaty establishes the creation of Itaipu, the rules for the entity's electricity generation sales, and the pillars to determine Itaipu's tariff. The electricity production is equally divided between the two countries and, should one of them be unable to consume all of its share, the other has the right to acquire the surplus.

Itaipu as a hydro power generation plant is, in our view, part of the unregulated power industry, which we assess as "moderately high" risk. Itaipu is not exposed to the Brazilian or Paraguayan regulatory framework for the electricity sector. However, the entity is vulnerable to Brazilian and Paraguay country risks since Itaipu sells electricity exclusively to them. While Brazil has a "moderately high" risk, Paraguay has a "high" risk and, weighting it by the revenues' flow, it results in a Corporate Industry and Country Risk Assessment (CICRA) of "moderately high" risk. Itaipu supplies
about 17% of Brazilian national demand and about 75% of Paraguay's; as such, we view it as an important asset for both countries.

We believe that the Treaty of Itaipu has strong mechanisms to mitigate the risks involved in the operations of a typical hydro plant, including volume and price risk. First, Itaipu must use, as determined in Annex C of its Treaty, a specific formula to calculate its tariffs, assuring that operating expenses, debt service, and investments will be covered in full until 2023. This guarantees the stability and predictability of Itaipu's cash flow generation and the amortization of its debt until its maturity in 2023. At that time, Brazil and Paraguay will renegotiate the terms as to how Itaipu's electricity will be sold. Second, in accordance with articles XIII and XIV of the Treaty, Brazil and Paraguay, through Eletrobras and Ande, are committed to acquiring Itaipu's electricity production in full, offsetting the demand risk. In order to secure the demand, Brazilian Law 5,899 and its updates, determines that distribution companies in the Southeast and South regions of Brazil—which represent the largest consumption markets in the country—have to acquire part of their electricity supply from Itaipu. Finally, Itaipu does not have hydrology risk as it does not have a commitment to buy electricity in the spot market to honor its contracts, unlike other electric power generation companies in Latin America.

Itaipu is a single-asset hydro plant and the second largest in the world with 20 turbines, resulting in a total installed capacity of 14,000 megawatts (MW). Itaipu is located in the Paraná river watershed, which is a confluence of a large number of rivers in Brazil, thus guaranteeing a high volume of water for the entity. Also, Itaipu can tap a reservoir covering an area of 1,350 square kilometers, with a maximum volume capacity of 29 billion cubic meters, mitigating the risks of insufficient water to produce electricity. In 2013, Itaipu presented an availability ratio of 96.2%, which is in line with the historical average of the plant and also with other hydro plants in Latin America. By contrast, Three Gorges hydro plant in China, the largest in the world, has an installed capacity of 22,400 MW through 32 turbines and a reservoir area of 1,045 square kilometers with a maximum volume capacity of 39.3 billion cubic meters.

Itaipu's financial risk profile is "aggressive," reflecting the entity's leveraged credit metrics due to its large debt. We believe that interest coverage ratios are the most appropriate measure to reflect Itaipu's ability to service its debt, because of the strong predictability of its revenues. Itaipu's debt is $13.8 billion and the current debt service represents about 50% of its annual cash needs, as of December 2013. The interest rates on Itaipu's debt are fixed, guaranteeing a strong predictability on the uses of cash. Also, principal amortization increases as interest payments diminish, resulting in Itaipu's stable debt service through the years, after the debt restructurings in 1997.

Itaipu receives its revenues in U.S. dollars, which is the same currency for 99.7% of its total debt, mitigating any possible currency mismatch. The entity has some operating expenses denominated in the local currencies of Brazil and
Paraguay; however we do not consider that these will affect Itaipu.

Our base-case scenario assumes:

- Itaipu's electricity generation will remain about 97,000 gigawatt per hour (GWh) annually, as there is no track record of drought in Paraná river and due to the presence of Itaipu's large reservoir;
- Itaipu will incur in expenses of about $3.8 billion annually, including interest payments, debt amortization, operating expenses, and investments;
- Annual tariff adjustments, as determined in Annex C of the Treaty, will generate enough revenues to cover its cash uses;
- Very low maintenance investments of $34 million in 2014 and $10 million in 2015; and
- In order to avoid any potential dilution of Brazil's or Paraguay's ownership of Itaipu, all investments are made through new debt, never through cash flow generation.

Based on these assumptions, we arrive at the following credit measures:

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<tbody>
<tr>
<td>EBITDA (Bil. $)</td>
<td>1.6</td>
<td>2.0</td>
<td>1.9-2.1</td>
<td>1.9-2.1</td>
<td>1.9-2.1</td>
</tr>
<tr>
<td>Debt/EBITDA (x)</td>
<td>10.4</td>
<td>7.6</td>
<td>7.0-7.5</td>
<td>6.5-7.0</td>
<td>5.5-6.0</td>
</tr>
<tr>
<td>EBITDA interest coverage (x)</td>
<td>1.5</td>
<td>2.0</td>
<td>2.0-2.5</td>
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<td>2.5-3.0</td>
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A--Actual; F--Forecast.

We expect Itaipu to continue servicing its debt obligations, until its final maturity in 2023. The mechanism established on Annex C of the Treaty guarantees that Itaipu will generate enough cash flows to continue amortizing its debt.

**Liquidity**

We assess Itaipu's liquidity as "adequate." Given its tariff structure, the entity does not need to maintain a high cash position. Therefore, Itaipu can cover all its cash needs in the next 24 months, even if its EBITDA declines by 15%. In addition, the entity has no financial covenants. The main sources of liquidity are:

- Cash position of $408.5 million, as of Dec. 31, 2013, of which 94% is invested in Brazil in banks with an investment-grade rating;
- Annual funds from operations (FFO) of $1.1 billion-$1.2 billion in 2014 and 2015; and
- New debt that will be equal to the amount of its investments.

The main uses of liquidity are:

- Annual debt amortization of $1.2 billion in the next two years; and
- Investments of $34 million in 2014 and $10 million in 2015.
Outlook

The stable outlook on Itaipu reflects our view that the entity will continue to play an essential role in Brazil's electricity sector and will therefore continue to receive timely support from the Brazilian government, if needed. Consequently, rating actions on the entity should mirror those on the Brazilian sovereign.

Any rating action, whether a downgrade or upgrade, would be closely linked to that on the Brazilian sovereign, based on our view of Itaipu's continued "extremely high" likelihood of support from the Brazilian government.

Ratings Score Snapshot

Corporate Credit Rating:
• Global Scale Foreign Currency: (BBB-/Stable/--)
• Global Scale Local Currency: (BBB/Stable/--)
• Brazil National Scale: brAAA/Stable/--

Business risk: Strong
• Country risk: Moderately high
• Industry risk: Moderately high
• Competitive position: Excellent

Financial risk: Aggressive
• Cash flow/Leverage: Aggressive

Anchor: bb+

Modifiers
• Diversification/Portfolio effect: Neutral (no impact)
• Capital structure: Neutral (no impact)
• Liquidity: Adequate (no impact)
• Financial policy: Neutral (no impact)
• Management and governance: Satisfactory (no impact)
• Comparable rating analysis: Neutral (no impact)

Stand-alone credit profile: bb+
• Sovereign rating: BBB-/Stable/A-3 in foreign currency and BBB+/Stable/A-2 in local currency
• Likelihood of government support: Extremely high (+1 notch)

Related Criteria And Research

• Key Credit Factors For The Regulated Unregulated Power And Gas Industry, March 28, 2014
• Methodology And Assumptions: Liquidity Descriptors for Global Corporate
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Issuers, Jan. 2, 2014
• Corporate Methodology, Nov. 19, 2013
• Corporate Methodology: Ratios and Adjustments, Nov. 19, 2013
• Country Risk Assessment Methodology And Assumptions, Nov. 19, 2013
• Methodology: Industry Risk, Nov. 19, 2013
• Methodology: Management And Governance Credit Factors For Corporate Entities And Insurers, Nov. 13, 2012
• Rating Government-Related Entities: Methodology And Assumptions

Ratings List

New Rating; Outlook Action

Itaipu Binacional
Corporate Credit Rating
Foreign Currency  BBB-/Stable/--
Local Currency  BBB/Stable/--

Ratings Affirmed

Itaipu Binacional
Corporate Credit Rating
Brazil National Scale  brAAA/Stable/--

Complete ratings information is available to subscribers of RatingsDirect at www.globalcreditportal.com and at www.spcapitaliq.com. All ratings affected by this rating action can be found on Standard & Poor's public Web site at www.standardandpoors.com. Use the Ratings search box located in the left column.

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