Session:

Hydropower investment
How can risk and reward be balanced?

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For more information: www.hydropower.org/congress
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Investing in Hydro Projects in Brazil

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Brazil, a continental country

- 7th largest economy in the world
- Largest economy of Latin America
- Rich in natural resources
- Wide and diversified economy
- Booming domestic market
- Sustainable electricity demand
  Growth (3.8% p.y.)
Brazil presents a large potential for growing

Source: IEA Key World Energy Statistics, 2013 (consolidated data for 2011)
What are the generation needs in Brazil?

Government forecasts investment needs of BRL 122 billion in new generation plants to supply the demand for the next 10 years.

The question is: how to diversify the production mix, increasing renewables and keeping growth in conventional hydro?

Source: EPE / 2014
For generation expansion, the contractual framework is driven by long term PPAs

- Hydro plants: concession is granted for the winners in the auction
  - Minimum price for captive consumers
  - PPA of 30 years to bank the financing
  - Financing: at least 70% is supported by BNDES at subsidy interest rate

- Initial environmental license is granted to the winner
  - Define the boundaries of environmental risks
  - Basically, the entrepreneur takes the construction and production risks
Formula for sustainable development

Concession results from the auction
+ PPA (regulated and Long Term)
+ Initial Environmental License

Bankability of the project for private investors

Sustainable Project for Private and Listed Companies

The environment:

Growing power demand

There exists projects for small, mid and large investors

High level socio-environmental standards

Robust local industry (engineering, civil construction, equipment)

This model is considered a success in Brazil and we already auctioned around 20 GW of hydro plants under this framework, since 2004
Challenges for Developing Hydro Projects in Brazil
Challenges for Developing Hydro Projects in Brazil

• Technical challenges
  – Unexplored new hydro plants are located in the North region of the country, as the other regions achieved saturation
  – North region (close to the rainforest) has flat basins, with high demands from the social and environmental point of view
  – This also means the use of bulb turbine, new technology in Brazil
  – Investor is responsible in case of delays due to transmission constraints and social-environmental challenges

• Financial challenges
  – Hydro plants are intensive in capital and PPPs (public and private partnership) are currently the framework to turn them feasible: consortium leadership is done by the private company
  – Long term PPAs that ensure cash flow were key to achieve financing via Brazilian development bank (BNDES): project financing model
  – BNDES is currently running out of money and new ways of financing must to be developed: private banks, debentures, equity?
Thank you!

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