Developing and Financing of Regional Electricity Transmission Investments
Regional Integration Initiatives in Latin America and the Caribbean

Central America
- Panama-Costa Rica-Nicaragua-Honduras-El Salvador-Guatemala (SIEPAC)

Andean Region (SINEA)
- Colombia-Ecuador-Peru-Chile-Bolivia (SINEA)

New proposal - SIESUR

Caribbean Countries
- Natural Gas
- North Arc
(SIEPAC) was envisioned for the Central American Governments and Spain in 1987;

A Technical Cooperation was granted to develop the political, technical, economic, regulatory and feasibility studies;

In 1996, the six countries of Central America signed the Central American Electric Market Framework Treaty;

Creation of the Electric integration policy (CDMER), regulator (CRIE) and the operator (EOR);

The regional transmission infrastructure from 2008 to 2014 was built by the Network Owner Company (EPR), owned by the six state transmission companies and three extra regional companies.
The Central American Electricity Framework Treaty established that to participate in a public capital company with private participation, in each country designates a public entity order to develop, design, finance, build and maintain a first regional transmission system of interconnection of the electrical systems of the six countries.

- EPR will be governed by private law and legally domiciled in a country in Central America;
- The Framework Treaty authorized public entities in the electricity sector of each country in the region to sign the purchase of the shares of EPR;
- The Countries granted permits, authorization or concessions to the EPR for the construction and operation of the first regional interconnection system, for 30 years;
- No shareholder can control more than 15% of the issued and outstanding shares.
Ownership of EPR

- EPR is a public-private alliance, exclusively for the development of regional electricity transmission, which will be assigned in a planned way to the countries of the region;
- EPR has the regional transmission line designed to operate with two circuits. The first one operating since 2012 and the second is currently under evaluation;
- 66% of the stock is control by public entities through their state-owned companies;
- EPR has branches in the six countries of the region, through which they provide the maintenance required by the existing infrastructure;
- EPR is regulated and its income comes from (CRIE).
Milestones of EPR

- **2002**: Organization
- **2004**: Financing Contracts
- **2006**: Land Acquisition
- **2008**: Bidding Processes
- **2010**: Operation of 1st tranche
- **2012**: First Regulated Income
- **2014**: Fully Operational
- **2016**: Financial and Technical Progress
- **2018**: Regulatory Adjustments
- **2020**: Evaluation of 2nd Circuit
Financing

- The First Stage of the Electric Interconnection System for (SIEPAC) cost of US $ 505 million.
- The IDB financed with a Sovereign Guarantee Loan (SG) US$ 253.5 million;
- US $ 193 were financed without a sovereign guarantee;
- The shareholder companies contributed with US $ 58.5 million;
- Debt service attention has been working effectively, repaying loans in a timely manner.
## Financing Scheme

<table>
<thead>
<tr>
<th>Financing Structure</th>
<th>M US$</th>
<th>%</th>
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<tbody>
<tr>
<td>BID</td>
<td>253.5</td>
<td>50.2</td>
</tr>
<tr>
<td>BCIE (BEI)</td>
<td>109.0</td>
<td>21.6</td>
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<tr>
<td>CAF</td>
<td>15.0</td>
<td>3.0</td>
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<tr>
<td>BANCOMEXT</td>
<td>44.5</td>
<td>8.8</td>
</tr>
<tr>
<td>DAVIVIENDA</td>
<td>11.0</td>
<td>2.2</td>
</tr>
<tr>
<td>OTROS</td>
<td>13.5</td>
<td>2.7</td>
</tr>
<tr>
<td>ACCIONISTAS</td>
<td>58.5</td>
<td>11.6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>505.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

![Pie chart](chart.png)
Current Prices of Electricity

Precios Indicativos de fin de mes de energía en el MER

Graph showing the current prices of electricity in different months from June 2013 to August 2019.
The Inter American Development Bank (IDB)

- We work to improve lives in Latin America and the Caribbean.
- Through financial and technical support for countries working to reduce poverty and inequality, we help improve health and education, and advance infrastructure.
- Our aim is to achieve development in a sustainable, climate-friendly way.
- With a history dating back to 1959, today we are the leading source of development financing for Latin America and the Caribbean.
- We provide loans, grants, and technical assistance; and we conduct extensive research.
- The Bank’s current focus areas include three development challenges – social inclusion and equality, productivity and innovation, and economic integration –.
The role of the Inter American Development Bank

- **1991** The IDB granted its first Technical Cooperation;
- The IDB has provided more than U$21 M in Technical Support, mainly no reimbursable;
- Currently we are supporting SIEPAC with a U$1.5M TC
  - Third Protocol
  - Analysis of Benefits of MER;
  - Transmission rights;
  - Analysis of the Second Circuit;
  - Others,
Regional Authorized Income

• The RAI is the mechanism to repay the debt service and cover the costs of AOM, Profitability and Taxes;
• EPR annually requests to the CRIE the RAI of the following year to be applied as of January 1;
• CRIE issues the corresponding Resolution to meet the Debt Service and the other components;
• In all resolutions, CRIE grants full recognition of the Debt Service;
• Approved resources are always available to meet the Debt Service as the first priority.
“In short, the Central American Electrical Interconnection System (SIEPAC) is a successful mechanism that led to the creation of the Regional Electricity Market (MER). It is a regional public good that helps member countries guarantee a core service, and is also a prerequisite for economic development and continuity of access to basic services for the Central American population”. (OECD)

“In light of the review of the various models of regulation, both the institutional and formal ones, and the associative and informal ones, it is evident that only the first group, FERC and SIEPAC, truly have powers that are likely to have a direct and imperative impact on market rules. The others (associative and abstract), CEER, ERGEG, RERA, which are far from being useless, have a very limited impact on the direction of the market and its rules”. (West African Pool).
Lessons Learned for PPPs in SIEPAC

• Political decision is the first step towards multicountry electrical integration;
• An initial risk analysis was performed, and measures implemented, including initial financing with SG;
• Public Private schemes are important considering that each party provides its expertise;
• An adequate institutional architecture should be considered at early stages of the process;
• Private sector investment is willing to support regional transmission projects if rules for returns on investments are simple and clear;
• Additional services could be considered at the beginning, i.e. optic fiber
• A multi-donor engagement is key to reduce financial and political risks;
• Energy transition should be considered for any future integration program.
The Future

- Adjustment of the market rules in order to achieve the full potential of the initial design;
- Remove local barriers for system expansion;
- Expanding the capacity for electricity transmission to 600MW;
- Analysis of the technologies available to expand capacity;
- The initial estimated Cost of the 2nd circuit expansion is U$250 M;
- Considerations for the development of the extra-regional interconnections between Mexico-SIEPAC and Colombia-Panama;
- All these measures are expected to increase transaction and reduce electricity costs.
First Pan-Arab Energy Trade Conference
Towards an effective regional cooperation in electricity and gas trade among the Arab countries
THE NILE RITZ-CARLTON • CAIRO
NOVEMBER 6-7, 2019

Thank You!

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