Central America Regional Electricity Market

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CDMER Pro tem President
Since 1976 the region began intra regional electricity exchange.

In 1996, the 6 countries of Central America (Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica y Panamá), decide to initiate a gradual process of electric integration, through the interconection of their national electric networks, and subscribed a Treaty with objectives to reach:

- **Promote the development of the electrical industry.**
- **Satisfy the electricity needs of the region with sustainable development.**

The Central America Electric Market Treaty Frame, establishes:

- A 7th market to make regional electricity transactions between agents (state and private electricity companies of each country)
- Coexistence between the 6 markets and this regional market
- Created 3 regional organism as institution
- Created a Company to construct and operate the first transmission infrastructure line, denominated: Siepac
Regional electric transmission system, Siepac

- 15 electricity substations
- Reactive power compensation
- Fiber-optic network communication
- Designed 300 MW transmission capacity

### Transmission Line 230 KV

**COUNTRY** | **kilometres**
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Guatemala | 282
El Salvador | 287
Honduras | 270
Nicaragua | 309
Costa Rica | 489
Panamá | 151
**TOTAL** | **1,788**
## MERs Components

### Legal Framework
- **International Treaty**, and its amendments issued by protocol
  * Central America Electric Market Treaty signed by the 6 countries.
  *Spanish: *Tratado Marco del Mercado eléctrico de América Central*

- Regulatory Rules, issued by the regional regulatory organism

- Regulatory harmonization

### Regional Organisms
- **CDMER - Policy coordinator**
  * Director Council
  *Formed by Energy Ministry/Secretary of each country.
  *Spanish: *Consejo director del MER - CDMER*

- **CRIE - Regulatory Organism**
  *Commission of Regional Electric Interconnection
  *Market rules maker and set tariffs
  *Formed by 1 delegate from each country
  *Spanish: *Comisión Regional de Interconexión Eléctrica –CRIE-

- **EOR – Regional Market and System Operator**
  *formed by 2 delegates from each country
  *Spanish: *Ente Operador Regional –EOR-

### Infrastructure and finance
- **SIEPAC transmission line** was constructed and is operated by a Company: *Empresa Propietaria de la Red –EPR-

- EPR is formed by state electricity companies from each country, and extra region partners companies from Spain, Colombia and Mexico.

- The infrastructure is financed by a tariff, charged to electricity demand tariff of each country.

CRIE and EOR are financed by a tariff, charged to electricity demand tariff of each country.
Fulfilment of regional market rules and coexistence with national regulations

**Characteristics:**

The regional market Treaty is a Law in each country, but has its own field of appliance, the regional electric market

- Regional market is a 7th market
- Must be coexistence and harmony between the both normative: national and regional
- Regional regulator organism has to coordinate with nationals regulators.
- Respect the market model of each country.
- Each country decide how to do the harmonization
- Each country adapt its own rules to allow to its markets agents do transactions on regional market.
- Each national regulator has to do interface between its rules with the regionals rules.
- Each agent that makes transactions at regional market has to fulfill regional and national regulation.
Relationship between MER and national organisms

CDMER is formed by the policy maker of each country.

Coordinate and facilitate the compliance of the Treaty.

Regional Electricity Market (7th market)

National Energy Ministry/Secretary

CDMER

Regional Regulator

Ensure compliance of MERs regulatory framework

Operate the regional system with economic criteria

Coordination between them to allow normative coexistence, harmony

National Electricity Market (6 independent markets)

Ensure compliance of the national regulatory framework

Coordination market operation and transactions

Electricity Exchange between agents from 6 countries

National Regulators

Regional Regulator

Regional Operator

Regional Electricity Market (7th market)
In 2013, "different" regional rules and nationals harmonizations were implemented. Since that, the growth in the volume of transactions is notorious, it is equivalent to 15% of the annual region's generation.

About 34% of the transactions are on opportunity market and 66% in the contract market; but is for short term market, a year or less.
The design capacity of SIEPAC along the 6 countries (300 MW), is not reach yet.
Step Forward

- Currently, a third protocol amendment has being formulated based on improvements identified and reinforcements necessary to direct the development of the MER towards the objectives of the Treaty.

- Additionally, are necessary regulatory reforms that allow the development of long-term contracts in the regional market.

## Third Protocol amendment, major challenges

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<td><strong>INSTITUTIONAL</strong></td>
<td>• MER Governance: reinforcement CDMER roll as MER policy director. CRIE and EOR are technical organism, but not policy makers.</td>
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<td>• Creation of Regional Committee of Appellations, adscript to CDMER, but independent: Instance for impugnation of resolutions/rules issued by the Regulator (CRIE)</td>
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<td><strong>INFRASTRUCTURE</strong></td>
<td>• <strong>Problem</strong>: Maximize transfer capacity between countries: The design capacity of SIEPAC along the 6 countries (300 MW), is not reach yet.</td>
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<td>• Is necessary to reinforce the national transmission lines, to release SIEPAC line from national electricity transactions.</td>
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<td>• Improve the planning coordination between national and regional organisms to identify the investment needs on transmission lines on each country.</td>
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<td><strong>EXTRA REGION RELATIONSHIP</strong></td>
<td>Define the treatment to interconnect with countries no members of the Treaty: Politics decisions</td>
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<td>And must be defined in agreement with the third country:</td>
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<td>• Political, technical guidelines, and regulatory principles</td>
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<td>• infrastructure and its technical and economical feasibility</td>
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Thank You!

First Pan-Arab Energy Trade Conference
Towards an effective regional cooperation in electricity and gas trade among the Arab countries

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