

**UNCTAD, 10th Session of Multi-Year Expert Meeting on Trade, Services,
and Development .**

INTEGRATION TO SUPPORT THE ENERGY TRANSITION: THE CASE OF CENTRAL AMERICAN COUNTRIES

*Day 3 (12 July 2023). Session 5: Promoting international cooperation
to enhance trade in services for energy transition: Global Services
Forum special session.*

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Central American energy integration, a long process

- Central American countries: Panama, Costa Rica, Nicaragua, Honduras, El Salvador and Guatemala.
- Energy integration process within a broader context of economic integration. 50s, 60s.
- The countries needed the development of conventional renewable energy sources (hydro and geothermal).
- International cooperation recommendation pointed to cooperation in the field of electrical energy.
- Creation of state electric utilities, the construction of medium capacity hydroelectric plants, the formation of national electric transmission systems and the electrification programs.
- 1976-1986: 4 binational lines linked the six central American countries.

energy integration, a long process

- 1980, the first feasibility study for the Central American electrical interconnection (UNECLAC).
- 1987 with Spain cooperation, "Interconnection System of Central American countries" (SIEPAC) first proposal.
- 1988-1995: update of feasibility studies and design of the regional electricity market, with support from the IDB.
- 1996: Framework Treaty for the Central American Electricity Market (the Treaty)
- 1997-2001: the Treaty was ratified by the six Legislative Assemblies
- 2001-2014: financing for the construction of the infrastructure that makes up the regional electricity market, including four regional electricity commissions.

Electrical Interconnection System of Central American Countries (SIEPAC)



Components of the Central American regional electricity market

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.

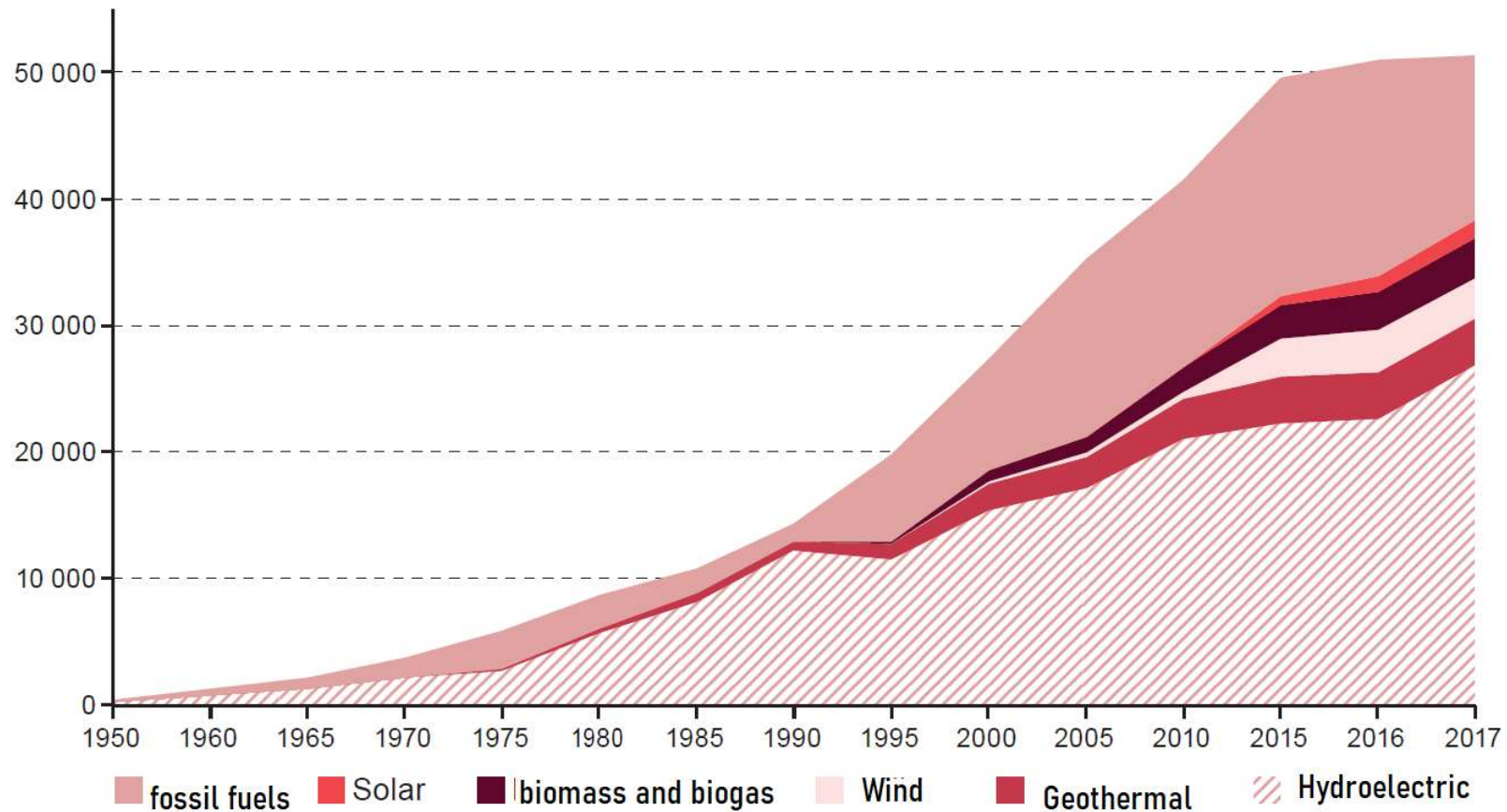
The infrastructure is financed by a tariff, charged to electricity demand tariff of each country.

CRIE and EOR are financed by a tariff, charged to electricity demand tariff of each country.

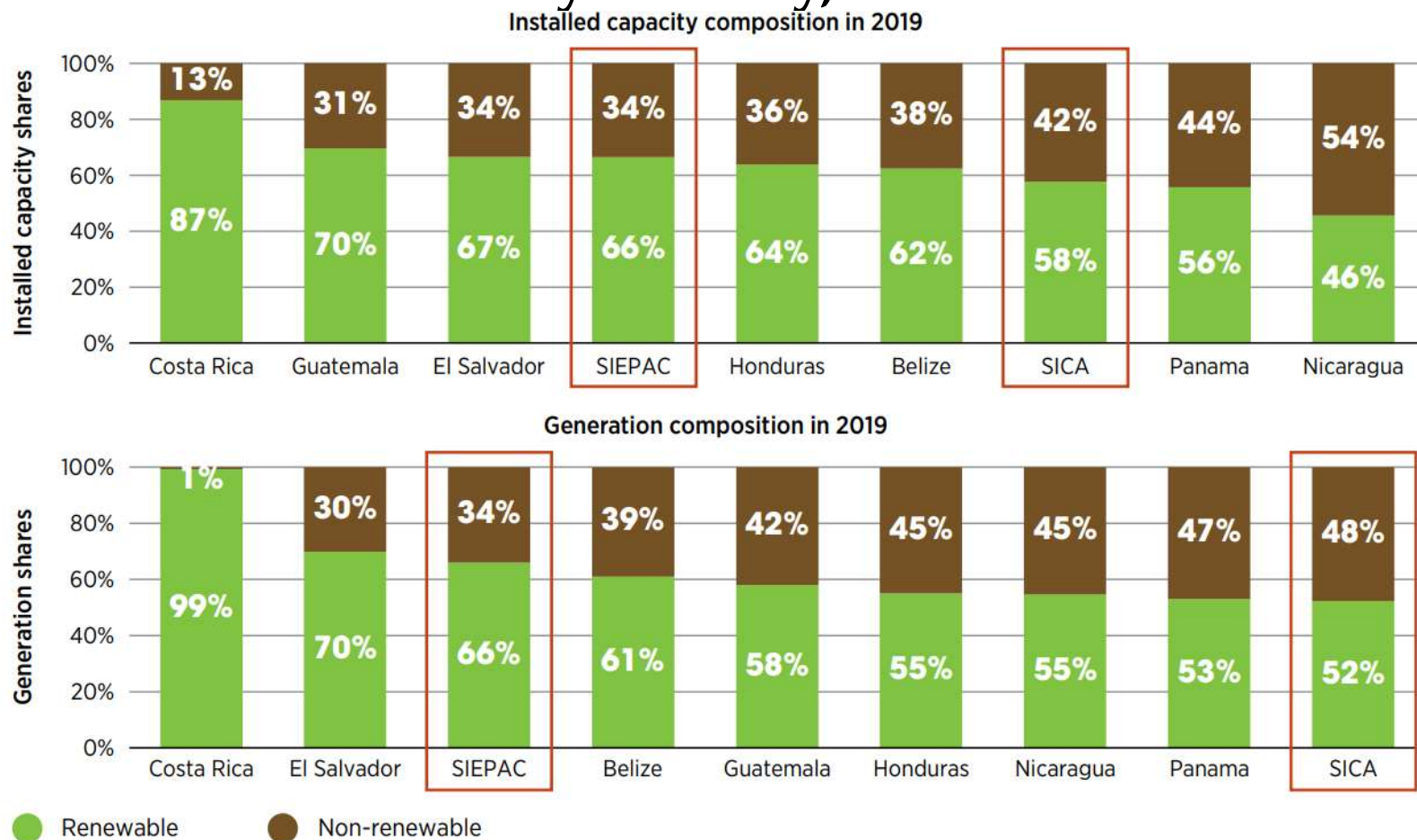
The regional Central American electricity market

- The growth of the electricity market has been very significant.
- The main benefits: the trade in surplus renewable energy and support for energy security.
- The subregion has been able to overcome potential problems of electricity shortages derived from situations of drought or other contingencies,
- Support for intermittent or variable renewable energies (solar and wind) an important benefit.

Central America: share by source in total electricity production, 1950-2017 (GWh)

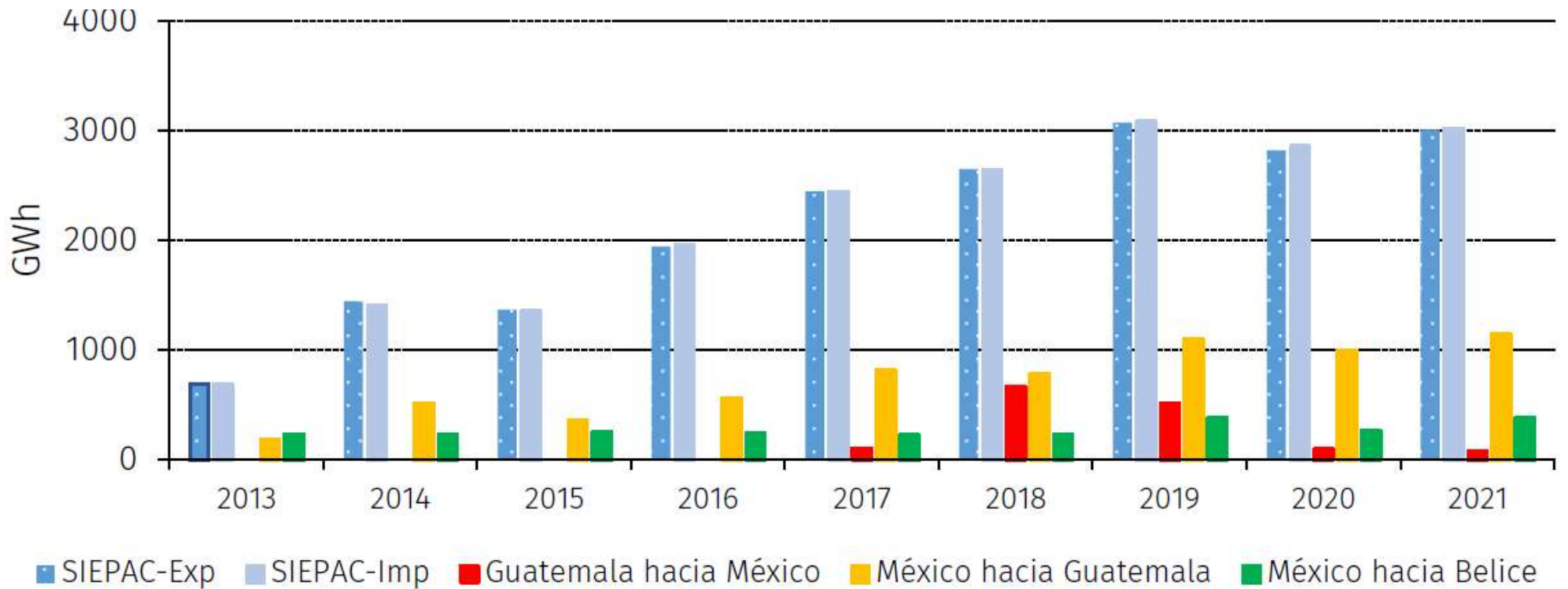


Shares of installed capacity and electricity generation by country, 2019



Source: (ECLAC, 2021)

International exchanges of electrical energy 2013-2021.



Source: CEPAL, Estadísticas del subsector eléctrico de los países del Sistema de la Integración Centroamericana (SICA), 2021 (LC/MEX/TS.2022/30).

The challenges

- To approve mechanisms for the sustainable expansion of the regional electric interconnection system.
- To channel the benefits of electrical interconnection to the entire population, in order to achieve the goal of universal electrification in the year 2030.
- SIEPAC is important to continue supporting renewable energies and achieve a participation goal of 80% in 2030, all in compliance with SDG7.
- Increase energy cooperation and make feasible a regional NDC for the reduction of greenhouse gases.

Thanks !