Paraguay seasonal electricity storage

Why is strategic energy planning important in Paraguay?
The electricity demand projectionsanalyzed emphasize the importance of strategic energy planning. Even though Paraguay has overcapacity in the power system to supply domestic electricity demand,the generation capacity needs to be expanded in the future.

Does Paraguay need to expand its power system?
Also,we estimated the annual revenues for the government of Paraguay and Itaipu through its electricity exports to Brazil. We find that Paraguay needs to expand the capacity of its power system,mainly by investing in hydropower plants,to cover its future electricity needs and sustain national electricity export levels.

Does Paraguay need energy?
In the Reference demand scenario,Paraguay covers its energy needs until 2040,taking into consideration the country´s National Development Plan for 2014-2030 [28]. Also,it maintains its electricity exports to Argentina and Brazil at similar levels compared to 2018 by investing in new hydropower plants,mainly in 2026.

What is the electricity system of Paraguay?
The electricity system of Paraguay is mainly powered by two binational (Itaipu,Yacyreta) and one national (Rio Acaray) hydropower plant. The Parana River,located in the Southeastern area of the country,is responsible for most of this hydroelectric generation potential.

How much electricity does Paraguay need in 2040?
The electricity needs of Paraguay increase from 12.42 TWh in 2018 to 24.40 TWhin 2040. Thus,the existing capacity of the country´s energy system increases from 8.84 GW in 2018,to 11.5 GW in 2026 and 11.65 GW in 2040 to cover the local electricity demand and export the excess electricity.

How much power does Paraguay have?
The total installed capacity of the country was 8844 MWin 2017,with hydro constituting the majority (99.7%). The electricity system of Paraguay is mainly powered by two binational (Itaipu,Yacyreta) and one national (Rio Acaray) hydropower plant.

The increased weather sensitivity caused by heating electrification causes greater total load, but also causes a significant increase in inter-annual, seasonal, and intra-seasonal variations.

This study provides insights for Paraguay on long-term electricity planning, considering future investments in the power system and compares the revenues for the government by setting specific electricity export prices to boost the country´s economy.

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OverviewSummary of private participation in the electricity sectorElectricity supply and demandAccess to electricityService qualityResponsibilities in the electricity sectorHistory of the electricity sectorTariffs and subsidiesThe National Electricity Administration (Administración Nacional de Electricidad, ANDE), Paraguay"s state-owned utility, controls the country"s entire electricity market, including generation, transmission and distribution. Two small companies buy electricity from ANDE and have concessions to distribute and sell it: CLYFSA (Compañía de Luz y Fuerza, S.A.) in Villarrica, and the Empresas Distribuidoras Meno...

Like most of Latin America, the grid-scale battery storage market in Paraguay is at a relatively early stage. However, recent moves by the government show that may be about to change. In early 2021, the country"s grid operator and utility ANDE (Administración Nacional de Electricidad) announced plans to install a swathe of new solar-plus ...

developing areas. Energy self-sufficiency has been defined as total primary energy production divided by total primary energy supply. Energy trade includes all commodities in Chapter 27 of the Harmonised System (HS). Capacity utilisation is calculated as annual generation divided by year-end capacity x 8,760h/year. Avoided

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By creating scenarios for future electricity demand for Paraguay, this study provides information that may aid electricity planning and policy decisions, and may ultimately help remove barriers to economic growth and welfare in Paraguay.

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