

# Paraguay energy storage grid

What is the heating and cooling sector in Paraguay?

The heating and cooling sector in Paraguay, including at the domestic, commercial and industrial<sup>10</sup> levels, is dominated by biomass, mostly firewood, wood chips and charcoal.<sup>11</sup> Despite biomass accounting for about half of primary energy consumption in Paraguay<sup>12</sup>, development has happened mostly on a commercial and least-cost-option basis.

What is Paraguay's energy policy?

**Policy** In November 2014 Paraguay launched a process to design the National Energy Policy. The process, which is expected to last until November 2015, will define Paraguay's energy mix in the short, medium and long-term (25 years) and considers electricity, oil, gas and "all alternative energies".

Does Paraguay need to diversify its energy mix?

Paraguay sees the need to encourage the diversification of its energy mix through the adoption of renewable energy and net zero technologies.

Who has the monopoly for electricity in Paraguay?

The national public utility (ANDE) had the monopoly for electricity in Paraguay (Law 966/64) until 2006, when Law 3009/06 on independent producers allowed for independent generation and transport of electricity for national consumption or export. This included generators from renewable energy resources except from hydropower plants larger than 2MW.

What is the main source of electricity in Paraguay?

Hydropower is the main source of Paraguay's electricity generation and one of its main exports.

**Battery energy storage.** Battery energy storage systems (BESS) hold part of the answer. Of course, most operators will already be well educated as to the benefits of storing excess energy and redeploying it when the sun isn't shining, or the wind isn't blowing to balance the grid and ensure constant reliability.

Late in 2021, SMA commissioned a first-of-its-kind, 57.6 MW synchronous grid-forming energy storage facility which would not have been allowed to interconnect otherwise. During the interconnection study review, the ISO recognized that the SCR at the point of interconnection was extremely low ( $<1.0$ ). For context, a SCR below 3.0 is generally ...

We explore how conventional technologies and price-points of battery storage, thermal storage, rooftop solar, wind turbine, flexible operation of hydropower, and demand side management methods might complement the cost-effective options.

This infographic summarizes results from simulations that demonstrate the ability of Paraguay to match

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all-purpose energy demand with wind-water-solar (WWS) electricity and heat supply, storage, and demand response continuously every 30 seconds for three years (2050-2052). All-purpose energy is for electricity, transportation, buildings, industry,

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

The RRA for Paraguay has identified 15 short and medium-term actions that could create more conducive conditions for renewable energy deployment in the country. These recommendations are grouped in six thematic areas: Strengthen institutional structure and governance in energy; Enhance planning, policy and the regulatory framework for renewable ...

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 ( Administraci&#243;n Nacional de Electricidad ) announced plans to install a swathe of new solar-plus ...

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The capital of Paraguay, Asuncion. The country has not announced any grid-scale energy storage projects to-date. Image: CC / Mariano Mantel. Investment firms PASH Global and ERIH Holdings have formed a joint venture (JV) to develop utility-scale solar and battery storage projects in Paraguay. A spokesperson for UK-based PASH told Energy ...

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In early 2021, the country's grid operator and utility vendor ANDE plans to deploy new solar+storage projects. In Paraguay's "Power Generation Master Plan 2021-2040," seven projects will deploy solar power facilities with battery storage systems. Three larger storage projects with a capacity of 44 MWh will be deployed from 2024 to 2025.

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