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Vietnam Power Grid Energy Storage

Overview

Are battery energy storage systems economically feasible in Vietnam?

However, in Vietnam, there is a widely held industry perception that Battery Energy Storage Systems (BESS) are not economically feasible at this moment, while the country's first pumped storage hydropower (PSH) project Bac Ai with a capacity of 1,200 MW will not be commissioned until 20289.

What is the voltage level of power transmission grid Vietnam?

Power Transmission Grid Vietnam's power system is currently operating with an ultra-high voltage level of 500 kV, high voltage of 220 kV - 110 kV, medium voltage levels from 35 kV to 6 kV, and low voltage levels.

What will Vietnam's power system look like in 2030?

By 2030, the proportion of renewable energy in Vietnam’s power system is expected to increase to about 30%, the total inertia of the system will be reduced to 1.777s. The simulation is performed by using data from Vietnam’s power transmission system (500 – 220 kV) in 2030 according to the PDP 8.

How much money does Vietnam need to build a grid?

According to PDP8, the total investment required for the development of grid from 2021 to 2030 amounts to $14.9 billion, equivalent to $1.5 billion per year or 0.4% of Vietnam's GDP in 2020 (Table 1). The strained state budget alone may struggle to accommodate such substantial financial requirements.

How is the power transmission system simulated in Vietnam?

The methodology for the study is briefly shown in Figure 3-1. In this study, Vietnam's power transmission system (500-220kV) will be simulated in peak/off-peak load conditions with the largest proportion of renewable energy sources (lowest system inertia).

What is the inertia of Vietnam's power system in 2022?

If all generating units in the system are considered, the total inertia of Vietnam’s power system in 2022 is about 1.785s. By 2030, the proportion of renewable energy in Vietnam’s power system is expected to increase to about 30%, the total inertia of the system will be reduced to 1.777s.

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