

Armenia Hybrid Compression Energy Storage Power Station

How much does it cost to rebuild a HPP in Armenia?

Various upgrades have been performed since the early 2000s, and one of the seven HPPs (Yerevan HPP) is currently under reconstruction at a cost of USD 40 million. Constructing small HPPs is Armenia's favoured course of action to develop the renewable energy sector and secure energy independence.

How many HPPs are there in Armenia?

Forming the foundation of Armenia's renewable energy system as of 6 January 2022 were 189 small, private HPPs (under 30 MW), mostly constructed since 2007. Installed capacity is approximately 389 MW for annual generation of 943 GWh, covering 14% of domestic supply.

What percentage of Armenia's Energy is renewable?

Renewable energy resources, including hydro, represented 7.1% of Armenia's energy mix in 2020. Almost one-third of the country's electricity generation (30% in 2021) came from renewable sources. Forming the foundation of Armenia's renewable energy system as of 6 January 2022 were 189 small, private HPPs (under 30 MW), mostly constructed since 2007.

Can bioethanol production be exploited in Armenia?

Annual biogas potential of around 135 mcm is just beginning to be exploited, and the Renewable Energy and Energy Efficiency Fund recently produced an Assessment of Bioethanol Production, Potential Utilization and Perspectives in Armenia exploring possibilities for bioethanol production and presenting the concept to investors.

Does Armenia have solar energy?

Armenia has significant solar energy potential: average annual solar energy flow per square metre of horizontal surface is 1 720 kWh (the European average is 1 000 kWh), and one-quarter of the country's territory is endowed with solar energy resources of 1 850 kWh/m² per year. Solar thermal energy is therefore developing rapidly in Armenia.

What is the thermodynamic efficiency of hydrogen compression system based on metal hydride?

The efficiency of the hydrogen compression system based on metal hydride is determined by the relationship between the complete compression work and the heat input into the reactor. Therefore, the thermodynamic efficiency of the MH compressor can be given by : $\eta_{th,mhc} = \frac{W_{comp}}{Q_t} \cdot 100$



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