Energy storage systems yerevan

Energy storage systems yerevan

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 6January 2022 were 189 small, private HPPs (under 30MW), mostly constructed since 2007. Installed capacity is approximately 389MW for annual generation of 943GWh, covering 14% of domestic supply. Several small plants also produce wind power (4.23MW), bioenergy (0.835MW) and solar power (56MW), with limited impact on system supplies.

Vorotan Cascade power generation complex, commissioned during 1970-1989 and operated by the private company ContourGlobal Hydro Cascade CJSC, has an operating capacity of 404MW (installed capacity is also 404MW). Annual generation is approximately 1000GWh from three HPPs, covering 15% of domestic supply. Vorotan Cascade"s assets are ageing, however, and require extensive upgrades; a short-term EUR51-million rehabilitation plan is therefore under development.

Meanwhile, International Energy Corporation CJSC operates the privately owned Sevan-Hrazdan Cascade complex of hydroelectric plants, with an operating capacity of 552MW (installed capacity is 561MW). It was commissioned during 1940-1962, and annual generation is approximately 450GWh, or 6% of domestic supply. 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 USD40million.

Constructing small HPPs is Armenia"s favoured course of action to develop the renewable energy sector and secure energy independence. Most designated, under-construction or operational small HPPs are derivational stations on natural water flows. According to licences issued as of 1January 2022, 20more small HPPs are under construction, with total projected capacity of 39.3MW supplying 136.7millionkWh of electricity annually.

Armenia has significant solar energy potential: average annual solar energy flow per square metre of horizontal surface is 1720kWh (the European average is 1000kWh), and one-quarter of the country"s territory is endowed with solar energy resources of 1850kWh/m2 per year.

Solar thermal energy is therefore developing rapidly in Armenia. Because solar water heating systems not only ensure energy savings but have become cost-effective, they have been installed in nurseries, residential homes and medical facilities through charitable programmes with international funding.

Various low-capacity PV demonstration modules have also been installed: polymeric photoelectric inverters with 9.8kW of capacity and total surface area of 200m2 have been assembled on the roof of the Armenian American Wellness Centre, and solar power plants have been installed on the roof of the UN office as well as

in the town of Spitak. A solar PV power plant with 100kW of installed capacity was also built at the Caritas organisation"s Gyumri Day Care Centre for Children and Youth with Multiple Disabilities.

The Renewable Energy Investment Plan for Armenia was approved within the framework of the Climate Investment Funds" Scaling-Up Renewable Energy Programme (SREP), which has allocated resources to develop up to 110MW of utility-scale solar PV generation.

Wide implementation of solar PV systems is currently in progress. As of 1July 2022, around 102.8MW of solar PV installations (of up to 5MW each) were in operation. Another batch of grid-connected PV power plants totalling 176.7MW are under construction, the largest being the Masrik solar PV station with 55MW of installed capacity. Moreover, more than6940 autonomous electricity producers with 136.1MW of total installed capacity are connected to the distribution grid.

According to the Armenian Wind Atlas developed in 2002-2003 by the US National Renewable Energy Laboratory in collaboration with SolarEn of Armenia, the most favourable areas for grid-connected wind power are classified as 4 to 7 (good to excellent) for wind power resources.

As of 1January 2020, wind energy implementation in Armenia was limited. In addition to already-operating wind farms with total installed capacity of 4.23MW, only one more is under construction with a design capacity of 4MW.

Contact us for free full report

Web: https://www.hollanddutchtours.nl/contact-us/
Email: energystorage2000@gmail.com
WhatsApp: 8613816583346