Energy storage policy updates armenia

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The Republic of Armenia (Armenia) is a landlocked country in the southern Caucasus region between the Black and Caspian seas, bordered by the Republic of T?rkiye (T?rkiye) on the west, Georgia to the north, Azerbaijan on the east and Iran to the south. The country is approximately 29800km2 with a population of 2.969 million. Yerevan, the capital, is the largest city with 1.092million inhabitants.

Armenia"s economy has undergone numerous reforms since the economic crisis of the early to mid-1990s. It has evolved from having a Soviet-era centralised structure to a partially market-oriented economy, with privatisation of most enterprises. An influx of foreign capital and funding from donors since the early 2000s has contributed to healthy economic growth, and Armenia"s real GDP increased 5.72% per year from 2002 to 2021 (measured in USdollars at 2017 PPP prices). Real GDP per capita was USD4670 in 2021, roughly six times what it was in 2002.

Armenia"s reliance on export-oriented industries and high remittances from the Armenian diaspora (which accounted for 10.5% of GDP in 2021) expose the economy to price and demand fluctuation risks. During the latest global financial crisis, the country"s real GDP fell 15% and poverty rose from 27% in 2008 to 35% in 2011. However, targeted social expenditures and pension increases have induced economic growth, and the poverty level had fallen to 27.0% in 2020.

Lacking indigenous resources, Armenia imports natural gas and oil for most of its energy needs (78.6% of total energy supply in 2020), mainly from the Russian Federation (hereafter, "Russia"). Natural gas is imported from Russia via pipeline through Georgia, but also from Iran through a barter agreement under which it exports electricity in exchange.

Armenia also trades electricity with Georgia, though volumes are low since the countries" networks are not synchronised. Energy interconnections with Azerbaijan and T?rkiye are currently inactive for political reasons.

Prompted by a severe electricity supply crisis in the mid-1990s, Armenia has revamped its energy sector over the past 20 years. Parts of the sector have been privatised, some companies have been restructured, most households now have access to gas, and cost-reflective tariffs have been introduced. This has led to ample investment in capacity and networks, which has considerably improved reliability; funding came mainly from the donor community, upon which Armenia still relies for support.

Energy policy is now focused on developing indigenous energy sources, mainly renewables, and on extending the lifetime of the nuclear reactor that supplies nearly one-third of the country"s electricity. The government has begun to pay more attention to energy efficiency issues, and the second National Energy Efficiency Action Plan (NEEAP-2) was developed in 2020.

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Armenia relies on imports of natural gas and oil for most of its energy needs, which exposes it to supply risks and dependence on a single supplier. As the government considers energy security and the development of indigenous sources to be of prime importance for the energy sector, renewables and efficiency measures are key areas. To satisfy expected demand growth while increasing reliability, the government aims to increase capacity and promote domestic energy sources.

In 2014, the government developed the Scaling-Up Renewable Energy Programme Investment Plan. It is an update of the Renewable Energy Roadmap developed in 2011 and includes comprehensive analyses of renewable energy potential, costs and benefits, and the viability of specific technologies. It also sets targets and objectives for renewable energy to 2025, including a plan for financing.

The investment plan describes the first geothermal and solar PV projects, which are being developed by the government and serve as examples for other investors. Nuclear energy accounts for nearly one-third of the electricity supply and is of strategic importance. Therefore, although the existing reactor is old, its service lifetime has been extended to 2026, at which time the government intends to extend its lifetime once again to at least until 2036. This second extension is forecast to require an additional USD150-million investment.

The government"s ambitious plan to increase renewables to 66% of the power generation mix by 2036 (from 7% in 2012) includes small hydro, wind and solar PV resources, but excludes biofuels. To reach this target, Armenia will need to have 2185MW of new renewable energy capacity installed by 2036. Estimated projected capacity additions comprise 50MW of small hydro and 141MW of large hydro, 500MW of wind, and 950MW of solar PV.

Regulatory reforms have supported power sector advances since the mid-1990s. A commitment to cost-recovery tariffs has facilitated investment in infrastructure and attracted substantial private-sector investment, resulting in improved reliability, service quality and operational efficiency.