Energy storage albania

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Located in the western part of the Balkan Peninsula in South-eastern Europe, Albania hardly makes the headlines when it comes to its developments and aspirations in the energy sector. However, the country"s energy mix has one of the highest shares of renewable energy in Europe.

In 2020, the share of renewables reached 45% of the total primary energy supply, up from the 38% target that the government had set in its National Renewable Energy Action Plan (NREAP, 2018-2020). A year later, in December 2021, Albania adopted the National Energy and Climate Plan (NECP), with the country pledging to further increase the share of renewables to 55% by 2030.

However, at the same time, the country"s sole reliance on hydropower has made its domestic energy production more vulnerable to climate conditions. Changing weather patterns over the years have forced the country to import energy to cover domestic needs, as a lack of storage capacity requires Albania to sell its generated power during peak months of production. Imports can reach up to 40% of power needs, especially during periods with low rainfall levels, as it happened in 2017 when import costs were equivalent to about 1.5% of the country"s GDP.

While wind and solar investments have recorded a significant growth over the past decade, they still represent a very small share of the country"s energy supply as they started from a very low base.

Today, Albania remains a net energy importer as domestic energy production is not able to meet demand. When it comes to renewable energy imports, Eurostat data shows that the country ranks 8thin Europe. This is even greater than the dependence of other countries in the Balkan region which have fewer renewable resources to expand their domestic production capacity.

The reliance on imports has made the future sustainability of power supply one of the key national challenges. Power cuts seem to be a regular phenomenon, posing a further economic quandary for the country. According to World Bank, Albania ranks second only to Kosovo among European countries for the number of power outages that establishments might encounter in a typical month.

Things might even deteriorate further this winter. The current energy crisis seems to be threatening an already precarious energy situation, with the Prime Minister cautioning that this winter could be the hardest Albania has ever encountered.

The deployment of a diversified energy mix which will include more renewable sources will be critical for the country to bolster its energy security, which is expected to be a key factor in sustainably meeting energy demand growth and enabling economic growth in the years ahead.

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Opportunities for renewables, and especially for solar and wind energy, are extensive in Albania. According to IRENA"s Renewables Readiness Assessment report (2021), the solar radiation is very high throughout most of its territory, with the country enjoyingsome of Europe"s highest number of sunshine hours per year. Although Albania has currently no wind power capacity, the country also presents a significant cost-competitive wind potential based on IRENA"s estimates.

Integrating solar and wind resources in the energy mix can, thus, provide the country with a higher, cost-competitive domestic supplythat could meet not only current electricity demand, but also be used in new end-use applications that are transitioning towards electrification. A good example of that is the transportation sector which is the largest energy consumer and a major contributor to the country"s greenhouse gas emissions.

In addition to eliminating the electricity deficit and taking electrification to new sectors, Albania canincrease its potential to unlock new industries and investment using clean energy. The country can explore opportunities to produce green hydrogen through solar and wind power. Hydrogen could be used domestically in hard to abate industries, another important source of emissions in the country which cannot be electrified.

The government of Albania seems to have already acknowledged the need for a diversified energy production mix. The Minister of Energy and Infrastructure, Belinda Balluku, has repeatedly highlighted that one of the key pillars of focus is the national strategy on energy diversification. However, any efforts towards that goal need to be bolder and more concrete.

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