Energy independence slovakia

Energy independence slovakia

By 2030, Slovakia expects a significant increase in renewable energy consumption, amounting to approximately 1,972 ktoe (or 22.9 TWh). The country’s strategy includes a diverse mix of renewable energy sources with allocated installed capacities by 2030 as follows: Hydro power (1,755 MW), Photovoltaics (1,200 MW), Wind energy (500 MW), Biomass (200 MW), Biogas/biomethane (200 MW), and Geothermal (4 MW). Biomass currently dominates electricity generation from renewables, followed by biogas, solar, and hydropower.[2]

Despite its high potential, wind energy remains largely untapped in Slovakia due to its perceived instability and regulatory hurdles. Since 2009, the construction of wind power plants has almost complitely halted, with two small wind parks existing in Cerov? and Myjava. The regulatory and legal framework continues to pose challenges for the installation of smaller wind turbines for household use. Meanwhile, two government-approved hydropower plants are on hold, with commissioning not expected before 2025.[3]

The Vah and Orava rivers, particularly in the areas before Stary Hrad and after Kralovianski Meander, including the Oravka tunnel, present significant hydropower potential. Power plants situated in these areas with a capacity over 30MW are considered extremely profitable due to the low cost per installed megawatt. The strategic locations along these rivers provide optimal conditions for harnessing hydropower efficiently.

By leveraging the potential of smaller rivers, Slovakia can capitalize on SHPPs to stimulate economic development in undeveloped regions. This approach not only provides an opportunity for creating new jobs but also accelerates economic growth in areas with significant population segments. The integration of SHPPs into Slovakia’s energy mix could be a strategic move towards enhancing the country’s energy landscape, offering a sustainable and efficient method to increase renewable energy production while contributing to local development and environmental conservation.

Companies are increasingly prepared to finance green electricity sources, with expectations of state support, as stated by Chemosvit CEO Jaroslav Mervart. In response, the economy ministry is devising strategies to subsidize part of these costs. Zsolt Bindics, a co-investor in the ?t?rovo park, highlighted Hungary’s more substantial investments in green power plants compared to Slovakia, criticizing the Slovak government’s inadequate communication regarding the release of additional capacities for entrepreneurs.[6]

The Slovakia Program for the Just Transformation Fund has endorsed a proposal to designate the geothermal energy project in the Kosice Basin as a national priority, enabling it to receive funding of EUR56.1 million. This funding aims to facilitate the supply of geothermal heat to the Kosice region by 2026.[7] The decision was made by the Monitoring Committee of the Commission for the Just Transformation Fund, an integral part of the Slovakia Program, which allocates a total of EUR441 million to support regions transitioning to a

greener economy.[8]

With the allocated funds, the project developer MH Teplarensky Holding and its partner GEOTERM KOSICE are set to advance the Kosice heating plant project. The total estimated cost for this endeavor is EUR88 million. The initiative not only aims to provide heating solutions but also to support agriculture and recreational activities through residual heat distribution along the heat pipe’s 15-kilometer route.[10]

Kosice Mayor Jaroslav Polacek highlights the long-standing recognition of the area’s geothermal resources, expressing optimism about the project’s progress towards providing ecological heat and establishing Kosice as a leader in geothermal energy utilization in Slovakia.[11] Additionally, a 2023 amendment to Slovakia’s “Act on Heating” proposes to streamline the construction of heating infrastructure using geothermal and other renewable sources.[12]

The commitment to geothermal energy in the Kosice region represents a significant step towards enhancing Slovakia’s energy independence and environmental sustainability. This initiative reflects an increasing trend towards sustainable and self-sufficient energy strategies that are essential for long-term economic and environmental stability.

The Mochovce plant, consisting of four VVER units, commenced construction of its first two units in 1982. Units 3 and 4 began construction in 1986 but experienced delays, halting in 1992. The first two units were completed and commenced operations in 1998 and 1999. A decade later, efforts to complete the remaining units resumed, with Unit 4 following a year or two behind Unit 3. Once fully operational, each unit is expected to supply 13% of Slovakia’s electricity needs.

Significant safety and security enhancements have been integrated into the final design of the new units, including improved aircraft impact protection and emergency management systems. These enhancements were influenced by the lessons learned from the Fukushima disaster.

Slovensk? elektr?rne, a venture equally owned by the Slovak state, Italy’s Enel, and the Czech EPH group, has renegotiated its supply-and-pricing agreement with Slovakia’s Ministry of Economy and Ministry of Finance.[14] This renegotiation, part of measures to mitigate high energy prices, extends the agreement to provide 5.5 TWh of electricity annually to households for 2025, with a gradual increase in prices until 2027. The agreement awaits the European Commission’s approval.