BULGARIA

1. INTRODUCTION

In recent decades, Bulgaria has established itself as an energy leader in the Balkan region. Traditionally, the Bulgarian energy sector is based on conventional energy sources, like coal, nuclear energy, and hydroelectric power plants. In recent years, the role of renewable energy sources has become increasingly established in the electricity mix, which, together with the undeniable benefits, leads to several challenges for the balancing of the electricity system.

The main challenges facing strategic energy planning in Bulgaria are related to the implementation of energy transition policies. The main priorities are related to the transition to low-emission sources as follows:

- Construction of new nuclear builds to improve the country's energy security.
- Increasing the capacity of Renewable Energy Sources (RES).
- The integration of grid capacity transmission capacity with neighboring countries.
- Development of hydropower plants.

The main challenges Bulgaria faces are related to the plans for the decommissioning of coal plants. At present, they make up more than 40% of the gross electricity production in the country and coal-fired thermal power plants are fundamental for the stability of the electricity system, because they provide irreplaceable system services related to the regulation and balancing of the system.

The opportunities for restructuring coal regions in the long term are related to the appropriate transition of the coal complex through the introduction of innovative new energy technologies. It is important to note that this transition should happen smoothly, while maintaining the full energy and human resources potential of the existing coal, especially in the Maritsa Basin.

2. POLICY PATHFINDING FOR MANAGING THE TRILEMMA

In the context of energy transformation, Bulgarian energy leaders and policymakers have identified the cost of capital as a key factor and area of priority action. This is because the energy transition requires the mobilization of significant financial resources related to the construction not only of new electricity production capacity such as new nuclear builds, but also to the development of electricity infrastructure, the increase of transmission capacities, investments in personnel, etc.

Supply chains are another crucial element that the country needs to work on, especially in the context of disrupted traditional and decades-old logistics routes. As already mentioned at the beginning of the report, Bulgaria relies heavily on coal energy to cover the country's power balance. Policies, especially recently, related to the rapid decommissioning of coal power plants naturally cause concern to Bulgarian energy leaders and policymakers. That is why policymakers and energy leaders in Bulgaria believe that a transition period should be provided for the fossil industry in the country, which can be supported not only by direct subsidization, but also by several administrative measures.

Another important aspect of priority action in Bulgaria is the development of energy storage systems. This is particularly important in the context of the penetration of an increasing number of intermittent energy sources. The priorities for the country in terms of energy storage can be systematized both in the development of pumped-storage hydropower plants and other types of energy storage systems.

The most important goal facing the strategic planning in the energy sector of Bulgaria is related to ensuring the energy security of the country, in the context of the implementation of the energy

transition. This transition should take place appropriately according to the specifics of Bulgaria (such as the availability of local energy resources and system connectivity), be at a tolerable socio-economic cost and not pose threats to the country's energy security.

In terms of energy security, the main goal is to preserve the generating capacity, in the face of conventional plants - coal-fired power plants, nuclear energy and hydroelectric power plants. The country's strategic plans see the maintaining the capacity of coal plants in the context of the provision of irreplaceable system services for the electricity system, especially in the short-term timeframe. In addition, it is planned to build at least 2400 MW of new nuclear builds, develop renewable energy capacity, develop electricity storage systems and develop pumped hydro power plants.

Regarding import Independence, Bulgaria's main goal is to maintain the level of energy independence. This can only be achieved through a higher use of local energy resources, including coal from the Maritsa Basin, nuclear energy and renewable energy sources.

Regarding electricity prices, especially in the context of the energy crisis and the upcoming transition to full liberalization of the market for households, the main objective is to ensure affordable electricity prices - both for households and businesses, and to provide for social protection mechanisms in case of force majeure in case of exceptionally high electricity prices.

WORLD ENERGY COUNCIL

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Bulgaria Member Committee