

HUNGARIAN NATIONAL ENERGY AND CLIMATE PLAN (NECP)

Expert Statement

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Hungary has notified Austria about the Strategic Environment Assessment (SEA) procedure under the Espoo Convention and the EU SEA Directive related to the Hungarian National Energy and Climate Plan (NECP).

Austria is participating in the transboundary SEA.

The Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology commissioned the Federal Environment Agency to prepare an expert opinion on the submitted documents.

In the NECP it is stated, that *“The government aims to ensure that most of Hungary’s electricity production comes from two sources: nuclear and renewable energy, mainly solar power plants. These are not technologies, which replace or exclude one another, but ones that support each other, and both can be considered clean energy sources. Their efficient operation requires the development of energy storage capacities. Nearly half of Hungary’s electricity generation comes from carbon-neutral nuclear energy.”*¹

The revised NECP now targets at least a 50% reduction in greenhouse gas (GHG) emissions by 2030, revised up from 40%, compared to 1990 levels, and plans to cap final energy consumption at 750 petajoules (PJ).

Reducing the country’s import dependence has become a priority for the government after the energy crisis. The surge in oil and gas prices has deteriorated the country’s trade balance by close to €10bn in 2022 and led to a currency crisis. Hungary depends on imports for 76% of its energy supply, over the European Union average of 71%.

Hungary seeks to boost the share of renewables in its energy mix to 29% from 21%. This entails increasing the share of solar energy in the energy mix as well. Installed solar capacity is set to reach 12 GWh by 2030, double the earlier target.

Referring to the above mentioned aims, it can be said, that the underlying assumption and projections are optimistic, but not conservative.

In the following, we outline some key arguments to underline the said above:

- The construction license for Paks II is still not in force, as it is dependent on a decision by the Hungarian Nuclear Regulatory Authority, which is still going to assess the Preliminary Nuclear Safety Assessment Report. This assessment is ongoing for a long time and it is not yet known, what is the status of this assessment and how long it still might take, until a final decision

¹ National Energy and Climate Plan, Revised version 2023 page 22

will be announced. As long as this assessment is not completed, construction work of the plant cannot start. This has an impact on the commissioning date of Paks II, even if, as can be observed at several other nuclear power plant construction sites worldwide, this does not mean that construction as such can be completed as planned once a construction license has been granted.

- Contrary to the statement at the beginning of the Environmental Assessment for Paks II, it is now planned that the older VVER-440 units of Paks I will remain in operation and that Paks I and Paks II will be operated in parallel for a long time. The respective EIA procedure and, more relevant, the assessment of the four units has not yet started and/or relevant results of preliminary assessments are not yet known. It cannot be taken for granted that all four units of Paks I will be allowed to continue operating until the necessary tests and calculations and their independent review have been finalized and approved.
- Even an increased water temperature of the Danube river downward the plants of Paks I and Paks II might not be an issue of nuclear safety. However, this might have an impact on availability and certainly on revenue. These mainly financial implications at the level of the operating company and at the level of electricity generation has not been addressed in the NECP. In this context, the statement of the EC is of relevance, which stated: “Adaptation in dimensions of the Energy Union other than decarbonisation is not addressed in the draft updated NECP. In particular, its discussions on the water aspects and water-related topics appears incomplete, notably on the resilience of energy systems to floods and structural or seasonal water scarcity (such as the need for cooling water in nuclear plants), but also on the resilience to flood events and drought periods more widely in the economy. There is no clear link either to the governance mechanisms foreseen in the water acquis, the River Basin Management Plans (under the Water Framework Directive), including natural and non-natural water storage facilities, the development of Drought Management Plans, and the Flood Risks Management Plan(s). The National Forest Strategy 2016-2030 (as mentioned above) might have indirect impacts on water bodies, but this angle seems to be neglected.”²

² Brussels, 18.12.2023, SWD(2023) 916 final

COMMISSION STAFF WORKING DOCUMENT

Assessment of the draft updated National Energy and Climate Plan of Hungary

Accompanying the document

COMMISSION RECOMMENDATION

on the draft updated integrated national energy and climate plan of Hungary covering the period 2021-2030 and on the consistency of Hungary's measures with the Union's climate-neutrality objective and with ensuring progress on adaptation

{C(2023) 9606 final}, Page 13

- The NECP mainly speaks about the domestic generation of electricity in Hungary and does not take into account that Hungary is a net importer of electricity. Imports are necessary if domestic electricity generation is insufficient and/or if import prices are lower than domestic electricity generation. The NECP should have addressed the level of imports that could take place if such situations were to occur in the future. The amount of financial funds necessary to assure a possible extension of the operation of the four units of Paks I is not yet known, as they will depend on the assessment of the technical status of relevant nuclear components and the cost of safety improvements. The financial contract concerning Paks II dates from the early 2010 – an adjustment of the construction costs due to the not yet granted full construction license is not known. The future generation costs of Paks II could cause a problem, if further cost overruns would occur. Such uncertainties were not specified in the NECP, as they were assumed in the scenarios that formed the basis for the development of the NECP.
- Hungary intends to increase the share of renewables in its domestic electricity generation. The NECP states: *“Renewable electricity generation focuses on the expansion of solar power generation capacity from the current level of about 5.00 MW to nearly 12.000 MW by 2030. The same increase is expected for wind power plants, although the installed capacity is low (from around 330 MW to 1.000 MW).”*³

This aim is undoubtedly to be welcomed. However, two facts should be reflected more stringently: a) as already seen, the electricity production via renewables leads to negative prizes in the region, which has a positive impact on the environment but poses a revenue problem for mainly base-load electricity producers – here nuclear power plant operators. b) Hungary does not intend to increase the share of renewable electricity generation at a similar level as other EU countries – it therefore has no plans to build more wind turbines, even if the technical potential would allow this.

In comparison to other EU member states, the targeted increase in renewable electricity generation falls short and is therefore not ambitious enough.

- The concern that the site of the nuclear power plants (Paks II and Paks I) is located in an area above a seismically active zone was expressed to Hungary on several occasions. After several discussions between relevant experts, Austria continues to express its concern that the site seems to be not suitable for the construction of a new nuclear power plant. The question of how an earthquake could affect the intended future operation of Paks I needs to be discussed at bilateral level and during the EIA for the lifetime extension of the four Paks I units in the near future.

³ National Energy and Climate Plan, Revised version 2023 page 26

- Concerning nuclear fuel supply, the statement of the EC from 18.12.203 is still valid: “According to the current Hungarian legislation, the nuclear fuel stocks at Paks nuclear power plant should reach a minimum level corresponding to at least two years of combined heat and electricity generation. Nuclear fuel is currently supplied through an intergovernmental agreement with Russia. However, diversification efforts have accelerated after the Russian war of aggression against Ukraine. No alternative fuel supply contracts have been negotiated so far. Also, in the perspective of the construction of the new nuclear units, the draft updated NECP does not report further details on measures taken to diversify and address long-term supply of nuclear materials, fuel, as well as spare parts, and services.”⁴

Energy planning, not just electricity planning, is not an easy task these days, as several interdependent factors have to be assessed and taken into account. The availability of import resources such as goods, machinery, equipment, basic materials, fuels, etc. has become a more complex task compared to the past. Furthermore, the availability of human and financial resources at the state level and company level do have a crucial implication on the policy objectives pursued in the NECP.

It is recommended that the NECP should address those barriers, which could prevent Hungary from achieving the national targets at the level of total energy consumption, total final energy demand and domestic electricity generation.

⁴ Reference 2 Page 20