Opinion on the revised 45-page draft NECP of Hungary

in the context of the public consultation

National Society of Conservationists – Friends of the Earth Hungary (MTVSZ)

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I. General observations, process

Missing from the scenarios is the WAM-RES scenario presented during the civil consultations, which is a more ambitious scenario than WAM, accelerating the energy transition in response to the fossil energy crisis.

It is questionable whether and when the output and recommendations of the autumn Strategic Environmental Assessment and the delayed NECPR progress reports can be incorporated into the draft NECP, if at all. These should fundamentally define the draft NECP and its cornerstones. The plan and timetable for the further consultation process, including expert groups such as the National Environment Council (OKT), academy, etc. and the general public, should be publicly communicated.

The NECP is clearly constrained by energy investment cornerstones instead of a strategy with scenarios that define climate and energy objectives, measures and financing in line with the international (Paris Agreement), EU and national targets.

The relationship between chapters 3-7 and chapter 8 is not clear. Although the graphs in Chapters 3-7 only show past trends, typically up to 2021, they textually project forward to 2030, and sometimes 2040-2050. Chapter 8 also includes graphs looking out to 2050 but does not take a clear position on the scenario and measures to be followed.

Specific text suggestions for **the foreword**: on page 5, “In 2022, we had to face sharp increase in energy prices and energy insecurity due to the Russian-Ukrainian war and the subsequent European sanctions policy.” replace: “From summer 2020 on, we faced sharp rise in energy prices and (fossil) energy insecurity due to changes in the global economy, exacerbated by Russian aggression against Ukraine." On page 5, in the foreword, instead of "we will also expand the domestic greeneconomy", we suggest "we will also expand the domestic green economy." (Read more about this here: https://eionet.kormany.hu/zold-gazdasag-vagy-zoldgazdasag; this is a linguistic matter with implications on the meaning in Hungarian – the Translator) On page 6, instead of "In 2022, the Russia-Ukraine war and subsequent European sanctions policy caused a sharp **rise in energy prices and supply insecurity**", we propose "the post-COVID false economic reset caused a sharp **rise in energy prices and supply insecurity** from summer 2020, exacerbated by Russia's aggression against Ukraine and its effects."

On page 5: "In this context, we set as a key strategic objective the reduction of natural gas share in the energy mix." If this is to be taken seriously, the share of natural gas in the energy mix must be reduced more than is currently proposed.

On page 5: "We aim to achieve energy independence through demand reduction and energy efficiency, diversification and alternative energy sources, and electrification measures." If this is to be taken seriously, it is not appropriate to stimulate growth in gas use by installing new gas power plants.

II. Target figures

It is questionable whether the 3 new target figures (GHG emission reductions, final energy use, share of renewable energy) for 2030 are in line with the EU FitFor55; compared to the national climate neutrality committed for 2050 (Act XLIV of 2020) and the National Clean Development Strategy (the national long-term strategy), the effort committed until 2030 is not sufficient. It does not meet the proportionate shared effort requirement for Hungary under the Paris Agreement, as shown by the PAC scenario, a study and a paper of Green Policy Center and by two studies (a; b) of the Equilibrium Institute (Egyensúly Intézet).

The recarbonization /reindustrialization boundary conditions have been treated as cornerstone in the draft, which is why the reduction target for gross final energy consumption is particularly low: following the new methodology, similarly to the 2020 NECP[1], the energy efficiency target is weak and below the needed level. Similarly, a national emission reduction target of 55-60% is needed by 2030. The 29% share of renewable energy by the same date seems to lack sustainability criteria and safeguards (29% seems a good enough target, but could be more if total gross final energy consumption were less).

The baseline of the NECP, which is WEM scenario, is in fact business as usual, the "effort" scenario (WAM) is also quite weak (although it is supposed to meet FF55 commitments), and again postpones major efforts to achieve climate neutrality by 2050 to after 2030.

On page 7, in the Target Overview table, **"750 PJ" for final energy use is** below the current NECP's target of 785 PJ though, but should be further strengthened as a priority. At the same time, *National Battery Industry Strategy 2030* forecasts significant increase in energy demand: "Based on some international calculations, the current annual energy demand of domestic battery factories is estimated at 5.7 - 8.6 PJ, while this demand could increase to as much as 13.1 PJ in the next 3-5 years."

The value of "750 PJ" seems to contradict the values in the graph on page 15 of the abridged version of the NECP, and especially the long-term trends shown there. Similarly, on page 17, the statement "Energy use for energy in the industrial sector increased by 53% between 2005 and 2021" suggests that ESR sectors, including mainly residential homes and buildings, would be burdened with emission reductions (target: 18.7% by 2030 instead of the previous 7% target) and final energy use reductions, while energy demand in industry is expected to continue to increase. This is disproportionate and unacceptable and goes against the polluter pays principle.

At the meeting organized by the Ministry of Energy (ME) at the end of June 2023, it was stated that the target of 750 PJ was set using a new methodology (note the same target was 785 PJ in the ME presentation at the previous meeting in early May 2023). According to information, the current NECP (adopted in January 2020) already calculated and set the 785 PJ target using the same new Eurostat methodology, but this should be indicated in the revised draft NECP, with a description of the explanation of the change in methodology and how the extra 35 PJ reduction was calculated. It is important that the figures (not only the targets, but also interim targets and components) of the current NECP and the revised NECP are comparable, with reference to the methodology; and if some figures are calculated with a different methodology, this be indicated and detailed. It was also discussed at the meeting that the final energy consumption figure for 2022 was not yet final but was expected to be around 760 PJ and that there was a significant "industrial energy increment". This calls into question the value and ambition of the current and projected target.

On page 7: "Natural gas exposure - natural gas:

[1] National Energy and Climate Plan, Ministry of Innovation and Technology, 2020; https://energy.ec.europa.eu/system/files/2022-08/hu_final_necp_main_en.pdf

- import dependency ratio of 80% ("old" NECP);
- share of non-domestic production in total consumption 80% (new draft NECP)"

Today, import dependency on natural gas is 85%, so the above ratio only encodes a minimal ambition to move away from natural gas dependency in the near future, by 2030. Moreover, in a more unstable geopolitical environment compared to 2020, it is a step backwards and irrational compared to the 70% (import dependency rate, 2030 target) committed in the "old" NECP.

III. Substantive observations

On the chapter on decarbonization (emission reduction, renewable energy, energy communities, others)

Emission reductions

1. Phasing out of Mátra Power Plant (MPP) and the just transition

In the new NECP plan: 'One of the key decarbonization objectives is **to transform the lignite-fired Mátra Power Plant to lower-carbon technologies by the time the new plant is commissioned, and by 2030 at the latest.** During the conversion, special attention should be paid to the just transition of the region."

In the current, 2020 NECP, on coal decarbonization: *" One of the key decarbonisation tasks is the conversion of the lignite-fired Mátra Power Plant based on low carbon technologies, thereby the phasing out of coal and lignite from national power generation by 2030." (...) " The more modern lignite units of the Mátra Power Plant will serve strategic reserves, while the older units will be gradually shut down."* The Prime Minister announced in 2021 that coal would be phased out of power generation by 2025.

The three County Territorial Just Transition Plans (Területi Igazságos Átmeneti Tervek, TIÁT/TJTP) annexed to the Environment and Energy Efficiency Operational Programme Plus (KEHOP Plus) state that: "*MPP's lignite-fired units will be decommissioned as early as 2025". "As stated above, NECP plans to phase out lignite-fired power generation at MPP by 2030 at the latest. The lignite-fired units will be decommissioned according to the following schedule: unit I (100MW) will be decommissioned at the end of 2023, while unit II (100MW), unit III (220MW), unit IV (224MW) and unit V (224MW) will be decommissioned at the end of 2025. As for the lignite mines, coal extraction in the South mine of the Visonta opencast mine was completed in 2020, so its recultivation started already in 2021. Lignite production will also cease in the East mine by the end of 2025. In the case of the Bükkábrány mine, extraction will cease by the end of 2025 and reclamation will start from that date." "In particular, about 970 people currently employed in the lignite mines of the declining MPP, will work in the mines until the end of 2025."*

Although the government has promised and committed to a decision on the future of the Mátra Power Plant by the end of June 2023, no official announcement or news has been made yet. According to the revised draft NECP, the government would only phase out the lignite-fired units of the Mátra Power Plant after the start-up of a new fossil gas power plant (on the MPP site), at the latest by 2030. This is in contradiction with the current NECP 2020 and the commitments made in the carbon phase out plans (TJTPs). These plans have not been adopted by the EU with this content, and the decision is likely to

require an amendment to the TJTPs and thus to the KEHOP Plus, the adoption of which by the European Commission is risky.

The measures of the TJTPs (planning, launching and implementation of their calls for proposals) should be launched as soon as possible in order to help the three counties to catch up (supplier SMEs, value chain operators, employees, municipalities and residents affected by the just transition: retraining, SME incubation, green economy development with a focus on SMEs; energy renovation and energy communities in energy-poor households that also use lignite for heating, etc.). However, as long as opposite processes - lignite and gas firing power plant constructions - are taking place, many of the just transition programs and measures, targeting the same group, cannot be launched. Moreover, at least 60 % of the approximately 110 billion HUF earmarked for Juts Transition should be spent by 2026 (NGEU).

An extra 0.5 billion m^3 of gas per year is expected to be imported due to the planned 650 MW Mátra gas power plant (CCGT), increasing and prolonging the country's dependence on fossil energy. The delay in phasing out the lignite units and the plan for the new gas plant threaten not only climate protection, just energy transition and green economy development, but also the thousands of billions of EU funds earmarked for these purposes.

Up to HUF 110 billion of JTF EU funding could be lost to the highly needy, carbon-intensive counties of Borsod-Abaúj-Zemplén, Heves and Baranya combined. In extreme cases, significant part of the HUF 1,600 billion of Environment and Energy Efficiency Operational Programme Plus (KEHOP Plus), and the absorption/accessibility of JTF pillars 2 and 3 could be delayed. Moreover, the planned good initiatives - such as the Residential Energy Efficiency Improvement, Community Energy and Just Transition programmes - will face new obstacles to getting off the ground on time.

https://mtvsz.hu/hirek/2023/06/teljes-energetikai-ujratervezest-szorgalmaznak-a-zoldek-1 and https://www.euractiv.com/section/energy/opinion/hungary-risks-billions-in-eu-funds-if-it-goes-ahead-with-investments-in-coal/ and

https://mtvsz.hu/hirek/2023/07/fosszilis-eromuvek-is-veszelyeztetik-a-magyarorszagnak-szant-unios-forrasokat-es-a-jo-energetikai-kezdemenyezeseket

2. Renewable energies

The targets for **weather-dependent renewable capacity by** 2030 are very ambitious, but 12 GW of solar capacity, together with 1 GW of wind capacity, would represent a very disproportionate (renewable) energy mix. The low price due to solar power production exceeding both consumption and storage capacity in sunny weather already jeopardises the return and cost-effectiveness of investment or support schemes (mandatory takeover tariff system / KÁT, Renewable Energy Support System / METAR). Therefore, we propose lower solar and higher wind capacities, approaching the 2:1 solar:wind ratio recommended in the literature.

We consider it necessary to reduce restrictions on **wind farms** (12 km "buffer distance") to a maximum of 1 km from the internal boundaries of municipalities. It would significantly increase public and municipal acceptance of large-scale wind and solar investments, and would also stimulate the local economy, if they were not only for the benefit of distant private investors, but could also be invested in by the local government and residents, as it is mandatory in the Flemish part of Belgium, with 24.99-24.99% of the ownership being offered for sale to the local government and local residents.

On page 11, the text states that "a nearly threefold expansion is also possible for **wind power**". We suggest that the document should describe in detail when and under what conditions the current

restrictions are planned to be lifted. This will allow wind energy to be developed through market investment without the need for public money. At the same time, we propose and justify a greater role for wind in the future energy mix; the deployment of 5-6000 MW of wind capacity is more cost-effective, has lower land requirements compared to the same solar capacity, and coupled with around 10000 MW of solar capacity, the need for balancing energy - and even energy imports - can be significantly reduced compared to the compensation of predominantly solar developments.

From a land-use perspective, brownfield deployment of large-scale **solar plants and** agro-photovoltaic solutions for multi-purpose use should be encouraged.

3. Energy communities

The role of energy communities is discussed in one paragraph in the extract of the revised NECP, but more is needed as the *EU* ***Renewable Energy Directive***[2] refers to the NECP in two places, so the measures and results of the enabling framework for the creation and functioning of producer-consumers and renewable energy communities should be presented in the NECP progress reports and updates. A detailed description of these is missing.

Article 21: ***Renewables self-consumers***

6. Member States shall put in place an enabling framework to promote and facilitate the development of renewables self-consumption based on an assessment of the existing unjustified barriers to, and of the potential of, renewables self-consumption in their territories and energy networks… Member States shall include a summary of the policies and measures under the enabling framework and an assessment of their implementation respectively in their integrated national energy and climate plans and progress reports pursuant to Regulation (EU) 2018/1999.

Article 22: ***Renewable energy communities***

4. Member States shall provide an enabling framework to promote and facilitate the development of renewable energy communities…

5. The main elements of the enabling framework referred to in paragraph 4, and of its implementation, shall be part of the updates of the Member States' integrated national energy and climate plans and progress reports pursuant to Regulation (EU) 2018/1999.

In the NECP document submitted for consultation, there is no reference to the target set in the National Energy Strategy published as a background to the NECP in force in 2020 (number of renewable energy communities per district managed by independent aggregators - 2017: 0; 2030: 175), nor to the target set in the EU Solar Strategy[3] adopted in 2022 (creation of at least one renewable energy community in every municipality with a population of more than 10 000 inhabitants by 2025). It is important to mention these targets and the progress made towards achieving them as part of the *"support framework".*

Among the innovation calls, the call for proposals for creation and operation of energy communities is worth mentioning, where 7 communities received funding[4], and 15 more applicants received funding

[2] DIRECTIVE (EU) 2018/2001 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2018 on the promotion of the use of energy from renewable sources: https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:02018L2001-20220607

[3] EU Solar Energy Strategy: https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13338-EU-solar-energy-strategy_en

[4] https://nkfih.gov.hu/palyazoknak/egyeb-tamogatas/energiakozossegek

from the Modernisation Fund (2021-ÉMI-MA) to start their energy community[5], but none of the projects has yet been able to start up its renewable energy production, share its surplus among its members or feed it into the grid in 2 years.

It is important to remove legislative barriers mentioned in the draft, but positive incentives rather than negative financial incentives would be needed to reap benefits of energy communities for members, society and the energy market.

4. Other areas and aspects of emission reduction

On page 9: *"There has been a strong substitution effect between natural gas and firewood in residential use for several years. Although in 2022, both domestic natural gas and biomass consumption decreased due to increased energy prices, the substitution effect is still present in the preliminary data, with demand for firewood increasing again due to higher natural gas prices.*" This is indeed the case, but the increase in demand for firewood has been accompanied by a significant increase in firewood prices (and that is not included in price caping). The 'simple' - even temporary in the case of lignite - substitution of natural gas with firewood, let alone the health-damaging and polluting lignite, will not in itself solve the problem of households, especially those in deprived classes. Overall heating energy demand should be reduced by promoting insulation and switching to clean heating, especially for low-income, energy-poor households, and awareness-raising and advice on efficient wood-burning (with dry wood at least 2 years old, etc.) should be continued. In parallel, residential lignite combustion should be phased out as soon as possible, but no later than 2030. Lignite combustion should not be subsidized by public funds, not even indirectly.

On page 11: *"The National Hydrogen Strategy identifies the industrial use of hydrogen as one of the priority areas for intervention.* ***Hydrogen production needs to be significantly reduced from the currently dominant natural gas-based production.*** *Instead, the aim is to produce hydrogen on a renewable basis and to use electricity generated from nuclear energy in the process of water decomposition."* MTVSZ agrees that hydrogen production should not draw on natural gas (or other non-renewables), but that only renewable energy-based production of green hydrogen should be encouraged, and only for use in energy-intensive sectors that are difficult to decarbonize.

On page 13: "*in the field of district heating and heat generation in general, it is justified to* ***replace existing natural gas-based heat generation with renewable technologies***" If this means renewable energy technologies (geothermal, biomass according to sustainability criteria), it is indeed justified.

CCUS reduces power plant efficiency, has significant environmental (leakage) and social risks, is in its infancy and is expensive: too much public money would be spent on a pseudo-end-of-pipe solution. **Hydrogen**: only renewable energy based i.e. green hydrogen could be supported with public funds (loans, loan guarantees) in justified cases and only for industries that are difficult to decarbonize /electrify.

Agriculture, waste, and transport sectors under ESR: has it been examined, and how thoroughly, how they could better play their role in reducing emissions and final energy use, so that the reduction effort is not disproportionately placed on the building and residential sectors?

What exactly is meant by "efficient biomass heating solutions" and its promotion, efficient heating with appropriate firewood or something else? "Doubling geothermal capacity" - how much does it really mean, in figures, with concrete measures?

[5] https://nffku.hu/energiakozossegek-kialakitasat-tamogato-tobb-eves-program-megvalositasa-2021-emi-ma

On page 12, we propose to break down the reduction of **agricultural GHG emissions** into measures and time units.

Too permissive is the statement on page 12: "mixed-fuel or **waste-fired power plants** can only receive support for the part that qualifies as renewable energy". It is wrong to count and subsidize waste incineration as a (partly) renewable energy source; the practice is unsustainable as it makes the regulator interested in maintaining/increasing waste production (as “the incinerator must be fed"). Bio/green waste (as a conditionally renewable biomass) should be composted rather than incinerated (the latter has poor EROEI value anyway), according to the waste hierarchy.

On page 14, the document sets a target of "reducing the growth of GHG emissions" **from the transport sector**, a weak and vague target. We recommend that the document should explain in detail, broken down into measures and time units, how the transport sector plans to reduce GHG emissions:

- the replacement of rolling stock,

- the renewal of rail infrastructure, in line with the long-term development plans of small regions,

- restrictions on air traffic, and

- reducing road traffic.

On the chapter on energy efficiency

The draft NECP hardly deals with energy efficiency improvement measures for (residential) buildings, it does not explain them in sufficient depth, especially compared to the fact that the ESR sectors, especially buildings and the public, are expected to deliver the targeted final energy use and emission reductions, serving the increase in energy demand, especially electricity demand, of industry. Meanwhile, it would allocate just under HUF 130 billion of EU funds (and probably about the same amount of recovery-REPowerEU EU funds) to this heavy task and burden.

On page 16, document states: "Most energy will continue to be consumed by the **population** (269 PJ in 2021), of which nearly 75% is used for heating and cooling (on average 30% of the cost can be saved with optimal investment in building insulation)." We recommend that the document explain in detail, broken down into measures and time units, what the government plans to do in this area.

In our country, there is a high proportion of uninsulated or poorly insulated houses, heated with old or polluting technology. The previous NECP also stressed the need for energy renovation of buildings, stating that "Hungary will develop a long-term renovation strategy by March 2020". The National Clean Development Strategy 2020-2050 also confirmed that energy renovation of residential buildings is a priority. The aim is to ensure proper thermal insulation, to replace outdated (fossil fuel) technologies with clean heating systems and to renovate windows and doors. Proper, consistent support scheme should take into account the depth of renovation and also the income of the household concerned.

Hungarian government has launched measures to modernize housing, but these are not aimed at energy renovation; therefore, to present them as such is unfair. Typically, the Family Home Building Allowance (Családi Otthonteremtési Kedvezmény, CSOK) has no energy requirements for newly built homes. According to experts, proportion of non-energy-efficient buildings in the EU is 70 %, while in Hungary it is 90 %. According to a 2021 study by Hungarian Energy Efficiency Institute (MEHI), 3.7 million homes need to be renovated to meet 2050 climate neutrality targets, which means **100-130,000 homes per year to undergo energy renovation.** Large-scale and thorough renovation is needed: renovation that can deliver energy savings of 60 % or more. Assessment should be carried out before and after the work; the energy audit should be carried out by dedicated chamber /network of energy experts. The necessary training and the work itself should be covered by EU and national funds.

To achieve this goal, government will need to build resources and human capacity, but achieving it will mean new jobs and competitive skills in addition to immediate energy benefits.

On page 17: "*Energy use in transport and agriculture has increased by around 20% compared to 2005. Energy use in households decreased by 5%, while energy use in trade and other services decreased significantly by almost 40%. The trend is clear across sectors, but energy use in households fluctuates. In 2022, natural gas consumption fell by more than 20% for a number of reasons, working off the previous 10-year increase.*" Residential natural gas consumption fell in 2022, but natural gas prices remained volatile, see also new REKK study. According to MTVSZ, total natural gas consumption and total final energy demand must be reduced rapidly and radically, with a focus on a complex and consistent residential energy renovation programme of appropriate scale, depth and subsidy intensity, differentiated for low and middle/average income groups.

On the chapter on Energy security (energy mix, energy supply)

Grid development: the NECP should not (only) raise questions (pages 22-23), but should propose solutions to the problems and gaps identified. Development of domestic electricity grid has suffered from many years and decades of backlogs. Still, the penetration of weather-dependent renewables should not have been blocked generally and nationally, as the suitability or unsuitability of the grid is differentiated geographically. Irrespective of the availability of EU funds for this purpose, the grid operator should be obliged to maintain the viability of the grid and to carry out the necessary improvements from its own resources.

It is not clear why 1500 MW of **new gas-fired capacity (CCGT**) is being pushed, sometimes being justified as needed in Eastern Hungary after the decommissioning of Mátra power plant, sometimes (about half the cases) as needed for reindustrialization, high electricity demand from new battery factories, (partly) for electrification and (partly, mainly) to balance weather-dependent renewable energy capacity. It should be clarified how much electricity generation/ balancing capacity (or DSM, energy storage) is needed for each of these tasks and how it can be provided in an environmentally-socio-economically sustainable way. It is unclear how many and how large battery factories are expected and what their electricity demand is, and it is not clear why the state should have to meet and subsidise the energy supply of these factories (especially from public funds, even indirectly, e.g. through rebates).

The new gas power plants are also not logical from an energy security point of view: importing electricity (from EU) is more energy secure than importing fossil gas (mostly from outside EU (from Russia, Asia /Arab countries or even USA), totalling about 1.5 billion m^3 to power the new gas power plants. The European electricity market is more secure and reliable, even in general price terms, than the gas market. Imported electricity can already have a lower carbon content than fossil gas. Yet, the **draft NECP prioritizes reducing electricity import exposure, while accepting that fossil gas exposure - mainly imports - will increase due to CCGT, without fearing it from an energy security perspective. This is not a consistent approach.**

"*While electricity grid load will increase over the coming decades, the **utilization of natural gas distribution network infrastructure** will gradually decrease, and this needs to be prepared for".* This is why the design, construction and maintenance of new gas infrastructure should be reviewed; thorough impact assessments (EIAs) are needed, presenting real alternatives; in many cases new gas infrastructure may become an unjustified or money-sucking stranded asset. It is not apparent from the plan how this compares with the desired development of a (regional) hydrogen transit function - what new infrastructure and how existing infrastructure needs to be adapted, what measures and financing are required.

On the chapter on Internal energy market (gas, electricity)

1. Reduction of gas imports: the new draft NECP targets a reduction from the current 85% to 80% by 2030, compared to the current (2020) NECP which had a target of 70% by 2030. This weakening of the target is unacceptable, especially as the NECP should accelerate the energy transition and contribute to the response to the fossil energy crisis, in line with REPowerEU. Gas imports should be reduced to at least 70% or below by 2030.

In the current NECP[6]: *" We aim to reduce Hungary's share of gas imports to roughly 70 % by 2030 based on a decline in consumption and growing domestic production."* /NECP 2020, p. 29/ and also in the table on page 32, then p. 53: *"Main gas market objectives: i) Reduction of import dependency: As a result of a decline in gas consumption and growing domestic production, Hungary's share of gas imports will decline to around 70 % by 2030 and is expected to decrease further below 70 % after 2040."*

National Energy Strategy 2030, looking ahead to 2040 (2020), under key targets in point 1: "*Our gas import share will be close to 70% by 2030 and below 70% by 2040."*

How is the review of the National Energy Strategy evolving, how are its further (gas) targets strengthened in terms of accelerating the energy transition, REPowerEU?

See *National Energy Strategy* targets:

> *- Our annual residential natural gas consumption will decrease by 2 billion m^3 thanks to the developments implemented within the framework of the energy efficiency obligation system and the implementation of the energy-efficient Green District Heating Program.*
>
> *- Proportion of natural gas used in district heat production drops to 50%.*
>
> *- Gas consumption of electricity production may temporarily increase from the current 2 to 2.4 billion m^3 by 2030, but with the transformation of the power plant mix, it will significantly decrease to below 1 billion m^3 by 2040."*

On page 22: *"**However, the risk has increased in view of the** current **Russian-Ukrainian war situation and its consequences. Our natural gas supply** exposure is 85%."* The war has only further demonstrated that efforts and pace of the past years and decade to diversify imports and reduce dependence on natural gas have not been sufficient if we are to achieve real energy security. A gradual, planned, and consistent reduction in the use of natural gas in the energy mix is needed.

On page 23: ***"The exposure of our electricity supply is slowly but steadily improving.** The share of net electricity imports in total internal consumption (which excludes self-consumption by domestic power plants and grid losses) fell from 36% in 2014 to 28% in 2022. However, given that seasonal electricity storage is not yet in place, this share can still be considered high. Nevertheless, domestic electricity demand is expected to grow over the next 6-10 years at a higher rate than previously expected. This can be partly offset by the planned expansion of electricity generation capacity, both renewable and natural gas-based. However, relatively high import rates can be expected in some periods."* It is not a question of meeting our growing needs at all costs (due to forced re-industrialization, battery factories, etc.), but of matching our needs to the level of demand, which in this case means reducing consumption. By generating electricity from natural gas, we are not increasing our domestic energy security, but our dependence on imports, as 85% of the gas needed for production comes from abroad and would be reduced to mere 80% by 2030.

Page 24: **"*Reducing import dependence is also evident for natural gas.** In recent years, domestic production has covered around 15% of consumption, with the remainder imported by the country. Therefore, the aim is to increase domestic production as much as possible, with the announcement of*

[6] https://energy.ec.europa.eu/system/files/2022-08/hu_final_necp_main_en.pdf

new hydrocarbon concession areas already in 2023." MTVSZ continues to support the reduction, not the increase, of gas demand. Increased domestic production would also encourage longer-term consumption of natural gas in the domestic market, prolonging dependence. See https://mtvsz.hu/gazkivezetes ;https://mtvsz.hu/palagaz Shale Gas Study (2023); https://bankwatch.org/wp-content/uploads/2023/02/2023-02-27_HU-shale-gas-case-study_final.pdf

2. The draft does not address the issue of **energy poverty** (as required by EU standards) in any meaningful way, not even uses the notion; it is not clear how the scope of "vulnerable consumers" relates to the European Commission's definition of energy poverty and below/above average consumers for the purpose of utility cost reduction. *"Vulnerable consumers.* ***Vulnerable consumers from an energy perspective are ones who have difficulty meeting the basic energy needs of their dwelling****. A specific definition of vulnerable consumers is included in the supportive policy measures designed to mitigate this."* Where, when, what is the timing and what are these "supportive policy measures"?

On the chapter on the WAM scenario

There are no graphs showing projections of primary and final energy use, nor is there a graph showing the expected/projected mix of electricity generation. A graph on the forecast of composition of renewable energy production is also required. These should be included in the detailed material. Similarly, a better comparability of WAM and WEM scenario.

Boundary conditions / cornerstones of both the WAM and WEM scenario seem to be: life extension of Paks I and entry of Paks II (unrealistic for 2030), circa 1500-1650 MW CCGT, electricity demand growth by 43 % by 2030. What other similar boundary conditions had been used; where and when have alternatives been considered?

Page 40, Figure 17 suggests that biogas is only expected to play a temporary role, with a slight decline (or at least stagnation) in its use after 2030. Potential of biogas for local energy production should be exploited more widely. At the same time, the increased use and diffusion of biofuels raises environmental and sustainability concerns.

On the chapter on Financing

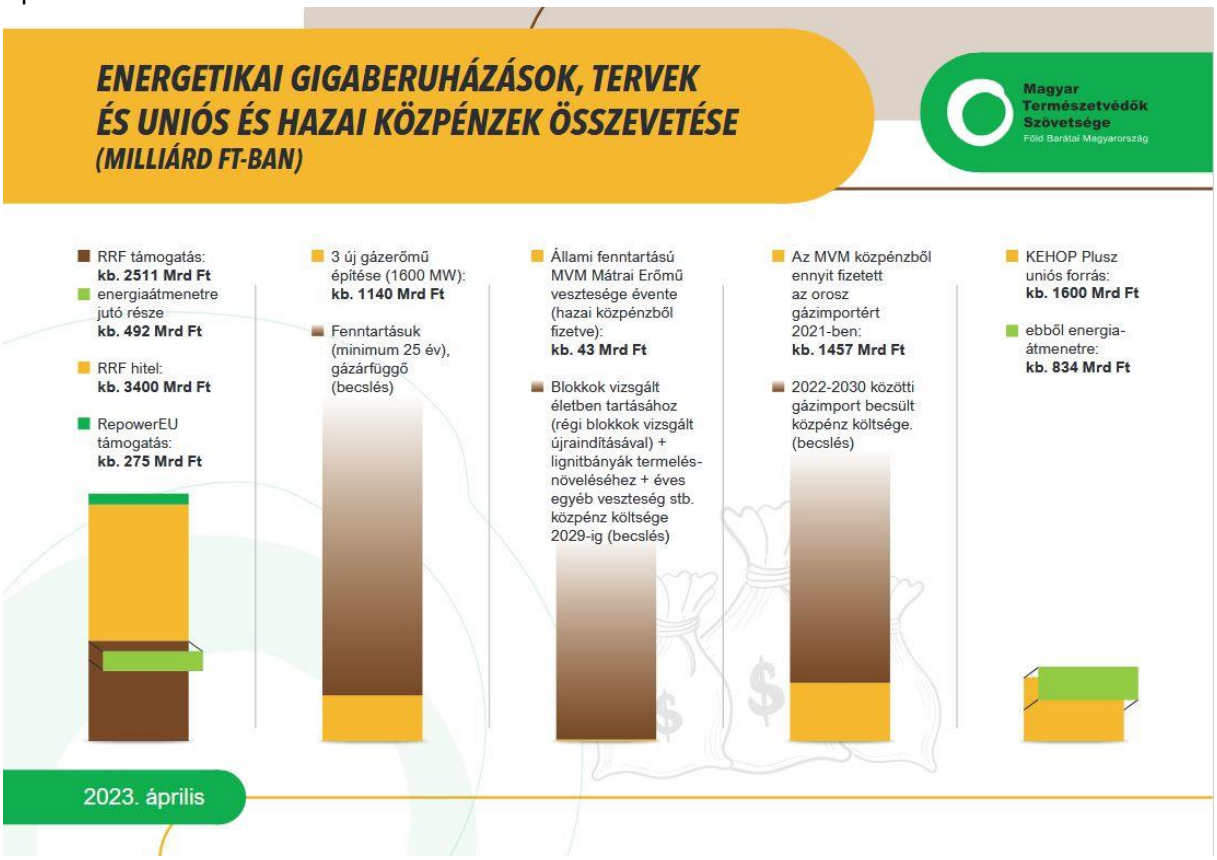
1. **The above-mentioned "boundary conditions" tend to hinder energy transition, and the reduction of gas dependency, and may jeopardize disbursement and feasibility of spending plans for EU funds. EU funds are also needed for the energy transition; notably, the NECP is also an eligibility condition, e.g. in the Environment and Energy Operational Programme Plus (KEHOP Plus).**

The draft NECP and its one-page chapter on Financing suggest that the bulk of REPowerEU-RRF credit resources would go to energy (supposedly for energy transition), while serving the increased electricity demand of industry and other non-residential sectors. In the case of RePowerEU-RRF credit, even fossil "(import) diversification" may be eligible, thus not all of it would serve accelerating energy transition. Meanwhile, it is mainly the residential and buildings that NECP expects to deliver the energy savings target, e.g. gas consumption reduction, while they would receive much less in share of EU source.

What is meant by "Other financing - HUF 250 billion - various investments in GHG reduction "?

It is hoped that the draft REPowerEU chapter will be submitted for public consultation and publication as soon as possible.

Comparison of giant energy investments, plans, EU and national public funding (billion HUF), MTVSZ, April 2023



RRF grant: approx. 2511 bn HUF out of this for energy transition: approx. 492 bn HUF RRF loan: approx. 3400 bn HUF REPowerEU resources: approx. 275 bn HUF	Construction of 3 new CCGTs (1600 MW): approx. 1140 bn HUF Maintenance of the above (min. 25 ys): depending on gas price; (estimation)	Annual loss of state-operated MVM Matra Power Plant (covered from national public money): approx. 43 bn HUF Public funds needed for the operation of blocs (incl. restart of old blocs) + production increase of lignite mines + other annual loss, until 2029 (estimation)	MVM expenditure on Russian gas import in 2021: approx. 1457 bn HUF Estim. public cost of gas import between 2022-2030	EU funds under Environment and Energy OP Plus: approx. 1600 bn HUF out of this, for energy transition: approx. 834 bn HUF

2. There is no reason to condition climate protection, energy efficiency and savings measures on the availability of EU funds. It should be examined **what resources are** currently **available or could be available to the Hungarian state and economy for such investments (e.g. quota revenues, Modernisation Fund, Green Bonds, etc.),** irrespective of Cohesion Policy and Recovery Funds (RRF), REPowerEU, etc.

On the other hand, **several measures and reforms have practically no cost implications (e.g. energy communities, regulation of wind farm deployment); therefore, waiting for EU funds to arrive is unjustified. Moreover, their delay may be barriers to the transfer of EU funds** (e.g. RRF energy regulatory milestones).

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