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# Progress Check: Hungary's final energy and climate plan under review

# LIFE PlanUp

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The information and views set out in this report are those of the author(s) and do not necessarily reflect the official opinion of the European Commission.

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# Executive summary

As part of the European Union's 2030 climate and energy package, EU Member States (MS) are required to develop National Energy and Climate Plans (NECPs) to define and to report on their 2030 climate and energy objectives.

After the publication of the European Commission's (EC) recommendations on the draft NECPs, by the end of 2019 Member States were supposed to submit the final plans. Hungary submitted its final NECP in January 2020.

Divided into two main sections, this briefing first provides an overview of the Hungarian updated plan and then assesses whether it is generally more ambitious than currently implemented legislation, especially in the transport, buildings and agriculture sectors.

The updated version of the Hungarian NECP does not address the most pressing EC recommendations, however, it is still a minor improvement upon the draft NECP. While the ambition of energy efficiency and renewable energy outlooks have been improved, they have not been increased to the recommended levels. The renewable energy target, for example, has gone up from 20% by 2030 to 21% - while the EC recommended a 23% target.

The plan includes both new and already implemented policies, but some measures included in the draft have been dropped (for example on modernization of residential buildings). The final NECP is not in line with the EU's current climate targets, let alone the ambition set by the European Green Deal, the Paris Agreement or the EU's 2050 climate neutrality goal.

As the government continues to work on the plan and its implementation, it will be crucial to maintain and increase the plan's ambition level and ensure that this plays a key role in the country's covid-19 recovery efforts.

Furthermore, there remains a clear need to create more consistency and coherence both within the NECP and between the NECP and other Hungarian strategies (most prominently the Climate Action plan and the National Energy Strategy). In addition, the investment and financing plans and needs should be defined and listed more clearly. Finally, in order to ensure public ownership and support for the climate plan, the Hungarian government must do more to involve all relevant stakeholders in the decision-making process.

# Overview of the plan

The Hungarian government submitted its integrated National Energy and Climate Plan (NECP) to the European Commission (EC) in January 2020.

The first draft was unambitious and vague. The final NECP is a limited improvement, with higher energy efficiency and renewable energy targets. The final NECP for example does include a reduction in final energy use (0,8% per annum). There is renewed focus on Just Transition and reducing coal and oil consumption which are slight improvements. However, some critical elements, such as the phasing out of fossil fuel subsidies, are still missing from the final NECP.

Most of the EC recommendations are taken on board, though sometimes as a ‘tick-the-box’ exercise, with lack of details on financing, implementation and impacts of measures. For example, the draft NECP contained a number of placeholders where information was to be added in 2019 – although these placeholders have been filled, they still lack necessary details.

In general, the NECP does not seem to have the status of the core Hungarian government strategy document on energy and climate for this decade. Other parallel climate and energy strategies continue to be developed or even published by the Hungarian government, for example, the 2020 national Climate Action Plan and the National Energy Strategy.

The draft and final NECP both foresee a reduction of 40% in greenhouse gas (GHG) emissions by 2030 compared to 1990 levels. However, as GHG emissions in Hungary are estimated today to be already 35% lower than in 1990, the 40% target is not very ambitious. While it is important to note that Hungary’s emissions are significantly lower than the EU average (both emissions per capita and carbon intensity of GDP), it can and will have to do more. The national 40% target is not in line with the EU’s higher climate ambition as set out in the EU Green Deal.

In the first draft, Hungary’s energy efficiency target and measures were considered insufficient by the EC. The final NECP has taken this comment partially on board by adding an annual final energy consumption decrease

target of -0.8%. Over the 2021-2030 period this would sum up to an approximate -8% target. Analysis by Clean Air Action Group Hungary estimates the energy efficiency target for 2030 to be somewhere between -8 and -10%. This is unambitious, and unlikely to help the EU substantially in reaching the EU-wide -32.5% target.

The renewable energy target has been slightly increased, from 20% by 2030 to 21% - though this still falls short of the 23% the EC recommendations had asked for. Moreover, this increase is mainly due to a higher reliance on biomass – without sustainability issues related to biomass use having been taken into account.

	2030
<b>Reduction in greenhouse gas (GHG) emissions compared to 1990</b>	40%
<b>Share of renewables in energy end-use</b>	21%
<b>Improvement in energy efficiency</b>	8-10%
<b>Share of renewable energy in electricity generation</b>	30%
<b>Share of renewable in transport</b>	14%
<b>Share of renewable in gross final electricity consumption</b>	20%

Source : Own elaboration based on HU NECP, 2020

In terms of investments, the final NECP does not present a detailed overview of the financial resources the government would need, or intends to earmark to implement the policies and measures included in the NECP. With regards to reaching climate neutrality by 2050, the government states that Hungary would need approximately 142 billion euros to have carbon neutral power, phase out natural gas and fully electrify transport. However, these 142 billion euros are implied to need to come mainly from EU sources. No information is made available for many of the measures and policies on how they will be financed and where the necessary investments will be mobilized.

## Overview of the sectors

### Transport

The Hungarian energy and climate plan highlights the importance of tackling transport emissions and sets the target of a minimum 14 % share of renewable energy in transport by 2030. First generation biofuels (which come with significant concerns about environmental sustainability) will account for half this target, second generation biofuels for a quarter and the remainder will be reached through electromobility.

Therefore, the main tool Hungary includes in its final NECP for decreasing transport emissions (which have risen by 31% since 2013) is an overreliance on controversial biofuels, the sustainability of which is unproven. While electromobility (and related policies and measures) receive a lot of attention throughout the NECP – this will remain a small component of Hungarian efforts in the transport sector in comparison with the plans to expand biofuels production and consumption.

At the same time, aviation and maritime emissions - both growing at an alarming speed - are not addressed at all in the Hungarian NECP.

## Buildings

The Hungarian energy and climate plan puts a lot of focus on the buildings sector, but concrete investment plans and implementation outlooks for policies and measures remain either vague or lacking.

Approx. 40% of primary energy in Hungary is being used in buildings, of which residential buildings account for 60% (75% of which is for heating). Therefore, the building sector is a large contributor to global heating and there is room for energy efficiency gains.

Renewable energy for the heating and cooling sector is set to derive not only from more efficient use of biomass, but also through renewables-based district heating (through the so-called Green District Heating Programme). The goal would be to reach approx. 30% renewable energy in the heating and cooling sector by 2030. Hungary's geothermal potential would be tapped more intensely (currently only 10-15% is being used) – for both district heating and for the agro-industry (for example large greenhouses).

However, this focus on replacing fossil fuels with renewable energy sources plays against the 'energy efficiency first' principle that is at the core of the EU's energy and climate frameworks.

Energy efficiency improvements are due to be done through the implementation of an obligation scheme (companies involved in energy supply are obliged to achieve the energy saving targets set for them) and a target for renovating 3% of the central government building stock annually.

The final NECP refers to the Hungarian 2020 Long-term Renovation Strategy for details.

## Agriculture

The agricultural sector is not a core focus of the final NECP. No plans and investment needs are included in the document – the reduction of agricultural emissions would be done by “prescribing correct agricultural practices and various aid schemes”. This is highly problematic, as the agricultural sector is a major source of greenhouse gas emissions in the country: emissions have increased steadily since 2011 and accounted for 11% of total emissions in 2017

(being the main source of methane and N<sub>2</sub>O emissions). The energy consumption by the agricultural sector is estimated to increase up to 2040 and even 2050 (it was estimated at 27.2 PJ in 2016 – increasing to 31.6 PJ by 2030 and 34.4 PJ by 2050).

Considering these circumstances, the lack of any sort of plan for how to address agricultural emissions in the NECP is unacceptable and should be strongly criticised by the Commission as it evaluates the final energy and climate plans. In addition, there are some quick climate wins that could be made if sufficient political will can be mobilised, for example a moratorium on opening new gravel mines.

## Transparency and public participation

The Hungarian final NECP did not build sufficiently upon public participation. There was no centralised and open public participation process - individual organisations were selected for specific meetings with the total number of meetings remaining undisclosed. There is a lack of transparency on which organizations were invited to which meetings and why. In addition, civil society organisations (CSOs) and local and regional authorities (LRAs) were not always presented with detailed documents to provide feedback on. Finally, there is a lack of information on how feedback from CSOs and LRAs was used, and whether the meetings had any impact whatsoever on the draft and final NECPs.

To illustrate these problems, during one meeting in 2018 CSOs and LRAs could provide suggestions on the Hungarian energy and climate strategy – however, the draft NECP wasn't presented in any form at or before that meeting, meaning that these stakeholders could give suggestions on a future plan without actually receiving a glimpse of it themselves.

# Implementation of policy measures in the transport, buildings and agricultural sectors

This section examines both selected existing measures in the target sectors and measures foreseen in the national energy and climate plan.

## Transport

As the transport section of the final Hungarian NECP is one of the more detailed sections, five policies are briefly discussed below – all of which were included in the draft and the final NECP. It is important to note, however, that these measures are barely explained or detailed in neither plan – and that especially details with regards to financial resources and investment timelines are missing.

### ***Developing energy efficiency of vehicles and transport infrastructure, incentivising uptake of low emission fuel/electric vehicles and modal shift to public transport or non-motorized transport***

This measure was already included in the 2014 National Transport Infrastructure Development Strategy – however six years later it is still merely a vision, rather than a detailed policy plan. Interestingly, more details on the measure (such as the promotion of e-vehicles) were included in the draft NECP.

The National Transport Infrastructure Development Strategy itself is still not an action plan, and there has been little to no development and implementation of the strategy. Any measures that are in the NECP that come from this strategy can therefore be considered not only old (and sometimes outdated) but also clearly not priority areas for implementation. The strategy is set to run until 2050, and as of now, there are hardly any results on the ground of its implementation.

The GHG emission reduction potential of the plan by 2050 is significant, but as it is not detailed (for example there are no milestones) nor has implementation started it is difficult to assess how many reductions it could actually deliver. In addition, the final NECP does not contain any numbers for such projections.

### Recommendations to improve the measure

- The measure needs to be updated, and a few additional issues could be added, such as the internalisation of external costs (for instance through road pricing) and the implementation of the Mobility-as-a-Service concept. A plan for phasing out fossil fuel subsidies should be added as well.
- A robust investment plan is needed – right now there is nothing that actually ensures the policy can be and will be implemented.
- As a vision document, its scope is too wide, while concrete milestones and steps are still missing. For this measure to become actionable it needs to become more detailed, clarifying what it aims to achieve and how.

### ***Financing the green economy through the EU carbon market - energy efficiency of vehicles and electromobility***

Over the 2013-2020 period Hungary used 50% of its EU carbon market auction revenues to fund its Green Economy Financing Scheme. This scheme has so far focused on reducing the energy consumption of households and household appliances. More relevantly for the transport sector, it would also be used to replace older vehicles with newer, electric and more energy efficient ones.

Again, the plan is mainly a vision statement, with a lack of details on planning, finances, steps and milestones. The only information on financial resources is

that revenues from auctions under the EU Emissions Trading System (EU ETS) are to be used, however how much (in either absolute or relative terms) is to be earmarked is unclear.

However, some elements have moved forward since 2013 such as free parking in city centres for e-vehicles and support for their purchase. Other incentives include tax reductions for purchasing e-vehicles, hybrids and time-limited free charging. However, no estimate of the GHG emission reduction potential of this scheme was included in the final Hungarian NECP.

### Recommendations to improve the measure

- It should only support fully electric vehicles, and not hybrids.
- The tax reduction for company cars should be reviewed – the focus should be on helping households.
- It could also be extended to support electrification of delivery services (for example taxi services) to help combat air pollution in cities.
- The measure needs more details, including on targets, share of revenues to be invested, timelines for implementation and achievement of goals.

### ***Promoting the use of public and non-motorised transport (walking and cycling), improving transport structure and supporting the expansion of rail and waterborne transport***

This measure was also included in the 2014 National Transport Infrastructure Development Strategy, and again it is more a vision rather than an action plan. No real details with regards to financial resources and milestones have been

communicated and no estimate of the scheme's GHG emission reduction potential was included in the final Hungarian NECP.

### Recommendations to improve the measure

- The polluter pays principle should be implemented, with clarity on who should pay how much and how the money would be invested. In addition targets, deadlines and indicators are necessary to make this measure actionable and its success measurable.
- This measure needs to build upon a strong and high-quality public transport system. Therefore, more priority needs to go to developing and implementing such a public transport system.
- The measure could be reinforced through the application of strict speed limits in and around cities. In addition, low emission zones and pedestrian areas could also support the implementation of the measure.
- A basic transport income or budget could also help reinforce the behavioural change this policy seeks to promote.

***Tax reductions on electric (fully or plug-in hybrid) vehicles aiming at increasing the number of low emission and energy efficient vehicles on the roads. Annual car tax, company car tax and registration tax are all to be removed in these cases.***

This 2016 policy is a market-oriented measure: using tax reform to support cleaner transport. However, there have been some perverse incentives, with companies buying cars for personal use of their staff as the company car tax has been abolished. This is also a regressive measure, benefiting higher income households over lower income households through its focus on private transportation. Lower income households are less likely to benefit from tax

breaks on private vehicles than higher income households. Again, financial details are missing for this measure and there is no estimate of its GHG emission reduction potential in the final Hungarian NECP.

The measure should be dropped, and replaced by higher car taxes to support and finance modal shifts in transportation (for example through the measures mentioned above).

### Recommendations to improve the measure if it isn't dropped

- Reverse the abolishment of the company car tax, or make the tax dependent on mileage as energy efficiency and fuel savings are equally important.
- Do not exempt electric vehicles from the company car tax as abuses of the system lead to benefits for wealthy over lower-income families.
- The external cost charge for lorries, which is now zero, should be made dependent on the truck's direct carbon dioxide emissions.
- Include an assessment of the greenhouse gas emission reductions of this measure.

***Helping municipalities purchase 1,290 EURO6 / CNG / electric buses in 2020-2029 with the provision that from 2022 the newly purchased buses must be electric. The state subsidizes up to 20% of the total cost***

This measure would run from 2020 until 2029, and would be implemented through supporting municipalities and cities buying buses that either reach higher emission standards, are Compressed Natural Gas (CNG) or (especially from 2022 onwards) electric. The central government would support public procurement of greener busses by covering up to 20% of the cost. While the

20% support is rather small, there are some signs that municipalities are interested in using this policy. Again, there is no estimate of the GHG emission reduction potential of this scheme in the final Hungarian NECP.

### Recommendations to improve the measure

- CNG busses should not be eligible, and the focus should be strongly on electric busses.
- The 20% state subsidy should be increased to at least 80% to reduce the financial pressure on municipalities that are greening their public transportation.

## Buildings

This section looks at two policies presented in the NECPs to tackle pollution from and promote the energy upgrade of buildings. Again, the final plan contains a lot of indications of potential areas where Hungary could take climate action, but very few concrete commitments and plans. This is also apparent with regards to general policies in the buildings sector.

### Green District Heating Program

The main policy on buildings focuses on creating new renewables-based district heating capacity. Though originally the measure was in place from 2014-2020, it would now be renewed for the 2020-2030 period. While, again, details on emission reduction potential, cost and timing are not available, it seems the scheme is too expensive and the scheme covering 2020-2030 has therefore not been fully developed. At the moment, after six years of functioning, only one biomass-based system exists along with two geothermal energy-based plants.

### Recommendations to improve the measure

- Develop the detailed plan so the scheme can be rolled out.
- Make energy efficiency the primary goal of the NECP with regards to the buildings sector.

### Solar power for households

While the details of this measure are sketchy, its stated goals would be to install solar systems with a capacity of 4kW on 200,000 residential buildings by 2030.

### Recommendations to improve the measure

- Develop a detailed plan so the scheme can be rolled out; an explicit area that needs focus is the financial needs and the investment plan.
- Make increasing energy efficiency the primary goal of the NECP with regards to the buildings sector.

## Agriculture

The Hungarian NECP does not cover the agricultural sector in depth or detail. It refers to the National Climate Change Strategy, which in turn points to the National Rural Strategy as the source of climate change policies on agriculture. However, the latter is due to expire in 2020 – and can therefore not be considered to be a strategic document driving the transition up to 2030. One measure that is relevant to the agricultural sector is discussed

below. However, it is important to note that this measure is an energy policy that will not have an impact on agricultural emissions as they are reported in the EU.

### **Encouraging biogas production**

The Hungarian government clearly intends to increase the domestic production and consumption of biofuels – including biogas. The policy would use mandatory feed-in systems to supply ‘cost-effective, local resource-based energy supplies’ to households and municipalities that are not connected to natural gas infrastructure, or with very low utilization rates of existing gas networks. The biogas plants would use agricultural waste – either to meet local heat demand or to feed purified biomethane into the natural gas grid.

The desirability of such a measure from a climate perspective entirely depends on the capacity to sustainably source agricultural biomass. The capacity for such biomass is almost certainly rather limited, as agricultural biomass residues to a large extent will have to be returned to the soils. If not, large quantities of mineral fertiliser will be required to maintain fertility which in turn causes nitrous oxide (N<sub>2</sub>O) emissions which, at least partially, would cancel out any climate gain from the operation. In addition, over-extracting biomass from agricultural systems deplete the organic matter in the soil, making it more susceptible to erosion associated with further GHG emissions. As such, relying extensively on agricultural biomass for biogas production is a questionable approach to reducing emissions.

Additionally, the economic viability of this plan is questionable, as currently there are already a number of biogas plants that are close to bankruptcy, or have already gone bankrupt. The feasibility of the plan thus is entirely dependent on credible investment and funding plans which are absent in the NECP.

### **Recommendations to improve the measure**

- Carry out a comprehensive and independent assessment of the capacity for sustainably sourcing biomass from agricultural systems and other sources. This assessment must establish the

actual potential emissions savings achievable through this measure. It should serve as a critical knowledge base before taking any steps in the direction of developing this plan further.

- The measure needs to include clarity on how economic difficulties experienced by similar schemes will be dealt with to guarantee economic sustainability of any such operations under the national energy and climate plan.

## Conclusions and next steps

The final Hungarian NECP is a modest improvement of the draft version. Some details and policies have been added, and placeholders have been filled up. However, there is still plenty of room for further improvements.

The renewable energy target has been upgraded from 20% to 21%, but with an even higher reliance on potentially unsustainable biomass. The 8-10% energy efficiency improvement target is insufficient and will only slightly contribute to the EU reaching its overall energy efficiency target. The 40% GHG emission reduction target is also unambitious, as emissions are already 35% lower than the 1990 baseline. This target is not in line with the EU's expected higher target and the ambition set out in the European Green Deal.

The measures that have been included in the NECP (though often lacking details and to be seen more as visions or intentions) are mostly appropriate, but the question is whether or not they will actually be implemented. Some could be considered unrealistic, still lacking proof of feasibility and sustainability (especially the biomass-based electricity and heating measures). In addition, it is unclear how these measures will be financed, what type of funding can be expected at EU level and whether the Hungarian government will be willing to actually support their implementation.

The submitted final NECP addresses some energy transition questions: supporting community energy, strengthening energy efficiency, increasing RES investments and grid flexibility. Just Transition issues have been added, with

quite a lot of attention granted to how lignite could be phased out in the power sector and how the impacts of the closure of the only lignite power plant (Mátra) could be addressed.

However, the planned policies and measures are often not ambitious enough or they address the needs only partly. Also, the NECP does not sufficiently address a number of urgent issues: phasing out fossil fuel subsidies, setting targets for reducing energy poverty and drastically reducing emissions in the transport and agriculture sectors.

With regards to buildings, the focus should be on the ‘energy efficiency first principle’, which was indeed present in a more substantial manner in the draft plan. Moreover, the multi-year, large scale residential building energy program that was present in the draft NECP has been dropped entirely. The current system of obliging energy suppliers to invest in energy efficiency improvements is not sufficiently robust and is likely to only deliver low-risk and low-cost investments. Hungary needs a stable, long-term, predictable residential building energy incentive and support programme, without which the deep renovation of the residential sector will not be possible.

The climate efforts in the transport sector focus on promoting biofuels, and – to a lesser extent – developing electromobility. The sustainability of biofuels is controversial at best, and especially first generation biofuels cannot be considered sustainable energy sources. The Hungarian government needs more detailed plans on how to reduce transport emissions than those hinted at in the final NECP – which seems more a vision document than an actionable plan.

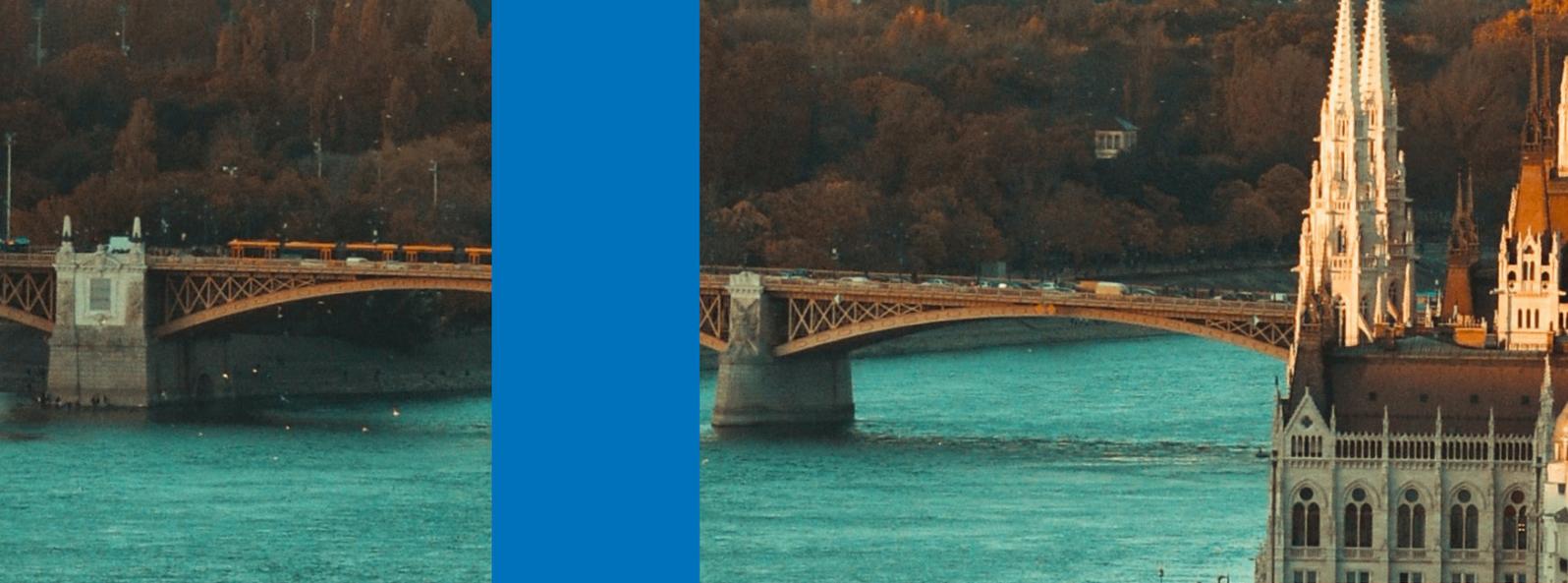
The agricultural sector is barely mentioned in the final NECP, and it is unclear how the Hungarian government will reduce emissions in that critical sector. There are some quick wins that could be made if sufficient political will can be mobilised, for example a moratorium on opening gravel mines.

Three elements will be crucial for the future implementation of the plan:

- **Political commitment** - the NECP must maintain its current ambition and become significantly more ambitious over time. It needs to play a key role in the country’s post-COVID recovery.
- **Outline investment plans** - investments and financing plans must be detailed for each policy and measure.

- **Stakeholder involvement** - the public consultation process must be significantly improved in order to benefit from the widely available capacity in Hungary of CSOs, LRAs and other stakeholder groups to collectively tackle the climate crisis.

The Hungarian plan has the potential to not only help the country chart the path to a more climate-friendly future but also allow it to prepare an economic response to the pandemic that will ensure a green recovery. Instead of treating it as a tick-the box exercise, the government should grasp this opportunity and use the plan to build back better.



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