Last chance:

How to strengthen the final Hungarian energy and climate plan

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To cite this study: LIFE PlanUp (2019) Last chance: how to strengthen the final Hunagarian energy and climate plan.

[When no specific recommendations were provided by the European Commission, as it's the case for the agriculture sector and the public participation process of the NECP, suggestions based on general guidelines were provided.]

Published: December 2019

Analysis by Carbon Market Watch, with input from Transport and Environment, European Environmental Bureau, Energy Cities, Clean Air Action Group.

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Deliverable quality review

Quality check	date	Status	comments
Project consortium	05/11/2019	ok	

Acknowledgement

The Life PlanUp project has received funding from the LIFE programme of the European Union. The project also acknowledges the generous support of the European Climate Foundation.

Legal notice

This publication, corresponding to deliverables C4.5 National briefs for each of the target countries to compare the draft NECPs with the joint 'good practice scenarios' and C 4.7 National factsheets rating the sectoral policies in the draft NECPs, is financed by the European Commission through the LIFE programme and the European Climate Foundation.

It is the overarching goal of the LIFE programme to act as a catalyst for changes in policy development and implementation by providing and disseminating solutions and best practices to achieve environmental and climate goals, and by promoting innovative environmental and climate change technologies.

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Executive summary

Building on the assessments of the draft National Energy and Climate Plans (NECPs) and the European Commission recommendations, this publication aims to support EU Member States in implementing the Commission recommendations for selected measures in the transport, buildings and agriculture sectors.

The last chance: how to strengthen the final Hungarian energy and climate plan briefing matches key measures in the Hungarian draft NECP with the relevant recommendations of the European Commission and suggests additional policies and solutions that will help strengthen the final NECP.

In the transport sector, the Hungarian government aims to boost electromobility, reduce the use of motor vehicles and cap greenhouse gas (GHG) emissions stemming from the transport sector. While boosting the uptake of electric vehicles will help Hungary achieve these targets, complementary measures aimed at reducing car usage and supporting the shift to alternative modes of transport will be crucial to reduce emissions from transport.

In the building sector, promoting modernisation of household heating equipment, increasing the budget for energy efficiency programmes, and developing efficient generation of district heating based on renewable energy sources are essential for reducing emissions from buildings and improving energy efficiency. Furthermore, a support system for low-income households that ensures lower energy bills and accelerates building modernisation will be crucial to also address issues such as social equality and justice.

In Hungary, emissions from agriculture are expected to increase by 18% by 2030. In order to properly address this issue, biogas production should be promoted, and grasslands and wetlands should be given special protection, as they are able to store more carbon than agricultural areas.

The government should do much more to involve the public in the finalisation of the plan and its future updates. Since no public consultation was carried out for the draft plan, a consultation after the finalisation of the NECP should be organised. A multi-level dialogue, as required in the Governance Regulation, would also ensure the

inclusion of a wider set of stakeholders in the policy-making process and guarantee broader public support.

Transport

In Hungary, emissions from the transport sector have been increasing sharply since 2013 and, according to the Hungarian draft national energy and climate plan (NECP), are predicted to keep increasing, by almost 50% by 2030.

It is clear that the transport sector requires swift and effective policies to reverse this trend. However, the draft NECP does not include any specific target for the decarbonisation of transport. It builds mainly on electric mobility, although no clear financial support for this is specified.

The few measures included in the plan represent a step in the right direction but need more details on their concrete financing and implementation. Moreover, complementary policies targeting road traffic and the uptake of alternative modes of transport are missing in the draft and should be included in the final plan.

Key transport measures included in the Hungarian draft NECP:

The Hungarian government plans to boost electromobility by e.g. supporting the acquisition of 450 000 electric cars.

Specifically “the electrification of road transport for reaching the renewed 20 % target” will be achieved through the roll out of “450 000 electric cars and 45 000 public normal and high-capacity charging points by 2030”. Moreover, “the reduction of the use of motor vehicles and of the unit energy consumption of traditional motor vehicles is a priority.” (Courtesy translation of the Hungarian draft NECP page 27.)

A second key measure identified in the draft NECP is “capping GHG emissions at 15.66 million tCO2e in the transport sector, taking into account the current trend of strong growth.”

According to the draft NECP, key planned measures to achieve this are greening of the transport sector by supporting electromobility and developing rail and other public transportation vehicle fleets.

European Commission recommendation:

“The draft plan aims to cap emissions in the transport sector which is the second largest emission sector with nearly 30% of effort sharing emissions, by 2030. Reducing emissions by 2.7 Mt CO2eq is envisaged, notably by increasing the share of renewable energy. Electromobility is expected to develop strongly until 2030, aiming at 450 000 electric cars and 45 000 charging points by 2030. Existing support for electromobility including grants, vehicle taxation, and support to charging stations is planned to be complemented by further policy measures, but ***would benefit from more details how the charging infrastructure will be achieved and how other alternative fuels are addressed”.***

Furthermore, for the transport sector, the draft plan sets a target to limit the growth of energy used to 38% from 2015 to 2030. This is to be achieved through the promotion of electromobility and measures supporting lower fuel consumption of combustion engine vehicles. ***The final plan would benefit from covering also measures that contribute towards a more efficient organisation of the mobility system and thus towards improved energy efficiency and emissions reductions (e.g. incentivising multimodality and modal shift, intelligent transport systems, digitalisation and automation).***

How to implement the recommendation given the national context:

The Hungarian government fails to provide details on how it will finance the planned electromobility measures. They should invest in e-buses, e-car and e-bicycle sharing systems, supporting an electric urban delivery system, and replace diesel engines with electric ones. To achieve this, the following actions are required:

- Expansion of charging networks to ensure proper travel conditions by electric vehicles in the country as soon as possible;
- Promotion of the use of electric vehicles by means of traffic management;
- Establishment of foreseeable price incentives and a legal environment in the long term.

Moreover, to facilitate the roll-out of electromobility and more generally reduce emissions from transport, the Hungarian government should also implement alternative measures aimed at reducing car usage and supporting the shift to alternative modes of transport.

1 Reducing car usage

The Hungarian government should implement road charging more widely and in a way that makes polluting vehicles pay more. The charging system should be changed from time-based to distance-based for passenger cars, and extended to all roads both for passenger cars and for heavy-duty vehicles (HDVs). Any time-based discounts should be removed that encourage inefficient transport behaviour and reduce the environmental effects of the charge.

To encourage an increase in the number of passengers per single car, the government should work with local authorities to introduce city road pricing with measures such as more expensive parking. It should further facilitate the use of car and ride-sharing and deter private car use by e.g. ending tax benefits for (non-electric) company cars.

Fuel taxes and tax reform: as a complementary measure to distance-based tolling, Hungary should seek to align their diesel tax rate to that of petrol, and look to increase this to be more in line with the EU average. However, collaboration with neighbouring countries on this measure is vital to avoid fuel tourism in which truck drivers divert to re-fuel in the country with the lowest fuel tax rate. This would decrease traffic in certain areas, and make it easier for neighbouring countries to use fuel tax as a tool to reduce greenhouse gases.

Company car tax reform: the current vehicle taxation in Hungary incentivises the purchase of premium category big fuel-inefficient cars and use them in every situation. The government should amend the system and implement a scheme that favours the purchase of zero-emission cars, which in turn would also support their market uptake.

2 Shift to other modes of transport

In villages and small towns, the average number of passengers per car is under 2. Efficient support for carpooling, especially for commuting, could reduce traffic by 30% in the agglomerations of major Hungarian cities. This would mean about 100,000 commuter cars fewer each day. Hungary is a transit country. Shifting a significant part of heavy-duty vehicle transit to rail (RO-LA) is a good way to mitigate traffic on main roads. This would be a far better measure than the recent expansion of lanes on the *m1* motorway. However, rail transport is unlikely to grow without improvements both in rail capacity and customer service provided by rail freight operators. This shift in the business model (i.e. a more customer-oriented and international vision) can only happen if enabled by a good business environment and more competition. The cost of road transport has to increase significantly to ensure that the sector pays an adequate price for the damage that it causes on society through e.g. air pollution, GHG emissions and infrastructure costs. This will also be important for incentivising the shift of cargo onto rail.

Shifting passengers from cars to buses and trains can be divided into two broad categories: intercity and metropolitan. Roughly 70% of passenger train transport is concentrated in the agglomeration of Budapest, which helps explain the concentration of investments in this area over others. However, providing affordable and quality public transport across the country is important. Train schedules must be reliable and pricing fair and competitive with other modes of transport. Moreover, punctual services, as well as

modern and well-maintained rolling stock with access to Wi-Fi and clean toilets, should also be available.

An additional service that could be introduced are privately owned coaches. Due to their comparatively low costs (as they are paid mostly by car and truck owners), they offer cheaper services compared to rail. Coaches should, however, not be granted discounts from road charges or exemptions from any future vehicle standards to ensure that they pay their fair share of infrastructure and societal costs (CO2, pollutant, and noise emissions).

In cities, new and good infrastructure for walking and cycling is vital to reduce emissions from transport as well as to facilitate car passengers' transition to public transport.

Buildings

As an intermediate goal, GHG emissions should be reduced in Hungary by at least 40 % by 2030 compared to 1990. However, the GHG emission reduction target is not clearly identified in the draft NECP.

Even though increasing the budget for energy efficiency programmes for energy management in buildings is defined as one of the key measures, there is still a lack of clarity on how this is to be achieved. Acknowledging the necessity of improving the energy performance of buildings as one of the priorities in the building sector, the plan, again, does not specify the measures needed to ensure it is successfully implemented in practice.

The long-term energy efficiency roadmap is expected in the course of 2019 and will be vital in ensuring energy modernisation of buildings.

Measure 1 - Increase renewable energy in buildings

The draft Hungarian NECP promotes few measures to reach some level of renewable energy in final energy consumption for sectors like tertiary buildings.

“Key planned measures:

- Promotion of the modernisation of household heating equipment and of the use of modern biomass-based heating fuels to ensure the sustainable use of fuelwood
- Increasing the budget for energy efficiency programmes for energy management in buildings and improving the effectiveness of their distribution of funds
- Support for housing construction
- Development of the efficient generation of district heating based on renewable energy sources
- Promotion of industrial energy efficiency investments”

European Commission recommendation:

“Propose more ambitious policies and measures that would deliver additional energy savings by 2030. In the final plan, make a clear distinction between the existing and additional policies and measures and provide a more comprehensive impact assessment of the planned initiatives and better estimate of the expected energy savings”. [C(2019) 4417, p. 4]

“Hungary announces the introduction of an energy efficiency obligation scheme with a pilot project to be developed in 2019. The obligation scheme could include a large-scale public private finance Energy Service Companies (ESCO) programme for improving the energy efficiency of public buildings, a multiannual large-scale energy building programme and measures in the transport sector”. [SWD p.7]

“It can be considered as good practice that the draft plan differentiates estimates of investment needs for energy efficiency measures in buildings, electromobility and renewable energy up to 2030, as well as the implied need for public investment aid. Overall, this part would benefit from further refinement to allow for a complete picture towards 2030 under all Energy Union dimensions

thus taking advantage of the role NECPs can play in attracting investments in the clean energy transition". [SWD p.4]

How to implement the recommendation given the national context:

Reducing final and primary energy consumption

For the finalisation of the NECP, it is necessary for the Hungarian government to review the energy efficiency potential of different sectors, and take into consideration the cost-effectiveness of individual programmes looking into the financial savings achieved. Also, the past or running energy efficiency programs should be evaluated, to see what kind of measures worked the best. For example, the tax recovery program for industrial energy users is showing good results. However, the public is not aware of the program's potential and specific costs. Moreover, the government plans to rely on an extended energy audit program for small and medium enterprises (SMEs) as well as on the employment of energy experts for local governments. However, no information is available on how effective these measures are expected to be.

To improve the quality of the final NECP, the Hungarian government needs to provide additional clarity on the following key measures.

Specifically, on the measure for tax recovery for industrial energy users, the following steps should be considered:

- Decrease the risk for people and SMEs who apply for a tax refund if the project does not fulfil the energy efficiency target. Consider an adjustment of the tax recovery rate from 70% to 80% for those who need additional support.
- Raise awareness for the measure through targeted advertisement

With regard to energy audit for SMEs, the following actions should be considered:

- Provide adequate training for auditors, ensuring that they can also give advice on tenders relevant for SMEs. Training can be organised in collaboration with institutions such as the Hungarian Chamber of Commerce.
- Ensure the possibility also for small companies to benefit from energy audits. The government could provide support for SMEs to cover their audit expenses.
- Extend requirements to employ energy policy officers, which is currently obligatory only for bigger enterprises (122/2015 Gov.Decree 5/A) and make it mandatory for SMEs as well.
- Identify a target for the action (share of SMEs reached/time) and estimate the energy savings it could achieve.

Concerning the employment of energy experts for local governments, the following improvements should be considered:

- Ensure that energy experts of local and regional authorities are equipped with clear competences and financial resources and receive regular training. Under these criteria, they would also be able to provide recommendations on new tenders for SMEs.
- Make the National Energy Network, (5/B 122/2015 Gov.Decree) stronger, including through training and accredited certification for experts.

Measure 2 - Strengthen the domestic energy market

Strengthening competition on domestic and regional commodity markets, improving the cost-effectiveness of grid operation and development – e.g. based on 'smart' equipment and the elimination of duplication – and promoting digital solutions in serving consumers may offset the recent rise in international energy prices.

'Dimension of the internal energy market: (...) A number of cross-border capacities have been built in recent years, but the construction of additional ones are planned, based on the positive experience of significant price stabilisation provided by the interconnected SK-CZ-RO-HU day-ahead electricity market. ' (Courtesy translation of the Hungarian draft NECP page 13.)

‘The limited cross-border capacities on the electricity market limit imports of cheaper electricity from Austria and Slovakia;’ (Courtesy translation of the Hungarian draft NECP page 34.)

European Commission recommendation:

“Energy poverty elements should be further elaborated in the final plan, notably based on a dedicated assessment of energy poverty as required by the Governance Regulation”. [C(2019) 4417, p. 5]

“The final plan would therefore benefit from including information on adaptation co-benefits for energy efficiency, such as in the thermal management of buildings”. [SWD p. 11]

“Specific energy poverty objectives are not defined and the draft plan notes that as a result of measures taken since 2013 the household energy costs of Hungarian consumers are among the lowest in Europe. A general objective to maintain sustainable energy costs for households in the future is stated in the document”. [SWD p. 14]

How to implement the recommendation given the national context:

In Hungary, energy prices are centralised and subsidised to keep them artificially low. As the price is not indexed to consumption, wealthier people receive more “subsidies," which is not just. More robust and effective energy efficiency programs in the lower-income sectors of society should, therefore, be prioritised.

Energy poverty is not given the importance it deserves. Keeping energy prices below market value through central control to provide access to all residents at a reasonable cost does not tackle the structural problem. Indeed, keeping utility prices artificially low and separating them from consumption is misleading for the consumers. As a result, the reduction of energy consumption has been stalling since 2015. This has further implications, as shown in the draft NECP, where the share of final renewable energy consumption of households stagnates or decreases even in the With Additional Measures (WAM) scenario by 2030.

While ensuring adequate price signals, customised programmes to tackle energy poverty are essential.

To address this issue, the following actions should be carried out:

- Building on good practices from other countries, the government should develop a support system for low-income households that gives them an opportunity to lower their energy bills and accelerate building modernisation.
- Access to EU funding such as the *Warmth of the homes program,* which provides financial support for purchasing A++ new electronic devices, especially boilers, should be made available to all citizens and not only energy-poor households.

Measure 3 - Sustainable use of biomass

Level of ambition in the heating and cooling sector

‘Estimated trajectories for the sectoral share of renewable energy in gross final energy consumption 2016 20.8 % 2023 22 % 2025 22 % 2027 24 % 2030 26.9 % Cooling and heating ’ (Courtesy translation of the Hungarian draft NECP table on page 24.)

‘The figures project a decline in the heating and cooling sector despite an increase in renewable energy-based district heating generation and in the use of renewable energy in industry and agriculture, which is exclusively attributable to the decrease in the household use of fuelwood. Taking into account the existing policy measures, the share of renewable energy use within the heating sector may fall to 18.2 % in 2030.’ (Courtesy translation of the Hungarian draft NECP table on page 64.)

European Commission recommendation:

"Provide additional details on the specific measures to ensure sustainability for biomass supply and use in the energy sector, *given the important contribution of biomass across the Hungarian energy mix, especially in heating and cooling". [C(2019) 4417, p. 4]*

"Hungary plans to develop individual heating based on ambient energy (heat pumps) and efficient biomass, and district heating using geothermal energy and biodegradable waste. According to the draft plan, renewable district heating will more than double, but its share in overall renewable energy in heating will decrease from 13.2 % (2015) to 5.7 % in 2030. Geothermal energy use will more than double (growth projected is 124 %). Biomass will still provide around 63 % of renewable heating in 2030, compared to 82 % (2015), but its absolute quantity will be reduced. In increasing the share of renewable heating, Hungary plans to have ambitious energy efficiency measures in the building sector. ***The final plan would benefit from including concrete measures for this sector, showing how the shares of renewable energy would be increased in buildings or district heating sectors and how sustainability of biomass will be addressed."*** *[SWD p.7]*

How to implement the recommendation given the national context:

The use of renewable energy in the heating sector needs to be increased wisely. Burning of firewood in the residential sector should only be promoted

when the renewable nature of the fuel is proven, and where there are no local air pollution issues. The government's plan to check the quality of heating equipment (boilers, stoves) more strictly is welcome. A more effective system of checks in order to stop burning of illegal materials, such as plastics and household wastes, should be put in place.

The following actions should be carried out:

- Ensure that the authorities are empowered to take legal action against illegal waste burning. In addition to state actors, non-state actors such as the association of chimney sweepers need to be given competence for controls and awareness-raising activities towards the general public.
- Ensure environmental compliance certification for existing stoves and boilers
- Foresee predictable and stable financial support for households to purchase clean and efficient heating equipment

If biomass is not a viable alternative, and district heating is not competitive, heat pumps should be promoted. They are already more competitive compared to gas heating if buildings are not connected to the gas network.

The legal requirement to present alternatives to the heating of buildings at licensing should be taken seriously. Too often the documents in the licensing phase contain only gas heating.

There should also be more alternatives to gas heating such as condensation boilers, heat pumps and biomass heating. In particular for new buildings, heat pumps, which represent the cleanest solution for heating, should be promoted instead of gas.

More extensive use of renewable biomass and geothermal energy in district heating should be incentivised.

A number of good projects such as the Miskolc-Mályi geothermal and the Pécs biomass cogeneration have been responsible for an increased share of renewables.

In order to integrate more geothermal energy into district heating, the primary (forward) water temperature of the individual district heating systems ought to be decreased, which requires energy upgrading of the heated buildings. It means that energy efficiency and district heating upgrades have to be coordinated.

Combination of supply (district heating) and final energy measures would achieve the best outcome. This would mean bringing the measures in line with the “energy efficiency first” principle. Insulation makes energy demand lower resulting in geothermal energy being enough for district heating.

Energy communities: In the Hungarian residential and small industry sector, the retail prices of electricity and gas are centrally controlled. Keeping these prices low is a major political tool in the hands of the government, although it discourages end-user energy efficiency investments and the formation of energy communities. With artificially low energy prices, there is no real financial incentive to create communities.

Agriculture

The Hungarian draft energy and climate plan (NECP) does not include any concrete measures for reducing greenhouse gas (GHG) emissions from agriculture.
Furthermore, the European Commission’s recommendation for the drafts in this area are either absent or weak.

This is a lost opportunity as the sector would have a great potential for reducing GHG emissions, developing energy efficiency solutions and using renewable energy.

The plan says ‘in agriculture, we aim to limit the increase of GHG emissions to 9.28 million tonnes CO_2 equiv., which consists of 1.59 million tonnes CO_2 equiv. energy emissions and 7.69 million tonnes CO_2 equiv. non-energy emissions’. In 2016, agriculture accounted for 11% of total emissions in Hungary. Agricultural activities result in CH_4 and N_2O emissions; most of Hungary’s N_2O emissions (87 %) are produced in this sector. The GHG emissions of agriculture have been steadily increasing since 2011, mainly as a result of increases in fertiliser use, the bovine population and dairy production per cow.

The government states that, given the reduction targets in other sectors, it is actually possible to allow agricultural emissions to increase, while still reaching the 30% reduction target for the non-ETS sectors. Hungary expects its agricultural GHG emissions to increase by 18% by 2030.

The government should review the scope of possible emission reduction and carbon sequestration measures in agriculture based on available national information, and the recommendations of the International Panel on Climate Change (IPCC). Individual measures should be ranked by feasibility and cost-effectiveness and implemented in close cooperation with the Ministry of Agriculture to ensure horizontal integration of relevant authorities.

Possible existing mitigation measures in the agricultural sector

1 Biogas plants for manure management and fertiliser production

Manure management should receive more attention through the promotion of biogas production. The existing 30+ biogas plants, which have operated on the basis of a feed-in-tariff (FIT) system, should be guaranteed when the FIT system expires within a couple of years. The biogas facilities should be regarded as environmental plants. Some of the environmental services of biogas plants are manure management, renewable energy production (electricity or heat), and production of organic fertiliser.

Authorities must enforce rules against manure deposition. Biogas can be considered a renewable energy source (RES) if all added material is considered renewable. However, the promotion of biogas production might have the unintended consequence of encouraging an increase in livestock herd, driven by increased demand for manure for biogas production. For this reason, the development of biogas plants must be accompanied by the development of safeguards, preventing the increase in animal numbers.

2 Ensure carbon storage in soil

Grasslands and wetlands should be given special protection, as they are able to store more carbon than agricultural areas. Extensive cultivation of grasslands with moderate intensity grazing has a smaller footprint than any intensive agricultural practices. Wetlands, if properly managed, can also store and sequestrate carbon. Some of the wetlands in Hungary are endangered by

invasive species, such as the desert indigo bush. Strategic climate interventions can provide protection for these lands.

Stricter regulation, even for Natura 2000 and national parks, are needed as today a simple dispensation to transform a given area can overrule them. Furthermore, farmers need incentives not to convert grasslands on their lands into agricultural areas.

Recommendations for improving agriculture-related measures in the Hungarian NECP:

- Recognise the potential agriculture has in reducing GHG emissions.
- Address properly agriculture-related issues in the NECP.
- Ensure cooperation between different ministries and other relevant bodies on the agricultural section of the NECP.
- Evaluate which, if any, of the several strategic documents have relevance in planning the agricultural climate change policy.
- Prior to developing the plans, evaluate the past and running agriculture-related climate programs.
- Study the scope and impacts of possible actions. The actions should be prioritised according to effectiveness. The experts can rely on selected high-quality national strategy documents, IPCC materials and field data from the sector.
- Remove environmentally harmful direct and indirect subsidies.
- Explain, clarify and address the causes of expected emission increase.

Transparency and public participation

The European Commission provides a specific recommendation to Hungary on how to improve transparency and public participation in the preparation of its final NECP. The Commission notes in its Staff Working Document (SWD) under the dimension research, innovation and competitiveness that Hungary's final NECP *"would also benefit from providing further details on the results of the ongoing consultation process aimed to assess innovation opportunities".*

In addition to this, the Commission highlights in the SWD that Hungary has not made the draft NECP available for public consultation. However, the Commission does not include a specific recommendation for Hungary to organise a public consultation process for its final NECP.

Hungary is consulting on the energy-related research and innovation policies (e.g. national objectives, funding targets, objectives related to the deployment of low-carbon technologies) of its NECP only within the research and innovation sector, according to its draft plan.

In the elaboration of the overall draft NECP, the government also consulted only with a selected group of stakeholders. A questionnaire on the plan was sent out to stakeholders such as civil society organisations (CSOs), local and regional authorities (LRAs), industry and universities. The selected stakeholders had one month, in the summer of 2018, to provide their written answers to the questionnaire.

A public consultation has to date not taken place. Considering the length and complexity of the NECP, in order to ensure public participation and transparency, such critical public consultation should last for at least three months.

How to implement the recommendation given the national context:

Hungary should add a specific deadline to conduct a public consultation for its final NECP before it is launched. Furthermore, this consultation should then have a duration of at least three months. This would provide clarity to the public and stakeholders, and give them sufficient time to make their contribution to the final NECP in an early and effective manner.

Conclusions

The Hungarian NECP lacks robust measures and concrete details on how to implement them. Some of the key policies outlined in the plan have the potential to contribute to reducing emissions and increasing energy efficiency but often lack ambition. The final plan needs to be strengthened before its implementation.

In the transport sector, additional policies to reduce car usage and shift to alternative modes of transport would significantly reduce emissions from transport and improve the overall negative consequences associated with road traffic.

In the building sector, the government should develop a long-term renovation strategy and set a clear GHG emission reduction target. Moreover, it should provide the right incentives for building renovations, including for industry, and provide adequate training for energy audits. Energy poverty should be addressed by support-systems for low-income households instead of the current system in which a distorted subsidy keeps prices artificially low.

Agriculture should be given a more prominent role in the final NECP, as its potential in reducing GHG emissions is significant. Several solutions are available and should be implemented such as better manure management and improved protection of grasslands and wetlands.

Equally important for the overall success and robustness of the plan is a more inclusive development process. In the next phase, the Hungarian government should do much more to involve stakeholders into the decision-making. Setting up a public consultation that would involve more stakeholders and enable their contribution to the final NECP in an early and effective manner would be a crucial step in ensuring proper transparency and public participation.