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Assessment of Hungary's recovery and resilience plan

Key points

- Although Hungary's draft recovery and resilience plan does not directly finance fossil fuels, it does not make a clear commitment to fossil fuel phase-out. It aims to enable decarbonisation through the widespread use of renewables and electricity, but some measures in sectors like energy and transport will indirectly increase greenhouse gas emissions.
- The plan lacks adequate support for the renovation of buildings that would improve energy efficiency.
- Proposed investments in renewable energy and the electrification of heating do not provide long-term, sustainable solutions for those in energy poverty.
- The plan views energy communities as a category of energy generators operating at a certain scale without acknowledging their potential as major actors in the energy transition that are worth supporting due to their impact on local economies and societies. As a result, insufficient funding is allocated to energy communities.
- A detailed draft of the plan was only published in mid-April; the documents published earlier for consultation lacked sufficient information. There was no clear, publicly-available timeline for the public consultation.

Introduction

Hungary is entitled to receive EUR 16.83 billion from the Recovery and Resilience Facility (RRF), of which EUR 7.17 billion would be a grant and EUR 9.66 billion is a loan. The RRF has the potential to help Hungary recover from the COVID-19 pandemic in a green and sustainable way. The European Commission requires countries to spend at least 37 per cent of their allocation from the facility on measures that contribute to EU climate objectives. However, Hungary's draft recovery and resilience plan raises concerns that the country is not committed to using funds from the facility in a way that contributes to climate change mitigation and adaptation and that will help the country meet the goals of the European Green Deal.

The first draft (13 pages) of the Hungarian 'Recovery and Adaptation Plan' was published in early December 2021. Between 2 March and 1 April 2021, the Hungarian

government published rough descriptions (each around 15 to 20 pages) of each component of the plan, without financial allocations and indicators. The following assessment was prepared on the basis of these descriptions (the drafts published by 1 April).¹ On 14 April, after this assessment was finalised, the government published a detailed draft of the plan. This version was renamed the ‘Recovery and Resilience Plan’ (432 pages) and included financial allocations. Later, on 24 April, the government announced that they had decided to submit a plan to the European Commission containing only measures that would be financed by grants, and not those that would be financed by loans. Thus, they are currently rewriting the plan and the final outcome is unknown.

Therefore, this assessment does not analyse the magnitude effects of the plan as a whole, but rather examines the climate impact of proposed measures.

In general, the materials provided as of 1 April do not mention the plan’s strategic environmental assessment, nor the environmental impact assessment of its constituent programmes/projects. Furthermore, not only is the ‘do no significant harm’ principle not analysed for each measure, but it is not even mentioned in the descriptive materials of some components (e.g. Energy, University Reform, Health Care, and Circular Economy). Similarly, the material lacks technical investment selection criteria. (The plan published on 14 April does mention alignment with the ‘do no significant harm’ principle, but this assessment does not include a qualitative analysis of this.)

Assessment

It is difficult to assess the alignment of Hungary’s recovery plan with the EU’s climate objectives, and specifically the goal to achieve climate neutrality in 2050, because in order to do so all the energy-related measures proposed in the recovery plan, operational programmes, Modernisation Fund, Innovation Fund and Just Transition Fund would need to be assessed. We believe that this would be the task of a comprehensive strategic environmental assessment commissioned by the government; however, to our knowledge, this is not foreseen. Taking this into account, this assessment reviews the alignment of proposed measures with climate goals in the areas of energy, settlements, transport, demography and public education, university reform, health care, water management and circular economy. Given the lack of sufficient information about the spending plans of the aforementioned financing tools and also the time shortage, in the following analysis, we only focus on the recovery plan.

Energy

General remarks

The energy component of the recovery plan is focused on ‘greening’ Hungary’s energy supply. It aims to achieve this through developing the network to make it suitable for accommodating weather-dependent renewables, the dispatch of smart meters, investments in photovoltaic systems (both residential, community and industrial

¹ All documents related to the plan can be accessed on the [government of Hungary’s website](#).

scale) and the electrification of heating. The material does not yet explain how and why all measures are listed as making a 100 per cent contribution to the 37 per cent climate policy target.

However, even though the energy component of the plan does not contain investments in fossil fuels, it refers to the National Energy Strategy, which aims to keep as much gas-fuelled capacity as possible ‘to ensure supply security and system flexibility’. The Strategy is far from a commitment to phase out fossil gas by 2040; although it plans to reduce the total gas consumption by about 37 per cent, it plans to enhance the domestic extraction of fossil gas, including from unconventional sources. The phasing-out of gas would thus start in 2040, and the gas pipeline network would be used for the interim storage of hydrogen and methane which would be produced along a power-to-gas process to store electricity from weather-dependent renewables.

Key concern 1 - Support for the energy renovation of domestic residential buildings is lacking

Hungary’s recovery plan does not even mention the great potential in energy efficiency related to housing.

Despite the explicit expectations of the European Commission’s Technical guidance for the RRF (January 2021) and the EU Renovation Wave strategy, as well as public demand, there is a lack of extensive non-refundable (and coupled refundable) support for the energy renovation of residential buildings. EU support in the last 10 years has not been sufficient for exploiting the huge domestic potential of the energy efficiency renovation of residential buildings (only a limited amount of soft loans are available). According to a recent survey², the population plans to renovate 1.4 million flats within five years; this should be supported with a comprehensive energy housing renovation scheme, including a 30 to 40 per cent non-refundable element, under the recovery plan. If only about half of these, i.e. 650,000 flats, underwent cost-optimal renovation in five years, about 7.5 PJ of energy per year and nearly 420,000 tonnes of CO₂ could be saved. The state budget would also benefit (the revenue per unit of state aid would be 1.01 units for a 40 per cent grant and 1.35 units for a 30 per cent grant), and additional employment generated by the increase in investment demand could exceed 100,000 people.

Unfortunately, support schemes under other components of the recovery plan and the Environment and Energy Efficiency Operational Program (EEEOP+), coupled with energy service companies’ (ESCO) and other energy efficiency obligation schemes targeting energy service providers are unlikely to be able to exploit the energy savings potential of housing renovation. The wide range of non-refundable support and one-stop counselling that experts have recommended is nowhere to be found.

Although smart meters are needed to increase consumer flexibility and should also be available to beneficiaries of energy communities, these alone are not sufficient for energy savings. They should be coupled with dynamic, time-varying pricing, conditional on a review of current ‘overhead-reduced’ pricing and interventions to compensate for the expected increase in overhead costs for those in energy poverty.

² Hungarian Institute of Energy Efficiency, ‘[Encouraging deep renovation of residential buildings is necessary and worthwhile](#)’, 17 February 2021.

If these steps are not taken to ensure energy efficiency is maximised, the recovery funds would be used to produce excess energy. This will jeopardise Hungary's progress towards carbon neutrality and compatibility with the Paris Agreement and European Green Deal targets.

Key concern 2 - More comprehensive support for renewable energy communities is needed

Although the concept of energy communities appears in the plan in the context of support for the integration of weather-dependent renewable energy production and the flexibility of the electricity system, only a certain type of energy community is mentioned and it is only referred to as a generating unit served by the investment. Energy communities are much more than simply energy generators: they can even provide flexibility services according to the current law, so they can be not only beneficiaries, but also project owners and consortium members for such developments.

In the framework of the support for new photovoltaic capacities for the production of renewable energy, unfortunately, the solar power plants of energy communities can only be supported in addition to larger-capacity grid-generated solar power plants, and to a lesser extent. Solar power plants in energy communities should not be viewed as a separate size category. An energy community is not a type of investment, but a way of organising energy production with the involvement of consumers, and it can include both small-scale solar plants and larger-capacity grid-generating solar plants.

Moreover, planners do not take into account the fact that energy communities increase the social acceptance of investments in renewables, involve local capital in the energy transition, and can help reduce energy poverty and increase energy efficiency. Thus, solar power plants in energy communities deserve explicit and considerable support in the recovery plan. Large-scale solar power plants financed by large investors are profitable without financial support, while the investments of energy communities consisting of many small investors are less cost-efficient (due to higher organisational and administrative costs). Therefore, the latter should be supported, also because this has multiple benefits for reviving local economies.

Key concern 3 - Affected/forced/strained electrification – inefficient for domestic electric heating, does not contribute to climate neutrality and energy transition

The measure's aim is to establish solar power plants that produce energy beyond their own consumption, thus contributing to the achievement of the strategic objective of decarbonising the energy sector. As for the electrification of residential heating, the measure intends to encourage the installation of solar systems and the electrification of their heating and domestic hot water (DHW) systems with non-refundable subsidies to reduce energy costs. Investments eligible for support include: the acquisition and installation of a modern cooling-heating air conditioner (air-to-air heat pump) with electric heating panels / infrared heating and a solar energy system designed for this mechanical system (max. 4-5 kW), as well as a smart meter; installation of an electric boiler and a solar system (~ 5-6kW) in addition to the existing gas boiler and a smart meter; and installation of a heat pump and the necessary solar system (~ 5kW) with a smart meter (to meet the heating needs of individual houses).

The connection of solar energy systems and the electrification of heating is not justified, as electricity generation and heating demand with solar panels are separated on a daily and seasonal basis. Thus, solar panels provide households with minimal heat, since they are most effective during warm seasons, and most of the electricity they produce is fed into the grid. With the removal of the annual balance, it will not be worthwhile for the beneficiary to heat in winter with electricity (produced largely from nuclear sources) that can be repurchased for twice the price of electricity produced in the summer. For the above reasons, the share of renewables in the electricity received during the heating season is lower than average, and the electrification of heating generally does not reduce CO₂ emissions, even when switching from gas heating.

The electrification of residential heating systems is not cost-effective in terms of climate protection, nor does it provide a long-term, sustainable relief to those in energy poverty. If it is still supported for reasons of air quality, individual projects should only be considered as climate protection investments to the extent of the emissions-reducing effect of switching to electric heating on primary energy as demonstrated with an energy certificate, regardless of the solar energy investment.

Such investments should only be supported if they are accompanied by investments to improve the energy efficiency of the building and renovation, thus ensuring a reduction in energy demand and greenhouse gas emissions. We do not consider the investments proposed in the recovery plan to meet additional energy needs to be eligible while maintaining gas combustion.

Further concerns - the strategic concept / approach / energy mix

The energy component of the recovery plan is based on Hungary's National Energy and Climate Plan and National Energy Strategy, which state that future energy demand can only be met and decarbonisation achieved if the new blocks at the Paks nuclear power plant are built. These strategies are further flawed in that they do not place enough emphasis on energy saving and energy efficiency and keep energy prices for households artificially low, via fixed prices (a popular measure to cut overhead costs) instead of helping them reduce their consumption and thus reduce costs. If sufficient measures were taken towards energy efficiency and energy saving, much of the electricity produced by the Paks plant would be unnecessary. These same goals, unfortunately, are visible in the recovery plan; this may be the reason behind the push for the widespread electrification of heating and transport.

The recovery plan's objective of 'supporting new photovoltaic capacities for renewable energy production' can be used to support solar power plants and, to a lesser extent, solar energy communities. Wind power plants, however, are not supported. The justification for not supporting the use of wind energy in Hungary is based on a biased comparative analysis of wind and solar potentials that concluded that wind would be an inefficient way to produce energy in Hungary (due to low average wind speed). However, the study did not take the best available wind technologies into account. Thus, they were able to present solar as much more efficient than wind in Hungary.

On the other hand, if 'the main objective of the new [National Energy Strategy] is to strengthen energy sovereignty and energy security', the omission of support for domestically produced wind energy cannot be justified. While neighbouring countries may be in a better position than Hungary in the regional electricity market

due to their better wind energy capabilities, a sovereign energy supply based on domestic sources can be provided from energy production based on a diverse energy mix. Furthermore, the neighbouring countries are planning or implementing nuclear power plant development in a similar way; under this logic, the construction of new blocks near the site of the existing Paks nuclear power plant (Paks2) is not justified either.

Component on ‘settlements catching up’ (disadvantaged³ settlements)

In Hungary’s recovery plan, this component will make an indirect contribution to the improvement of energy efficiency because it includes a measure for the renovation of residential buildings in disadvantaged settlements, mainly combined with electric heating. Without exact figures, however, it is impossible to assess the energy saving potential of this.

Transport

The transport component of the plan includes measures and investments considered environmentally friendly: the development of intercity, urban and suburban rail transport; the electrification of public transport; the development of intercity cycling infrastructure, a school bus programme, traffic management, public transportation timetables, ticketing reforms, the interconnection of urban public transport tracks, etc. There are some measures in the component that have a direct air pollution reduction effect but cannot be considered carbon neutral or a climate protection investment, or are otherwise of concern:

- The measures on the electrification reform of public transport are good in terms of their impact on air pollution; however, as the source of electricity is not known (it may be fossil, renewable or nuclear), the climate impact of these measures may be questionable. It may also lead to a lock-in effect that would justify nuclear energy production in the long run.
- The development of the Danube cargo ports and the increase of the Danube cargo traffic may be problematic from the nature conservation point of view if combined with measures to develop the navigability of the Danube through riverbed deepening.
- The plan intends to address the aviation industry through a comprehensive reform of the legislation. This is a highly polluting sector, but the impact of such reforms cannot be judged because too little information is provided on the content of the measures.
- When taken on their own, the investments and measures planned in the transportation component will not result in the targeted reduction of car traffic. It is absolutely necessary to reduce the overall road traffic by means of traffic calming measures (congestion charging, restrictions on the circulation and distribution of fossil vehicles, etc.).
- Although the recovery measures for public transport place an emphasis on electrification, the plan may also support the purchase of CNG-fuelled and EURO6+ (diesel) buses, as well as hydrogen-run vehicles for long-distance public transport, to some extent. (While the recovery plan doesn’t discuss

³ There is an official category of settlements in Hungary based on their level of development that is called ‘disadvantaged’ (mainly areas with small settlements, extremely low GNI/capita, high unemployment, an undereducated population, a low share of employable population, a high birth rate, etc.).

the source of hydrogen, Hungary's Long-term Strategy for climate neutrality by 2050 mentions that the production of hydrogen from fossil sources should and could be partially replaced by electrolysis, but that this should not apply for transport purposes.)

Demography and public education

In the demography and public education component of the plan, the environmental, climate-conscious attitude formation and education line is strong, and specific measures are planned to promote this. Furthermore, at least 300 schools with at least 300 pupils each nationwide will be modernised in terms of energy use and efficiency, but unfortunately the energy audit and deep retrofit requirements are missing, risking a lock-in effect.

University reform

The recovery plan states that the themes of sustainability, circular economy and climate neutrality may emerge in training, research and innovation. This is far from enough; these topics and aspects should be given priority throughout the training, research and innovation activities that the recovery plan will support, both directly (in specific research, development and innovation fields mentioned in the plan) and as cross-cutting issues.

Healthcare

In connection with only two of the six measures proposed in the healthcare component of the plan (modernisation of healthcare services, construction of a new regional central hospital in South Buda), energy efficiency is mentioned in the description of the component's 'green dimension', but is not included in the chapters describing the individual measures. These chapters are extremely general (as of the information available on 1 April), and it is not possible to assess what the money will actually be spent on. Their materials provide no guarantee that reforms in this sector will include energy efficiency.

Water management

The proposed measures focus exclusively on the dissemination of irrigation, including the construction of irrigation systems, the development of new networks and systems and the nationalisation of irrigation systems. Irrigation is an extremely energy-intensive approach to maintaining farming under changing climatic conditions. This approach ignores the need for climate adaptation along nature-friendly solutions and water retention.

Circular economy

This component of the plan is based on several existing climate-related policy documents (the action plan, NECP, etc.) which it plans to implement. In its elements (waste management, industrial ecology and sewage management in small settlements), the plan tries to focus on climate adaptation and mitigation and to respect local conditions.

It is welcome that the draft declares that there is no intention to support investments in landfills and disposal facilities. The focus of the waste management reform measures in the plan is on recycling and composting (also

large-scale). However, it is not clear from the draft what investments the energetic utilisation of sewage sludge may comprise; this raises a slight concern about the potential incineration of sewage sludge, which should be avoided, and existing sludge incineration processes should rather be phased out.

Alignment with the ‘do no significant harm’ principle

The description of the measures in the public drafts of the recovery plan do not contain detailed explanations of their compliance with the ‘do no significant harm’ principle. Some of the components do contain a few general sentences about how the principle will be met, but some components do not even mention it.

The draft published on 14 April contains a chapter about the ‘do no significant harm’ principle (and also one about the ‘green dimension’) for each component; however, due to the fact that the detailed ‘do no significant harm’ principle analysis was released so late in the process, we are still assessing the quality of the analyses and have not included it in this assessment.

Consultation process and transparency of the planning process

The first draft of the Hungarian Recovery and Adaptation Plan (13 pages) was published in December 2020 on the government’s website. On the same site, comments could be submitted and the government promised to respond to them in writing. Several organisations (stakeholders in the formal consultation process, including MTVSZ) received letters from the government calling for the submission of comments and suggestions on the draft plan by 31 January 2021. The government’s responses to the comments were relatively slow: comments submitted between the second and fourth weeks of January received responses in April 2021.

There was no clear and public timeline for the consultation. The government never indicated on the website which documents would be published when and by when they expected comments to which document.

In November and December, the European Commission Representation in Hungary organised public consultations on the 2021-2027 Multiannual Financial Framework (MFF), where the government outlined the main priorities of the next planning-programming period.

Later, in March and early April, the government published the descriptions of various components of the plan, each between 15 and 20 pages, which still did not contain financial allocations and indicators. They did not publicly announce the publication of these documents.

On 14 April, the government published a detailed, 432-page draft of the national recovery and resilience plan, which also includes financial allocations for both grants and loans. Meanwhile, they removed the descriptions of components published earlier in March and April. On 16 April, this was followed by a new detailed draft, and on 24 April, the government announced that they would only submit the plan for grant financing. As a result, the ministry is reducing and rewriting the entire package. No one knows what will be deleted from the plan or what will remain in it.

Conclusion

One of the biggest problems with Hungary's recovery plan is that the NECP and the Long-Term Strategy for climate neutrality on which it is based are not in line with the European Green Deal or the target to reduce greenhouse gas emissions 55 per cent by 2030. This means that although the recovery plan claims to promote energy transition and it does not support the use of fossil fuels directly, the phase-out of fossil fuels is only touched upon in certain transport-related investments and measures addressing disadvantaged social groups (replacement of coal and wood heating). In accordance with these prevailing national climate policy documents, however, the phase-out of gas is not a priority beyond the time frame of the recovery plan's implementation.

Furthermore, the plan clearly lacks overall strategic coherence, as the climate impact and the approach to climate change mitigation and adaptation vary from component to component. For example, large-scale investments included in the recovery plan (e.g. construction works) would in themselves entail CO₂ emissions (concrete and transport), even if they result in more efficient installations.

Hungary's recovery plan thus needs to take more explicit steps towards energy transition with a primary focus on energy efficiency (especially in buildings) and climate resilience in all sectors. This would also contribute to the long-term and sustainable alleviation of energy poverty and social disadvantages, while boosting the economy.

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