

Assessment of Programme Slovakia

Summary

Slovakia aims to use approximately EUR 12.6 billion from the European Structural and Investment Funds (ESIF) under a single operational programme entitled Programme Slovakia, updated in June 2022.¹

Programme Slovakia is based on documents such as the Slovak national energy and climate plan (NECP),² which is substantially outdated in comparison with the latest studies commissioned by the Slovak government. The modelling for the Low-Carbon Development Strategy of the Slovak Republic³ was used for the Slovak NECP⁴ (adopted in December 2019) without a carbon-neutrality trajectory.

However, there are more recent studies that the government could incorporate into Programme Slovakia as the basis for its projections, targets and plans. A study entitled Decarbonization of the Slovak economy by 2030 was published in May 2022.⁵ In addition, the Institute for Forecasting of the Slovak Academy of Sciences (IF SAS) published a report entitled A carbon-neutral Slovakia by 2050 – Analysis of scenarios for the development of greenhouse gas emissions in the Slovak Republic in June 2022.⁶ The 2050 Pathways Explorer,⁷ a tool to build on the latter study, shows differences among those scenarios. These documents and models are not officially connected, but this high degree of variance shows the difference between the unambitious model in the NECP and carbon neutrality pathways. Moreover, the government should start coordinating its decarbonisation and financing

¹ Ministry of Investments, Regional Development, and Informatization of the Slovak Republic, [Návrh Programu Slovensko 2021-2027](#), Office of the Government of the Slovak Republic: Open government portal, 22 June 2022.

² Ministry of Economy of the Slovak Republic, [Integrovaný národný energetický a klimatický plán na roky 2021-2030](#), Ministry of Economy of the Slovak Republic, December 2019.

³ Ministry of Environment of the Slovak Republic, [Low-Carbon Development Strategy of the Slovak Republic until 2030 with a View to 2050](#), Ministry of Environment of the Slovak Republic, accessed 26 September 2022.

⁴ Ministry of Economy of the Slovak Republic, [Integrovaný národný energetický a klimatický plán na roky 2021-2030](#).

⁵ Ambrus Bárány et al., [Decarbonization of the Slovak economy by 2030](#), Value for Money Department, Environmental Policy Institute and Boston Consulting Group, May 2022.

⁶ Dušana Dokupilová, Martina Repíková and Katarína Korytárová, [Uhlíkovo neutrálné Slovensko do roku 2050](#), Institute for Forecasting, Slovak Academy of Sciences, June 2022.

⁷ Institute for Forecasting, Slovak Academy of Sciences, [2050 Pathways Explorer](#), Institute for Forecasting, Slovak Academy of Sciences, accessed 26 September 2022.

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efforts. **The Programme Slovakia should incorporate findings from the two studies published in spring 2022.**

We compared the draft of Programme Slovakia from December 2021 and the version approved in June 2022.⁸ The Slovak government's decision to increase the allocations for energy efficiency and renewable energy sources by 24 per cent by shifting EUR 247.7 million is welcome, despite the fact that the main incentives to do so were the Russian invasion of Ukraine and rising energy prices, and not a genuine intention to transform the energy system. Moreover, the installation of new fossil gas boilers will not be supported, but some investments may still be dedicated to supporting fossil gas infrastructure.

Support for building regional and local energy capacities and establishing expert teams is vital for decarbonisation. Data gathering, planning and coordinating energy efficiency, renewable energy sources, sustainable transport and other measures are essential for reaching the climate neutrality target. Therefore, it is very positive that the Slovak government has approved EUR 44.6 million in support for this measure.

The decarbonisation of the building stock requires massive financing. The public sector has very low expert capacities in this field and tends to renovate the least critical buildings – such as sports facilities – first. Prioritisation criteria for financing the renovation of public buildings as outlined in Annex 3 of the SK OP's strategic environmental assessment (SEA) should be further elaborated upon.⁹

Ministries are partially willing to cooperate to connect social and environmental measures regarding heating buildings. Nevertheless, the Office of the Plenipotentiary for the Development of Civil Society is still looking for a coordinating authority to address energy poverty sustainably with the ESIF.

The government is still unwilling to offer grant support for energy savings and prioritise socially vulnerable households from the Green for Households programme.¹⁰ This means the Renovate House programme¹¹ from the Slovak recovery plan is more advanced thanks to its support for energy savings and special socially conscious scheme.

1. Horizontal issues

1.1. Climate contribution

We calculated that climate-related spending accounted for around 30 per cent for the ERDF and 42 per cent for the Cohesion Fund in the December 2021 version of Programme Slovakia. Unfortunately, the sixth and final

⁸ Ministry of Investments, Regional Development, and Informatization of the Slovak Republic, [Návrh Programu Slovensko 2021-2027](#).

⁹ Evaluation report of the strategic document Programme Slovakia 2021 – 2027, Appendix 3, [Kritériá prioritizácie financovania obnovy budov v rámci opatrenia 2.1.2. „Znižovanie energetickej náročnosti budov“ Programu Slovensko 2021-2027 \(návrhy a odporúčania\)](#), *Enviroportál*, accessed 26 September 2022.

¹⁰ Slovak Innovation and Energy Agency, Operational Programme Environmental Quality, [Zelená domácnostiam](#), *Slovak Innovation and Energy Agency*, accessed 26 September 2022.

¹¹ Slovak Environment Agency, [Obnov dom](#), *Slovak Environment Agency*, accessed 26 September 2022.

version (published in June 2022) does not distinguish climate spending adequately and clearly in the table in Annex 2. For that reason, it was not possible to assess Programme Slovakia’s climate contribution properly.

1.1.1. Outdated and unambitious background documents

The modelling for the Low-Carbon Development Strategy of the Slovak Republic¹² with 2016 data was also used for the Slovak NECP.¹³ The NECP is a background document that helps form the foundations of Programme Slovakia. The most critical issue is that the ‘with additional measures’ (WAM) model from the NECP will not even achieve carbon neutrality by 2050, with a projected 14 MtCO₂eq for that year.

IF SAS has adapted the 2050 Pathways Explorer¹⁴ for Slovakia. This allows for the comparison of various models, including the WAM model in the NECP. The zero-emissions scenario (IF SAS) and the ambitious scenario (IF SAS) aim to achieve climate neutrality well before 2050.

The Programme Slovakia should incorporate findings from the two studies published in spring 2022. Slovakia should revise its NECP to ambitiously decrease its greenhouse gas emissions by 2030.

1.1.2. Climate indicators in Operational Programme Slovakia

The ministries included an indicator called ‘estimated GHG emissions (tCO₂eq)’ in only one objective within the whole Programme Slovakia. The specific objective ‘2.1. Promoting energy efficiency and reducing greenhouse gas emissions’, with approximately 6.9 per cent of Programme Slovakia’s total financial allocation, tracks the reduction of greenhouse gas emissions.¹⁵ It would not be practical for all policy objectives to focus on decarbonisation, but less than 7 per cent is a meagre share.

Table 1: Estimated greenhouse gas emissions tracked in Programme Slovakia

Specific objective	Indicator	Baseline or reference value	Target value (2029)	Climate contribution
2.1. Promoting energy efficiency and reducing greenhouse gas emissions	Estimated greenhouse gas emissions (tCO ₂ eq)	56,143	38,015	18,128

Source: [Programme Slovakia, June 2022](#)

¹² Ministry of Environment of the Slovak Republic, [Low-Carbon Development Strategy of the Slovak Republic until 2030 with a View to 2050](#).

¹³ Ministry of Economy of the Slovak Republic, [Integrovaný národný energetický a klimatický plán na roky 2021-2030](#).

¹⁴ Institute for Forecasting, Slovak Academy of Sciences, [2050 Pathways Explorer](#).

¹⁵ The specific objective 2.1. Promoting energy efficiency and reducing greenhouse gas emissions has an EUR 844 million allocation. Programme Slovakia has an EUR 12.183 billion total allocation without technical assistance.

Programme Slovakia is the country’s biggest financial package for this decade. Tragically, it tracks only 0.15 percent (0.056143 MtCO2eq) of Slovakia’s greenhouse gas emissions in 2020 (37 MtCO2eq). This shows that the Slovak government is prioritising fast financial inflow over planned climate change mitigation. While ministries continue to formally report some contribution, the public sector cannot properly set and evaluate measures, programmes and the decarbonisation of sectors in general without tracking climate data, especially when evaluating EU financing.

Table 2 shows that Slovakia reached the 55 per cent target for 2030 in 2020. But this was an anomaly caused by the COVID-19 lockdowns. Slovakia needs to decrease emissions sustainably by an additional 7.7 per cent to meet its 55 per cent decarbonisation target. A 19.7 per cent emissions gap would account for the theoretical 67 per cent decarbonisation target, which government analysts outlined in the recent study entitled Decarbonization of the Slovak Economy by 2030.¹⁶

Table 2: Slovak greenhouse gas emissions compared to 1990 levels

Slovakia	2016	2017	2018	2019	2020	Average (2016-2020)
Decreased GHG emissions (compared to 1990)	46.2%	44.3%	43.0%	47.6%	55.3%	47.3%

Source: Author’s calculation based on data from the European Environment Agency, [Net greenhouse gas emissions](#)

Programme Slovakia, the Modernisation Fund and the recovery and resilience plan, including the REPowerEU chapter, should properly track their contribution to reducing emissions by at least 7.7 per cent by 2030 in Slovakia.

1.1.3. Financing Fit for 55 and beyond

The Value for Money department of the Ministry of Finance, the Institute for Environmental Policy of the Ministry of Environment and Boston Consulting Group prepared a recent study entitled Decarbonization of the Slovak economy by 2030.¹⁷ The analysts estimated that by 2030, the total cost to society would be EUR 2.731 billion for a 55 per cent reduction of greenhouse gas emissions since 1990 and EUR 5 billion for a 67 per cent reduction since 1990.¹⁸ The table below summarises the estimated total societal costs for each decarbonisation goal by 2030.

¹⁶ Ambrus Bárány et al., [Decarbonization of the Slovak economy by 2030](#).

¹⁷ Ibid.

¹⁸ Ibid.

Table 3: Estimated total societal costs by individual goals (by 2030)

	Fit for 55 EU target	Target without CCS levers	Full 2030 potential
Reduction target	6.3 MtCO ₂ e (55% reduction since 1990)	14.2 MtCO ₂ e (67% reduction since 1990)	20.2 MtCO ₂ e (76% reduction since 1990)
Point emitters' one-off CAPEX	EUR 764 000 000	EUR 2 300 000 000	EUR 10 900 000 000
Decentralised emitters' net costs	EUR 1 967 000 000	EUR 2 700 000 000	EUR 2 700 000 000
Total costs	EUR 2 731 000 000	EUR 5 000 000 000	EUR 13 600 000 000

Source: BCG, ÚHP, [Decarbonization of the Slovak economy by 2030](#), June 2022, page 18

The ‘full 2030 potential’ target includes carbon capture and storage (CCS) technologies; yet the Intergovernmental Panel on Climate Change (IPCC) recognises that the ‘implementation of CCS currently faces technological, economic, institutional, ecological-environmental, and socio-cultural barriers. Currently, global rates of CCS deployment are far below those in modelled pathways limiting global warming to 1.5°C or 2°C’.¹⁹ As such, we have compared only the 55 per cent and 67 per cent reduction options in table 4.

Table 4: Estimated available financial sources for decarbonisation

Sources	Estimated available financial sources	Share of Fit for 55 needs (55% reduction since 1990)	Share of higher needs (67% reduction since 1990)
Programme Slovakia - Priority 2.1 Energy efficiency and decarbonisation	EUR 1 276 450 890	46.74%	25.53%
Modernisation Fund (very conservative estimation)	EUR 1 000 000 000	36.62%	20.00%
Recovery and Resilience Plan - Green Economy	EUR 2 301 000 000	84.25%	46.02%
Total	EUR 4 577 450 890	167.61%	91.55%

Source: Author’s calculation based on data from [Programme Slovakia, Decarbonization of the Slovak economy by 2030](#), June 2022

Note: The proposed measures/levers from the study Decarbonization of the Slovak economy by 2030 are not necessarily eligible for funding from the financial sources listed in the table. The Modernisation Fund’s estimated budget is approximately EUR 3.89 billion according to recent calculations.

¹⁹ Intergovernmental Panel on Climate Change, [Climate change 2022: mitigation of climate change – summary for policymakers](#), Intergovernmental Panel on Climate Change, 2022, 36.

A simplified calculation shows that Priority ‘2.1 Energy efficiency and decarbonisation’ within Programme Slovakia might finance 46.74 per cent of the budget of the Fit for 55 package. This one priority could contribute up to 25.53 per cent of spending on the projected 67 per cent reduction of emissions since 1990. On the other hand, this calculation does not compare detailed measures with their eligibility from respective funds.

In summary, if they are allocated appropriately, Slovakia might have sufficient finances for a 67 per cent reduction in greenhouse gas emissions by 2030. The government should match the most appropriate decarbonisation measures with adequate financing.

2. Environmental criteria

2.1. Application of the ‘do no significant harm’ principle and strategic environmental assessment (SEA)

The SEA process for Programme Slovakia started in July 2021 and ended in May 2022.²⁰ It assessed the version of Programme Slovakia from 11 April 2022.²¹ However, the government only organised its official consultations with ministries and the public in the second half of April,²² which is not ideal given that Programme Slovakia was approved on 22 June 2022.²³ This means the SEA process might not cover changes incorporated after the public consultations. We must say that this seems to be fairly inconsequential. The timing of the consultations was improper, but we have not identified any thematic problems during our analysis.

The ‘do no significant harm’ principle assessment is summarised in the ‘Evaluation report of the strategic document Programme Slovakia 2021-2027’.²⁴ The related Annex 5 includes a 19-page report with comprehensive descriptions. There are also 93 mentions of the ‘do no significant harm’ principle in the Programme Slovakia. However, the ‘do no significant harm’ principle, as set by the European Commission, is not transformative enough.

Experts only formally described very general climate measures in the evaluation report, which is the primary document of the SEA.²⁵ It states, ‘The adopted objectives of the Paris Global Climate Agreement are reflected in the European Green Deal, [as well as] other already approved EU and national strategy documents’.

²⁰ Ministry of Environment of the Slovak Republic, [Operačný program Slovensko](#), *Enviroportál*, accessed 26 September 2022.

²¹ Ministry of Environment of the Slovak Republic, [Program Slovensko 2021-2027](#), *Enviroportál*, 11 April 2022.

²² Ministry of Investments, Regional Development and Informatization of the Slovak Republic, [LP/2022/207 Návrh Programu Slovensko na roky 2021-2027](#), *Slov-Lex*, last updated 24 June 2022.

²³ Ministry of Investments, Regional Development, and Informatization of the Slovak Republic, [Návrh Programu Slovensko 2021-2027](#).

²⁴ Ministry of Environment of the Slovak Republic, [Operačný program Slovensko](#).

²⁵ Ibid.

We conclude that the **Slovak NECP, as described above, is not in line with global and EU decarbonisation documents**. The evaluation report only lists the EU-level goals of the European Green Deal; it does not scrutinise the NECP or Slovakia's energy and climate targets and its current progress on these issues.

2.2. Prioritisation of social and environmental values

2.2.1. Prioritisation criteria for financing the renovation of public buildings

On the other hand, our assessment of the environmental impacts of the energy efficiency and decarbonisation priority shows that it **includes very positive measures and recommendations**, such as:²⁶

To prevent suboptimal renovation of buildings, we recommend applying the criteria for prioritizing the selection of buildings according to Annex 3 of the Slovakia Programme Evaluation Report (this annexe was prepared separately for measure 2.1.2., i.e., renovation of residential buildings and public buildings). We further recommend applying the following conditions:

- A minimum value of achieved energy savings compared to the original situation (this value will be determined in the implementation phase), while the co-financing rate should be based on the achieved energy savings.
- Excluding support for the purchase of fossil fuel-based energy generation equipment.
- Endorsement of the renewal plans by the relevant regional sustainable energy centre once it is established and a low carbon (decarbonisation) strategy for the region has been developed.²⁷

Annex 3 – ‘Prioritisation criteria for financing public buildings renovation under measure 2.1.2 “Reducing the energy performance of buildings” of the Slovakia Programme 2021-2027 (proposals and recommendations)’²⁸ – **represents an essential contribution, especially during the energy crisis**. The document outlines the central values to consider, such as the type of building, usage, climate conditions, potential for savings, energy poverty and regional disparities.²⁹

A more detailed version of the annex would be extremely helpful given the sheer number and the state of public buildings. There are 15,000 public buildings in Slovakia,³⁰ and approximately three-quarters of them were built 30 to 60 years ago.

²⁶ Ministry of Environment of the Slovak Republic, [Operačný program Slovensko](#), 148.

²⁷ Ministry of Environment of the Slovak Republic, [Program Slovensko 2021-2027](#).

²⁸ Evaluation report of the strategic document Programme Slovakia 2021-2027, Appendix 3, [Kritériá prioritizácie financovania obnovy budov v rámci opatrenia 2.1.2. „Znižovanie energetickej náročnosti budov“ Programu Slovensko 2021-2027 \(návrhy a odporúčania\)](#), accessed 26 September 2022.

²⁹ Ibid.

³⁰ Supreme Audit Office of the Slovak Republic, [Zamestnanci štátu pracujú v chátrajúcich budovách, ale i v lukratívnych súkromných centrách](#), *Supreme Audit Office of the Slovak Republic*, 26 November 2021.

The Slovak government should elaborate on a more comprehensive prioritisation criterion for financing the renovation of public buildings, ideally in Programme Slovakia or in the calls for proposals.

2.2.2. Criteria for sustainable use of woody biomass for energy purposes

Annex 4 – ‘Definition of the scope and content of criteria for sustainable use of woody biomass for energy purposes for the Programme Slovakia 2021 - 2027’³¹ – is also vital for discussing biomass and sustainable wildlife protection.

This is more comprehensive than the previous ‘Criteria for sustainable use of biomass in Slovak regions for the Slovak Republic programmes for the period 2014-2020 co-financed by the ESIF - with a focus on woody biomass’.³² The SEA document also contains essential ‘energy efficiency first’ and air protection criteria. The specific criterion for the minimum energy performance requirement of buildings regarding energy demand for heating and/or hot water from a bioenergy installation standpoint has significant potential to incentivise energy savings. There were attempts to include this measure in 2016, but the government prioritised cost-cutting over the energy efficiency first principle in the previous programming period.

The Slovak government should apply the criteria for sustainable use of woody biomass for energy purposes within Programme Slovakia.

3. Compliance with the partnership principle

The main problem with how both the partnership agreement and Programme Slovakia were drafted was that the discussions allowed opportunities for only very general comments, relegating some of the crucial aspects of the spending to later stages. During the short preparation of the partnership agreement, the government told socioeconomic partners that essential information would be discussed during the drafting of Programme Slovakia.

The government repeated this unfortunate practice by delaying the release of additional vital details from Programme Slovakia until the stage of calls for proposals. Some experts complained that socioeconomic partners might lose interest in repeating the same recommendations for each step of the programming process. Moreover, synergies with the recovery plan and Modernisation Fund allocation plans were discussed only on an ad hoc basis without any clear guidance.

However, outside the formal consultation process, the Ministry of Investments, Regional Development and Informatization provided extra opportunities for commentary on Programme Slovakia via members of the working group Partnership 2020+. Their comments were considered mandatory, which allowed socioeconomic partners to focus on the content rather than collecting more than 500 signatures to support their

³¹ Evaluation report of the strategic document Programme Slovakia 2021-2027, Appendix 4, [Vymedzenie rozsahu a obsahu kritérií udržateľného využívania drevnej biomasy na energetické účely pre Program Slovensko 2021 – 2027 \(návrhy a odporúčania\)](#), *Enviroportál*, accessed 26 September 2022.

³² KPMG Slovensko, [Kritériá udržateľného využívania biomasy v regiónoch Slovenska programy SR na obdobie 2014 - 2020 spolufinancované z EŠIF](#), *Operational programme environmental quality*, September 2016.

recommendations. Finally, the Office of the Plenipotentiary for the Development of Civil Society cooperated with ministries, improving the quality of the participation process.

4. European Green Deal and REPowerEU objectives

We compared the draft of Programme Slovakia from December 2021 to the version approved in June 2022.³³ It is very positive news that the Slovak government **has increased allocations by 24 per cent for energy efficiency and renewable energy sources by shifting EUR 247.7 million to the ‘Energy efficiency and decarbonisation’ priority**. Unfortunately, the main incentive for this seemed to be the Russian invasion of Ukraine and the global energy crisis. Table 5 summarises the changes.

Table 5: Budget increase in priority 2P1 – energy efficiency and decarbonisation

Measure	Dec 2021	Jun 2022	Change	Change (%)
2.1.1 Improving energy efficiency in enterprises	EUR 65 590 000	EUR 77 690 000	EUR 12 100 000	18%
2.1.2 Reducing energy intensity of buildings	EUR 581 250 000	EUR 722 050 891	EUR 140 800 891	24%
2.1.3 Promoting development of regional and local energy sectors	EUR 44 600 000	EUR 44 600 000	EUR 0	0%
2.2.1 Promoting renewable energy in enterprises that are active electricity consumers, prosumers of energy from renewable energy and communities generating renewable energy	EUR 72 200 000	EUR 95 062 529	EUR 22 862 529	32%
2.2.2 Promoting renewable energy in energy supply systems	EUR 124 210 000	EUR 147 445 385	EUR 23 235 385	19%
2.2.3 Promoting renewable energy in households (innovation of “Green to households” project)	EUR 98 000 000	EUR 142 605 649	EUR 44 605 649	46%
2.2.4 Promoting prospecting and surveying geothermal energy sources for the purposes of their use for energy generation	EUR 9 000 000	EUR 13 096 436	EUR 4 096 436	46%
2.3.1 Promoting smart energy systems including storage	EUR 33 900 000	EUR 33 900 000	EUR 0	0%
Total	1 028 750 000	1 276 450 890	247 700 890	24%

Source: Data from working groups and [Draft Programme Slovakia 2021-2027](#)

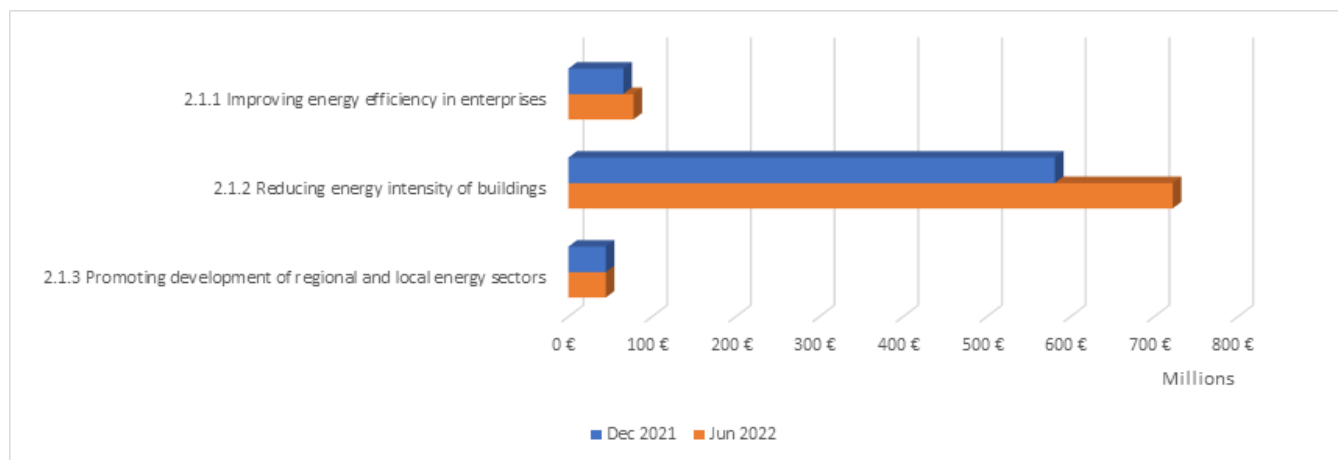
Note: The measure ‘2.1.4. Promoting effective deployment of alternative propulsion system in enterprises’ was not distinguished in the June version of Programme Slovakia.

³³ Ministry of Investments, Regional Development, and Informatization of the Slovak Republic, [Návrh Programu Slovensko 2021-2027](#).

4.1. Energy efficiency

The allocation for ensuring the energy efficiency of buildings seems sufficient. The increases in financial allocations are summarised in table 5 and visualised in Figure 1.

Figure 1: Budget increase in energy-efficiency measures



Source: Data from working groups and [Draft Programme Slovakia 2021 – 2027](#)

Questions remain about the co-financing rate, which is not specified in Programme Slovakia. A lower co-financing rate would incentivise a combination of grants and financial instruments like loans or energy performance contracting. **A combination of motivation grants and loans for the deep renovation of multi-apartment buildings should be piloted from the Just Transition Fund.**³⁴

The prioritisation of buildings as described above is vital. Inflation³⁵ the lack of a stable financing framework and capacities in the construction sector remain the major obstacles.³⁶

4.2. Renewable energy sources

The state of renewable energy in Slovakia is complicated, and not only due to the high share of nuclear energy in the country’s mix. Slovakia’s NECP is based on significantly inaccurate renewable energy figures, which have been revised upwards by 5 per cent in 2019, according to the findings of the Slovak Hydrometeorological Institute.³⁷ The national authorities have **reported incorrect data to Eurostat over the past few years and**

³⁴ Marek Žembery, [Podpora obnovy budov z Fondu na spravodlivú transformáciu - Praktický a konkrétny návrh finančných produktov pre zrýchlenie tempa obnovy budov na Hornej Nitre](#), Friends of the Earth-CEPA, February 2022.

³⁵ European Commission, [Economic forecast for Slovakia](#), European Commission, last updated 14 July 2022.

³⁶ Irena Jenčová, [Renovácie domov ohrozuje nedostatok pracovnej sily a materiálov v stavebníctve](#), Euractiv.sk, 24 August 2022.

³⁷ Irena Jenčová, [Slovensko sa ocitlo medzi európskou špičkou v obnoviteľnej energii. Veľmi sa tým nechváli](#), Euractiv.sk, 20 January 2021.

will have to recalculate the country's renewable energy share since 2010.³⁸ New data about heating with biomass in households, which had previously flown 'below the radar', should be considered in policymaking because of the impact this could have on biodiversity.

Slovakia easily met its 2020 target, but its unambitious 2030 target of a 19.2 per cent share of renewable energy sources was meant to contribute to the 27 per cent EU target. The EU increased its target to 32 per cent in 2018, but Slovakia kept its unambitious target in the NECP even in 2019. The European Commission's assessment of the Slovak recovery plan³⁹ identifies that the Slovak target for renewables of 19.2 per cent is well below the 24 per cent share calculated in line with the formula in Annex II of the regulation (EU).

Slovakia formally based its partnership agreement and Programme Slovakia on the outdated NECP. In the meantime, the EU is raising its target from 32 per cent to 40 per cent within the Fit for 55 package.⁴⁰ Moreover, the Commission proposes to increase the target in the directive to 45 per cent by 2030 within the REPowerEU initiative.⁴¹ The Slovak government plans to start updating the NECP in 2022; the Ministry of Economy started collecting the first contributions in the summer of 2022.⁴²

The increases in the financial allocation for renewable energy sources are summarised in table 5 and figure below.

The Ministry of Environment should finally start discussing the sustainability criteria for renewable energy sources, which had been planned for 2020 in the environmental strategy.⁴³

The sustainability criteria for woody biomass are described above. **The Slovak government should use the momentum of REPowerEU to accelerate the rollout of renewables.**

³⁸ Irena Jenčová, [Analytička SHMÚ: Čísla o spotrebe biomasy nesedeli už roky, nikoho to nezaujímalo](#), *Euractiv.sk*, 1 February 2021.

³⁹ European Commission, [Analysis of the recovery and resilience plan of Slovakia. Accompanying the document Proposal for a Council implementing decision on the approval of the assessment of the recovery and resilience plan for Slovakia](#), *EUR-Lex*, 21 June 2021.

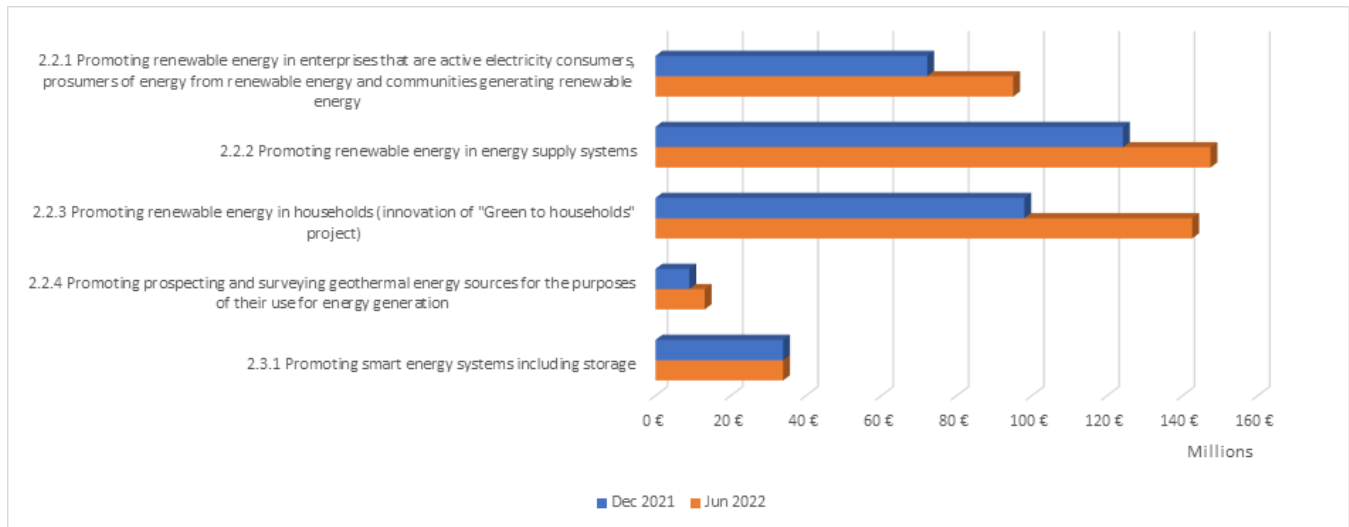
⁴⁰ European Commission, [Delivering the European Green Deal](#), *European Commission*, accessed 26 September 2022.

⁴¹ European Commission, [Renewable energy targets](#), *European Commission*, accessed 27 September 2022.

⁴² Ministry of Economy of the Slovak Republic, [MH SR zapája verejnosť do aktualizácie energeticko-klimatického plánu](#), *Ministry of Economy of the Slovak Republic*, 15 August 2022.

⁴³ Ministry of Environment of the Slovak Republic, [Strategy of the Environmental Policy of the Slovak republic until 2030](#), *Ministry of Environment of the Slovak Republic*, February 2019.

Figure 2: Budget increase in renewable energy measures



Source: Data from working groups and [Draft Programme Slovakia 2021 – 2027](#)

4.2.1. ‘Green to the Households’ less ambitious than the ‘Renovate Your Home’ scheme

The Green to the Households scheme has accelerated the adoption of renewable energy in the housing sector. Nevertheless, it fails to address energy saving measures and prioritise socially vulnerable households. Conversely, the Renovate Your Home scheme⁴⁴ from the recovery plan, which will start in autumn 2022, addresses both challenges better. **The Green to the Households scheme should specifically and intentionally support different socially vulnerable groups than the Renovate Your Home scheme in order to use EU funds in a more socially responsible way.**

4.2.2. Energy communities

The establishment of energy communities is a new and underdeveloped topic in Slovakia. There are only a few formal mentions and almost non-existent plans in the NECP. Prosumers and energy communities are directly mentioned in measure ‘2.2.1 Promoting renewable energy in enterprises that are active electricity consumers, prosumers of energy from renewable energy and communities generating renewable energy’ with an allocation of EUR 95 million. It also includes a ‘Green to the Enterprises’ scheme to support renewable energy in the business sector. There are major obstacles for energy communities, which significantly favours enterprises. **The public sector should be strongly preferred due to the energy crisis and a current lack of municipal capacities to deal with this issue. Technical and legislative barriers for energy communities should not undermine support for them.**

⁴⁴ Slovak Environment Agency, [Obnov dom](#).

4.3. Building capacities

The measure ‘2.1.3 Promoting development of regional and local energy sectors’ – funded to the tune of EUR 44.6 million – has **the potential to be an inspirational example for other central and eastern European countries**. It includes support for regional energy centres at the level of NUTS 3, which would be led by the Slovak Innovation and Energy Agency, and regional sustainable energy centres (RSECs), led by the regional authorities, on a sub-level between NUTS 3 and NUTS 4. **These regional capacities are essential for climate neutrality, effective energy planning and systemic support for measures in energy savings, as well as increasing the share of renewable energy sources.**

The operation of regional energy centres will include coordination, monitoring, and analytical and methodological tasks. The purpose of regional sustainable energy centres will be to provide coordinated and optimised planning of energy consumption at the regional level, including providing relevant data-based inputs for decision-making, as well as monitoring and evaluation of the efficiency of different measures and evaluating contributions to the objectives of the NECP.⁴⁵ The centres will also undertake public awareness activities that will be equally crucial for tackling the climate and energy crises.

4.4. Fossil gas and other gases

It is very positive that the specific objectives ‘2.1 Promoting energy efficiency and reducing greenhouse gas emissions’ and ‘2.2 Promoting renewable energy in accordance with Directive (EU) 2018/2001, including the sustainability criteria set out therein’ will not support new fossil gas installations and technologies. The exact wording is as follows: ‘New installations and technologies for the use of natural gas and measures relating to ETS activities within the meaning of Annex I of Directive 2003/87/EC will not be supported’.

The government’s initial intention was to support fossil gas boilers as an air quality measure, completely ignoring the social and climate situation. Nevertheless, new fossil gas boilers will not be supported within measure ‘2.7.9 Improving air quality monitoring system at national, local/regional level, monitoring the impact of air pollution on ecosystems, air quality management, including the construction of a new emissions information system’.

Some investments in biomethane or hydrogen may still conserve or support fossil gas infrastructure.

4.5. District heating

Measure ‘2.2.2 Promoting renewable energy in energy supply systems’ is very general. It includes support for public building energy supply systems, district heating systems, combined heat and power, increasing biomethane and hydrogen in energy carriers, monitoring, optimisation and other systems, which is very general and does not provide enough guarantees for properly modernising district heating systems.

⁴⁵ Friends of the Earth-CEPA, [Planovanie komplet](#), *Energoportál*, accessed 26 September 2022.

Priority should be given to projects that aim to create low-temperature district heating systems. Low-temperature district heating systems are based on the optimised energy demands of connected buildings and allow for large-scale integration of renewable energy sources using seasonal heat storage. Compared to current high-temperature district heating systems, they are significantly more energy efficient and less emission-intensive. In the long term, they eliminate cities' dependence on high consumption of price-volatile imported fuels (especially natural gas) and problematic biomass, thus stabilising the local economy.

The transformation of current heating systems to low-temperature ones is a prerequisite for achieving climate neutrality, but it is a time- and investment-intensive process. Therefore, all investments directed toward the district heating sector must support this trend as much as possible. Experience from Denmark⁴⁶ and Germany could serve central and eastern European countries well in this endeavour. Moreover, the International Energy Agency has published an inspirational guidebook on the implementation of low-temperature district heating systems.⁴⁷

Support for crop-based biogas plants (including energy crops and catch crops) should be excluded. Crop-based biogas plants use agricultural land and harm biodiversity and the environment, and their impact on climate change is negative. As such, public funds should not be used to support such plants. On the contrary, support should be concentrated on producing biogas from biowaste, sludge or organic waste from sewage treatment plants.

Hydrogen production facilities using renewable energy sources should only be supported where no other favourable alternative exists. According to expert studies, heat pumps can produce several times more heat per unit of electricity than hydrogen-based systems.⁴⁸ Even the addition of hydrogen requires investment in infrastructure with relatively small reductions in greenhouse gas emissions. Thus, the energy, economic and emission efficiency of hydrogen production using renewable energy must be carefully assessed.

⁴⁶ Ea Energy Analyses and Viegand and Maagøe, [Skúsenosti s plánovaním teplárstva v Dánsku](#), *Energoportál*, November 2019.

⁴⁷ Helge Averfalk et al., [Annex TS2: Implementation of Low Temperature District Heating Systems](#), *International Energy Agency Technology Collaboration Programme on District Heating and Cooling*, 2018-2021.

⁴⁸ Agora Verkehrswende and Agora Energiewende, [The Future Cost of Electricity-Based Synthetic Fuels: Conclusions Drawn by Agora Verkehrswende and Agora Energiewende](#), in [The Future Cost of Electricity-Based Synthetic Fuels](#), ed. Agora Verkehrswende, Agora Energiewende and Frontier Economics (2018).

5. Recommendations

We have summarised our recommendations for Programme Slovakia:

1. Slovakia should revise its NECP to ambitiously decrease its greenhouse gas emissions by 2030.
2. Programme Slovakia should be revised to track much more than 0.15 per cent of Slovakia's actual greenhouse gas emissions in 2020. Programme Slovakia, the Modernisation Fund and the recovery plan, including the REPowerEU chapter, should track emissions associated with at least the required 7.7 per cent reduction in greenhouse gas emissions for the Fit for 55 programme.
3. The Programme Slovakia should incorporate findings from the studies published in June 2022: Decarbonization of the Slovak Economy by 2030⁴⁹ and A Carbon-Neutral Slovakia by 2050.⁵⁰ The government should match the most appropriate decarbonisation measures with proper financing.
4. Slovak ministries should elaborate more comprehensively on prioritisation criteria for financing the renovation of public buildings. Annex 3 of the SEA⁵¹ is a great starting point.
5. A combination of motivation grants and loans for deep renovation of multi-apartment buildings should be piloted from the Just Transition Fund.⁵²
6. Slovak ministries should use the momentum of REPowerEU to accelerate the rollout of renewables. The Ministry of Environment should finally discuss sustainability criteria for renewable energy sources, which had been planned for 2020 in the environmental strategy.⁵³ Slovak ministries should apply the criteria for sustainable use of woody biomass for energy purposes within Programme Slovakia. Annex A⁵⁴ of the SEA is a great starting point.
7. The public sector should be strongly prioritised over the private sector given the energy crisis and the current lack of municipal capacities for energy and buildings. Technical and legislative barriers for energy communities should not undermine support for them.
8. Building regional capacities for decarbonisation should be supported.

⁴⁹ Ambrus Bárány et al., [Decarbonization of the Slovak economy by 2030](#).

⁵⁰ Dokupilová, Repíková and Korytářová, [Uhlíkovo neutrálné Slovensko do roku 2050](#).

⁵¹ Evaluation report of the strategic document Programme Slovakia 2021-2027, Appendix 3, [Kritériá prioritizácie financovania obnovy budov v rámci opatrenia 2.1.2. „Znižovanie energetickej náročnosti budov“ Programu Slovensko 2021 – 2027 \(návrhy a odporúčania\)](#).

⁵² Marek Žembery, [Podpora obnovy budov z Fondu na spravodlivú transformáciu - Praktický a konkrétny návrh finančných produktov pre zrýchlenie tempa obnovy budov na Hornej Nitre](#).

⁵³ Ministry of Environment of the Slovak Republic, [Greener Slovakia. Strategy of the Environmental Policy of the Slovak republic until 2030](#), Ministry of Environment of the Slovak Republic, February 2019.

⁵⁴ Evaluation report of the strategic document Programme Slovakia 2021-2027, Appendix 4, [Vymedzenie rozsahu a obsahu kritérií udržateľného využívania drevnej biomasy na energetické účely pre Program Slovensko 2021 – 2027 \(návrhy a odporúčania\)](#).

9. The 'Green to the Households' scheme should specifically and intentionally support other socially vulnerable groups than those supported by the 'Renovate Your Home' scheme.
10. Support for fossil gas installations and technologies should remain excluded. Activities that conserve fossil gas dependency, i.e. partial biomethane or hydrogen, should be re-evaluated. Priority should be given to projects that aim for low-temperature district heating systems. Support for crop-based biogas plants (including energy crops and catch crops) should be excluded. Hydrogen production facilities based on renewable energy should only be supported where no other favourable alternative exists.



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