TOWARDS ACHIEVING CLIMATE NEUTRALITY FOR SLOVAKIA IN 2050: ANALYSIS OF THE SITUATION AND KEY CHALLENGES

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Abstract

Slovakia has declared climate neutrality by 2050 as its official goal, joining the club of countries that already account for 75% of global GDP and are among the world's most advanced economies. Achieving this goal means an unprecedentedly deep and rapid economic and social transformation towards a decarbonised economy. While EU emissions fell by 24% between 1991 and 2019, they are set to fall by a further 31% by 2030. But the low-hanging fruit of relatively simple and cheap solutions is exhausted, and each additional percentage point costs more than the last. This report provides a framing assessment of recent developments in climate policies, discourses and investments in Slovakia in relation to international, European Union and domestic intentions and targets. It is written on the basis of analyses of policy agenda documents and focuses on recent developments in 2021 as a relevant period for progress towards declared climate neutrality. This goal would require fundamental changes in many areas of the economy, and financing this transition would be key. The paper analyses the programming, targeting and coordination between the key financial mechanisms available for climate change mitigation in Slovakia (European Structural and Investment Funds, RRP, State Budget and State Aid) and makes policy recommendations.

Keywords

Climate Neutrality, Implementation Framework, CO2 emissions, European Structural and Investmests Funds, Slovakia.

I. Introduction

Achieving climate neutrality by 2050 is set out in the Paris Climate Agreement adopted in 2015 (United Nations). According to the European Commission, neutrality is essential if we want to keep the warming of our planet below 1.5 °C. Slovakia signed up to this commitment in June 2019. Slovakia's climate change policy is defined by the UN and European Union framework and mutually agreed targets and goals. According to the Nationally Determined Contributions (NDCs), Slovakia should aim to reduce emissions by 12% (NDC EU First NDC Updated submission, English18/12/2020).

However, the EU's targets, which affect Slovak climate policy, are gradually becoming more ambitious. As part of the European Green Deal, the Commission proposed in September 2020 to raise the target for reducing greenhouse gas emissions (GHG), including emissions and removals, to at least 55% below 1990 levels by 2030. Slovakia's share of reaching this figure is not yet final (GHG emissions in non-ETS countries are expected to fall by 20% since 2005), but the process has been strongly shaping the national strategic framework for climate change mitigation and adaptation.[3]

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[3] Integrated national energy and climate plan for the years 2021 – 2030 (processed in accordance with Regulation EU No. 2018/1999 on Energy Union governance and climate action), 2019.

Despite the commitment to achieve climate neutrality by 2050 and the increasing number and quality of strategies, policies and legislation, the country often leans towards low ambition in its policy targets. – i.e. pursuing the EU framework as the lowest common denominator, but avoiding stronger policies and objectives. In addition, improving the implementation and enforcement of existing policies and legislation remains a persistent challenge.

On the positive side, over the last several years there has been a significant improvement in energy efficiency (both in households and industry), the number of renewable energy installations is growing and Slovakia's 2020 CO2 reduction targets have been met. The country closes its only remaining coal industry in 2023 and regional decarbonisation strategies are being prepared. The European Green Deal provides crucial impetus to stimulate policy responses in Member States, and the Fit for 55 climate package agreed in July 2021 should further accelerate the transformation.

However, problems arise. The so-called low-hanging fruit of emissions reductions is shrinking and the EU's 2030 and 2050 targets will pose challenging economic and social tasks for Slovakia. The country is increasingly exposed to climate change adaptation challenges. The coming period will require stronger commitment from governments and greater public support.

The main vision and strategic document in the field of climate change policy is the adopted Low Carbon Development Strategy of the Slovak Republic until 2030 with a view to 2050. The Strategy was approved by the Slovak Government in 2020 and represents Slovakia's response to its climate change commitments. The aim of the strategy is to identify existing and propose new additional measures within the Slovak Republic to achieve climate neutrality by 2050. The document was prepared under the leadership of the Ministry of Environment of the Slovak Republic in cooperation with national and international experts, with the Low Carbon Study as the starting document for the preparation of the strategy. It is based on modelling the development and impacts of individual policies and measures on the national economy using the Compact Primes and ENVISAGE Slovakia (CGE) models. All relevant institutions as well as the general public had the opportunity to be involved in the preparation of the strategy through a designated public participation process. The Integrated National Energy and Climate Plan 2021-2030 is currently under review and should provide supply-side targets for climate policies.

Most recently, the so-called Climate Act (2023) was adopted in Slovakia. The government justifies the need for the adoption of the law on the basis of the clarification of the legal framework in the field of climate and the need to follow up the European Climate Regulation and the Fit for 55 package, and the effort to complement and elaborate on existing documents that address the reduction targets of the Slovak Republic.

II. Financing the climate neutrality

The use of available and future financial resources from the state budget and EU funds for investments in climate and green technologies is a key lever for the Slovak Republic to accelerate the necessary transformation. Unprecedented EU financial support gives the country a unique opportunity and advantage. However, the experience of cohesion policy points to structural problems in using the available resources to meet policy objectives. Decarbonisation has its winners and losers. The winner should be the economy as a whole, increasing its competitiveness and long-term sustainability. The losers may be the people with jobs at risk in carbon-intensive sectors facing Industry 4.0 and the combination of green and technological transformation of production and services.

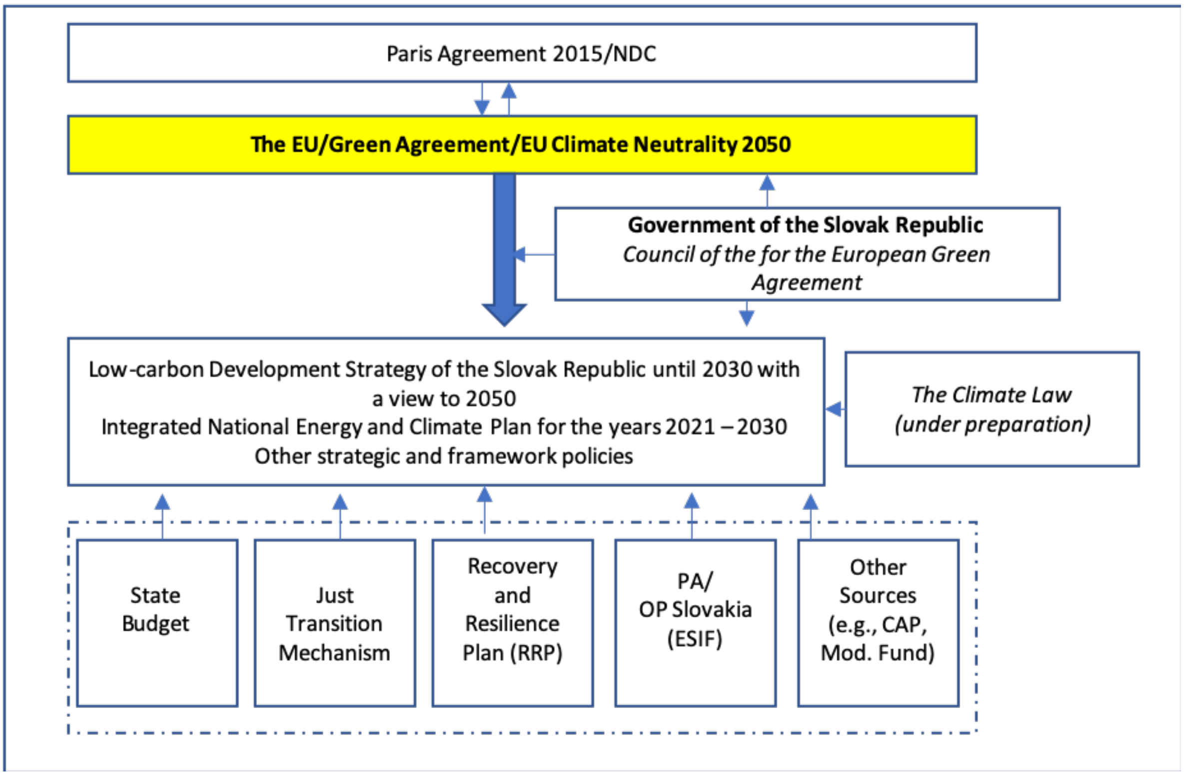
There are a number of investment opportunities in climate neutrality finance. In addition to the national budget and its key role in managing investments and co-financing projects, this is mainly The EU funds framework is linked to social and economic cohesion policy. The Partnership Agreement with Slovakia for 2021-2027 and the Operational Programme Slovakia are focused on the priorities of the European Green Deal. Specific funds have been created for economic and social transformation and to address the social impacts of decarbonisation. In the area of climate neutrality, we find in the general financial instruments specifically earmarked financial instruments and earmarked and fixed percentages, where earmarking for climate objectives helps to concentrate available resources.

Decarbonisation was selected as one of the priorities for reforms and actions in the adopted (June 2021) Recovery and Resilience Plan (RRP) of the Slovak Republic under the EU's Recovery and Resilience Instrument. It makes loans and grants available to support reforms and investments made to mitigate the economic and social impact of the coronavirus pandemic and to ensure that European economies and societies are more sustainable, resilient and better prepared for the challenges and opportunities of the green and digital transition. The development of the RRP has helped to open a public debate on the needs and general future transformation of the country. The public debate on the priorities of the RRP and its focus on decarbonisation has provided important input to the public debate.

The RRP was modified in April 2023 to add a new REPowerEU chapter in response to the war in Ukraine, which has created a new geopolitical reality that has radically disrupted the global energy market. In this context, Slovakia faces an urgent European and national challenge to urgently reduce its dependence on Russian fossil fuels, accelerate the green transformation and at the same time increase the resilience and security of the energy system across the European Union. The main objective of the reforms and investments in the REPowerEU chapter is therefore to contribute to the diversification of energy sources and to move away from Russian fossil fuels. In addition, the REPowerEU chapter also includes measures to help combat energy poverty, promote zero-emission transport and accelerate the retraining of the workforce in green and related digital skills.

Other important sources of funding for climate neutrality include the Modernisation Fund, the Common Agricultural Policy, the planned Social Climate Facility and domestic public and private sources. Figure 1 illustrates this framework.

Figure 1. Framework of Climate Change financing in Slovakia.



Source: authors

The dominant part of the Fit for 55 climate package is about updating existing EU legislation. Here we see the revision of the EU Emissions Trading Scheme (EU ETS), the revision of the Land Use, Land Use Change and Forestry Regulation (LULUCF), the revision of the Effort Sharing Regulation (ESR), the amendment of the Renewable Energy Directive (RED), the amendment of the Energy Efficiency Directive (EED), the revision of the Alternative Fuels Infrastructure Directive (AFID), the amendment of the Regulation setting CO2 emission standards for cars and vans and the revision of the Energy Taxation Directive.

There are also new legislative proposals included. Here is the most important New EU forest strategy and carbon border adjustment mechanism (CBAM). Specific area captured is fuels and ReFuelEU Aviation – on sustainable aviation fuels and FuelEU Maritime, on greening Europe's maritime space

The Social Climate Fund is very important in terms of climate neutrality. The financial coverage of the fund should in principle correspond to 25% of the expected revenues from the inclusion of buildings and road transport in the scope of the ETS Directive, given its direct link to the new ETS. In addition to the existing JTM, we have here a financial mechanism that should offset the negative social impacts of decarbonisation policies, serve to compensate Member States for the costs of this transition for vulnerable citizens.[1]

III. The EU Funds

The Partnership Agreement with Slovakia for 2021-2027 and the Operational Programme Slovakia govern the programming and implementation of the largest part of the EU funds allocated to Slovakia in the new programming period. In May 2018, the European Commission published a proposal for a Multiannual Financial Framework - the EU Multiannual Financial Framework 2021-2027 (MFF), as

[1] Legislative proposal (June 14, 2021) availabe at: <https://ec.europa.eu/info/sites/default/files/social-climate-fund_with-annex_en.pdf>

well as a draft legislative package for the EU Cohesion Policy for the programming period 2021-2027. An updated legislative package for the new programming period 2021-2027 was published on 29 May 2020, including the introduction of the Future Generations EU Instrument (NGEU) in response to the crisis situation. On 25 June 2021, the European Parliament approved the political agreements on the legislative package for Cohesion Policy 2021-2027 and on the allocation of 373 billion EUR for the whole EU. The Slovak Republic, based on the MFF and the EU crisis budget 2021-2023, has access to the resources in the amount of 26.1 billion EUR. Of this total amount, the Slovak Republic will draw on EU resources:

49% or 12.8 bilion through cohesion policy (coordinator: MIRRI SR)

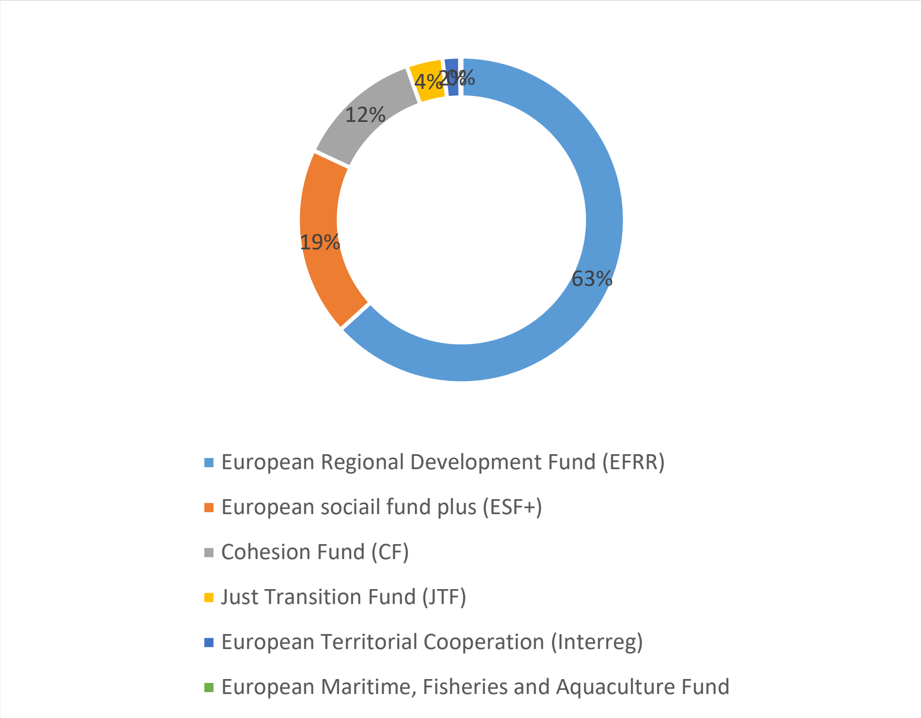
24% or 6.4 billion through the Reconstruction and Resilience Support Mechanism (coordinator: MF SR)

19% or 4.9 billion through the common agricultural policy (coordinator: Ministry of Agriculture and Rural Development of the Slovak Republic),

8% or 2 billion through other programs (e.g. Erasmus, Connecting Europe Facility, Digital Europe, etc.) - the Slovak Republic must compete for these resources in pan-European calls.

Total allocation of EU cohesion policy resources 2021 - 2027 for the Slovak Republic is thus based on the approved MFF and is estimated at 12.8 billion EUR. Out of it European Regional Development Fund (EFRR) has 8 117 mil. EUR, European social fund plus (ESF+) has 2 404 mil. EUR, Cohesion Fund (CF) is 1 613 mil. EUR. The Commission in November 2022, has adopted the Territorial Just Transition Plan (TJTP) for Slovakia setting the strategy for the investment of 459 million EUR allocated to the country from the Just Transition Fund (JTF). These funds will support a fair transition towards climate neutrality in Slovakia's most vulnerable regions. European Territorial Cooperation (Interreg) is 223 mil. EUR, and European Maritime, Fisheries and Aquaculture Fund os 15 mil. EUR. Relative share of allocations in different funds are illustrated at Figure 2.

Figure 2. Relative share of allocations of Slovak EU cohesion policy resources 2021 - 2027



Source: authors

IV. Just Transition Mechanism

According to the European Commission, the Just Transition Mechanism focuses on the social and economic consequences of the transition, targeting regions, sectors and workers who will face the greatest challenges through three pillars:

The Just Transition Fund of 17.5 billion EUR (in 2018 prices; €19.3 billion in current prices), is expected to mobilise close to 30 billion EUR in investments.

InvestEU Just Transition scheme will provide a budgetary guarantee under the InvestEU programme across the four policy windows and an InvestEU Advisory Hub that will act as a central entry point for advisory support requests. It is expected to mobilise €10-15 billion in mostly private sector investments.

A new Public Sector Loan Facility will combine 1.5 billion EUR of grants financed from the EU budget with 10 billion EUR of loans from the European Investment Bank, to mobilise between 25 and 30 billion EUR of public investment.[1]

The first pillar, the Just Transition Fund, focuses on the economic diversification of the territories most affected by climate change and on the retraining and active inclusion of their workers and jobseekers. Part of the funds earmarked for the Just Transition Fund come from the European Economic Recovery Facility and as such will have to be committed by the end of 2023. For Slovakia,

[1] For more information see EC official JTM site: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/actions-being-taken-eu/just-transition-mechanism_en

this means that 239 million EUR, i.e. more than 50% of the JTF allocation available for Slovakia, needs to be committed and covered by grant agreements by the end of 2023.

The Just Transition Mechanism (JTM) plays a central role in decarbonisation at the national and regional level, taking policy objectives to the practical level of regional decarbonisation strategies and plans supported by EU investment. The implementation of the JTM in Slovakia started with the development of regional decarbonisation action plans. The selected pilot regions are the Trenčiansky, Banská Bystrica and Košice self-governing regions. Despite the increasingly favourable environment for climate change mitigation and adaptation policies, the planning, strategies and accompanying financial instruments are in fact facing difficulties in implementation, as illustrated by the lessons learned from the pilot actions and the experience from the implementation of cohesion policies.

V. National Recovery and Resilience Plan

Slovakia's National Recovery and Resilience Plan was endorsed by the Government and the EU in 2021. The main approach to ensuring targeted investments in line with the EU's strategic development objectives for climate and environmental protection and in line with the Green Transition has been the application of the Do Not Significant Harm (DNSH) principle. While the extensive financial support for public investment and reforms provided through the GCF is aimed at helping recovery and sustainable growth during and after the COVID-19 pandemic, the GCF Regulation adopted by the European Parliament and the Council defines in its Article 11 that the Green Transition should be supported by reforms and investments in green technologies and capacities, including biodiversity, energy efficiency, building renovation and the circular economy, while contributing to the Union's climate objectives, promoting sustainable growth, creating jobs and preserving energy security.

The application of the DNSH principle to the RRP is regulated under Article 17 of the Taxonomy Regulation and is methodologically elaborated in the Annexes to the Commission's Communication Technical Guidance on the application of the no significant harm principle under the RRF Regulation. The application of the principles is ensured by the scope of the EU Taxonomy for Sustainable Activities, which aims to establish an EU classification system for sustainable activities (*EU Taxonomy…* 2020).

The fact that a measure complies with the minimum safeguards, i.e. applicable EU and national environmental legislation, is not sufficient to bypass the DNSH assessment. It can be assumed that later in the process of implementing tools such as EIA, SEA, sustainability/climate proofing, compliance would be ensured.

Applying this approach, screening of the 18 components of the RRP indicates mostly positive results. From the climate change mitigation perspective, there are several aspects of the RRP where attention should be paid in the process of implementation.

Reforms promoting substantial modifications of the current permission, approval or investments processes: The general approach to implementing the reforms proposed in the RRP should provide a rationale that the application of the value for money principle is based on sound data using methodologies for internalising externalities. Proposed reforms envisaging improved management of investments and increasing their economic benefits by improving process efficiency and prioritising projects with higher value for money must include climate/environmental criteria in the assessment. Reforms aimed at more efficient decision-making processes (e.g. reducing the number of provisions, simplifying and speeding up approval processes) should provide justification that administrative reforms will not reduce the scope for good governance and comprehensive environmental assessment. The specific issue of public participation requires particular attention (*EU Framework…* 2020).

Component 1/Investments to new RES: Biomass energy, hydro power production and biogas in the perspective of climate change mitigation provide vital sources of clean and renewable energy, if properly designed and managed. Compliance with the EU/National environmental law is, together with EIA/SEA/ Sustainability Proofing is crucial. It would be vital to adopt and imply more specific sustainable criteria for biomass production. Hydropower qualifies as a renewable energy source according to the RED II directive, but it must fulfil highest standards. In the case of investments into the construction of new hydropower plants is foreseen strict application of conditions set up in Directive 2000/60 / EC establishing a framework for Community action in the field of water policy and it is assumed that project would undergo a thorough environmental impact assessment. These conditions here should be clearly reflected also in the implementation phase, enhancing the regulatory framework to assure not only effective but also proper assessments of the environmental impacts.

Use of natural gas: Improving the energy efficiency of family houses is an example of a measure that requires a special attention during the implementation. The RRP currently reflect specific conditions for compliance with the climate change mitigation objective of DNSH and the basic 3 conditions (i.e., being installed in buildings that are part of a wider energy efficiency or building renovation programme, lead to a significant decrease in GHG emissions; and lead to a significant improvement of the environment, notably due to pollution reduction, and public health).

Component 4/Decarbonisation of Upper Nitra: Although there are no direct investments allocated in RRP for this reform, it will be of key importance to coordinate many ongoing and foreseen activities in decarbonisation to avoid overlaps and support synergies.

Component 4/ Cost-effective reduction of greenhouse gas emissions in industry: Declaration of criteria for cost-effective reduction of greenhouse gas emissions in industry should be clearly defined. Cost-effective reduction of greenhouse gas emissions in industry should encompass effective evaluations of technologies and internationalisation of external costs – long term benefits versus short term gains.

Component 4/ Amendment to the IPPC Law: Optimisation of the administrative procedures may have primary indirect impacts in the quality of the environmental assessment. IPPC (IPKZ) is an example of reform that require close attention.[1]

Component 14/ Reforms: Measures to reduce the regulatory burden on business and Public Procurement Reform indicate significant risks and would require open and participatory processes of implementation. We are dealing here with reforms and investments tackling upon many business sectors. These may significantly influence level of the environmental performance. The new National Action Plan for Green Public Procurement in the Slovak Republic for the years 2021 to 2025 should increase the share of GPP, yet to fully utilise potential, law on PP would need to take the GPP as an integral part.

Reform of the regulatory framework in the field of RES support: The key issue is sustainability of biomass and bioenergy investments and their carbon neutrality. Slovakia may use RRP for establishing unified framework for biomass and bioenergy, based on the EU recommendations on biomass sustainability[2] and Regulation on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry (LULUCF). This step is already recommended in buildings component but it could be optimally a level higher - e.g., a milestone in energy sector reforms.

[1] Including referencing to the BREFs (Best Available Techniques Reference documents), Directive 2008/1 / EC of the European Parliament and of the Council of 15 January 2008 concerning integrated pollution prevention and control and article 3 (11) of the Industrial Emissions Directive.

[2] For more information see https://ec.europa.eu/energy/topics/renewable-energy/biomass_en

Investments in the construction of new sources of electricity from RES: In the case of investments to new hydropower construction it would require substantial assessment. According to the TEG technical guidelines and the Commission's specifications, there is a wide range of aspects for each of them that need to be considered in the 6 components of the evaluation and which are lost in aggregated reporting on all of them in one text.

Investments in the modernization of existing sources of electricity from RES (repowering): Foreseen investments into photovoltaics and biogas, which ends operational support in the years 2025 - 2028, as well as the production of electricity from hydropower should build on elaborated and more precise sustainability criteria for biogas and especially include provisions, that the repowering will improve environmental performance of existing hydropower and would require reassessment of the installation in line with up-to-date legislative framework (EIA, WFD, Habitat etc).

Construction waste management reform: The Component 2 includes reform of construction waste management, yet the reform does not include target values. The Waste Framework Directive 2008/98/EC aims to have 70% of Construction and Demolition waste recycled by 2020. TEG recommendations are 80%. Although some countries, including Slovakia, face difficulties, there are EU member states which developed and implemented a framework which leads to a recycling rate of up to 90%. In order to fulfil EU targets in construction waste management, Slovakia should stick in the implementation of RRP to the percentage in its reform by applying best practise examples from the other EU countries and following roadmap for reaching 70%.

VI. Complementarity of financial schemes

An approach to ensure complementarity of measures would require close cooperation and coordination between the Operational Programme Slovakia, components of the Rural Development Framework Programme, the Modernisation Fund, the Social Instrument for Climate Action and other financial sources in order to avoid double funding and/or overlapping. The main financial instruments for climate neutrality are mapped against their focus in Table 1.

Table 1. Main financial instruments and their focus

Financial Instrument	Focus (Climate Neutrality aspects)
Partnership Agreement/OP Slovakia	Promoting energy efficiency and reducing greenhouse gas emissions Promotion of energy from renewable sources Development of intelligent energy systems, networks and storage outside TEN-E Promoting climate change adaptation, risk prevention and disaster resilience Promoting access to water and sustainable water management Supporting the transition to a resource-efficient circular economy Strengthening nature protection and biodiversity, developing green infrastructure, especially in the urban environment, and reducing pollution Promoting sustainable multimodal urban mobility
RRP	(Component 1): RES (Component 2): Buildings (Component 3): Sustainable Mobility (Component 4): Decarbonisation of Industry (Component 5): Climate Change Adaptation

Connecting Europe Facility (CEF)	transport, energy and digital projects which aim at a greater connectivity between EU member states
Modernisation Fund	Generation and use of energy from renewable sources Energy efficiency Energy storage Modernisation of energy networks, including district heating, pipelines and grids Just transition in carbon-dependent regions: redeployment, re-skilling and upskilling of workers, education, job-seeking initiatives and start-ups
JTM	People and citizens, most vulnerable to the transition (facilitating employment opportunities in new sectors and those in transition, offering re-skilling opportunities, improving energy-efficient housing, investing to fight energy poverty, facilitating access to clean, affordable and secure energy) Companies and sectors (supporting the transition to low-carbon technologies and economic diversification based on climate-resilient investments and jobs, creating attractive conditions for public and private investors, providing easier access to loans and financial support, investing in the creation of new firms, SMEs and start-ups, investing in research and innovation activities) Member States and regions (supporting the transition to low-carbon and climate-resilient activities, creating new jobs in the green economy, investing in public and sustainable transport, providing technical assistance, investing in renewable energy sources, improving digital connectivity, providing affordable loans to local public authorities, improving energy infrastructure, district heating and transportation networks)
Social Climate Fund	Under development (compensate the cost of this transition to vulnerable citizens). Member States should develop their Social Climate Plans to set the measures and investments to be financed, their expected costs as well as milestones and targets to achieve them.

Source: authors

VII. Strategic Recommendations

Despite the definition at the strategic level (e.g. type of investment, target group, etc.), considerable coordination is needed at the level of launching and announcing calls. The responsible government authorities should develop a system for deciding how to allocate projects to a specific funding source, in order to verify for each project that there is no double funding in the process of monitoring the achievement of the milestones and objectives of the Recovery Plan.

In order to avoid duplication of funding of expenditure at project level, a mechanism should be set up for the exchange of information on submitted and contracted applications for contribution to the financing of projects from the RRF, the ESIF/JMD, the Connecting Europe Facility and the Modernisation Fund. This mechanism may make use of electronic means of information exchange. At project level, the mechanism for avoiding double funding may involve coordination of calls for projects between different government bodies and a final check before the signature of the NFA contract and the distribution of funds to beneficiaries.

A specific case is the Modernisation Fund, which is funding programme to support 10 lower-income EU Member States in their transition to climate neutrality by helping to modernise their energy systems and improve energy efficiency. In terms of decarbonisation, the Modernisation Fund is the second most important fund in terms of resource allocation: the ESIF have 6.2 billion EUR (energy, environment and transport only), while the Modernisation Fund has 5 billion EUR. These additional funding mechanisms therefore target gaps in the financial framework and support areas with higher absorption capacity.

VIII. Lessons Learned from Cohesion Policy

The main testing ground for setting decarbonisation policies and practices was the Upper Nitra region, where coal mines will close by 2023. The economy of the Prievidza district diversified in the 2000s with activities in the automotive industry, mechanical engineering, plastics production and the production of safety and control technologies. Coal mines are among the largest employers in the region, but their productivity (in terms of revenue per employee) fell by 19% between 2010 and 2017. However, other major employers in the region have increased their revenues significantly over the same period. Economic, social and demographic trends continue to create a favourable environment for the transition (*Support for….* 2022).

The 2019 Action Plan for the Transformation of the Upper Nitra Coal Region is an example of a comprehensive approach based on detailed analyses of local conditions and capacities. Nevertheless, the implementation process highlights the complexity of the transformation. Successful decarbonisation is time-consuming, inevitably requiring a gradual process and building enabling structural changes in the economy aimed at creating new jobs.

Replacing relatively well-paid jobs in extractive or carbon-intensive industries with new opportunities must be based on innovation and technological progress. All this in a country that is constantly struggling with the transition from low value-added manufacturing and weak R&D (Balazs et.al 2022) and where the service sector (mainly associated with tourism) has relatively limited potential.

Successful transformation and decarbonization depends on a strong national framework and financial instruments, accompanied by the ability of local stakeholders, the regional governments, to combine three main strategies or approaches: (i) to take advantage of relatively favourable structural conditions; (ii) to use available financial instruments as leverage to create favourable conditions and support the labour market; and (iii) to use government-supported policies, subsidies and incentives to attract foreign direct investment to support local capital.

ESIF absorption capacity for small and medium-sized enterprises in the programming period of 2014–2020 in the Upper Nitra region has been below the Slovak average (*Support for….* 2022). The situation regarding the use of the ESIF in the region corresponds to the general problems in the country with limited absorption capacity of available resources. Although strategies to stimulate local stakeholders in developing their project ideas to counterbalance mine closures have proved successful in terms of the number of ideas generated, the evaluation of project proposals has highlighted problems with compliance with the main objectives of the cohesion policies and the feasibility of ideas.

The Ministry of Investment and Informatisation of the Slovak Republic has undertaken several important initiatives. In June 2021, it presented the 5th package of anti-bureaucratic measures under the ESIF. The new system introduced significant simplifications for applicants, beneficiaries and providers, i.e. managing and intermediate bodies. The unification of public procurement rules will also be very useful for applicants. These changes are the result of consultations with applicants and beneficiaries, representatives of local authorities, experts and professional associations as well as civil society.

A key issue in the bottom-up perspectives is capacity, know-how and administrative barriers. Beneficiaries' experiences of the ESIF vary, it is generally considered a useful development tool, but its usefulness is limited by various institutional and deterrent barriers. Most of the problems identified in the various evaluations are recurrent and point to systematic problems in improving the implementation framework, procedures and practice. These can be categorised into: (i) complicated administration and bureaucracy; (ii) unsystematic work by decision-makers; and (iii) time management.

The requirements for potential applicants are extremely complicated, with complex conditions, analyses, mandatory annexes, tables and calculations. Most potential beneficiaries do not have the necessary skills and know-how, having to deal with the day-to-day problems of their population, the agenda of municipalities and cities or the management of SMEs. Secondly, project approval is only the beginning of a long journey. Here, the problems are concentrated on public procurement in accordance with the Public Procurement Act and in line with the Methodological Instruction of the Central Coordination Body. However, the guidelines often contradict each other and applicants have difficulty in obtaining valid advice and guidance. Last but not least, the approval, procurement and control processes are so time-consuming that in the meantime applicants face changed conditions (e.g. some permits are no longer valid, the technology is no longer on the market and is replaced by a new one at a different cost).

Mapping structural barriers and drawing the lessons learned around absorption of cohesion funding to better utilisation of the Just Transition Fund in Slovakia thus needs to adopt complex perspectives. Increasing the absorption capacity of JTF in order to support economically sound and socially sensible decarbonisation process would require improvements in the overall system of the management and development of more user-friendly approaches to beneficiaries. Support to SMEs should target both the external environment (human resources, infrastructure, and technical and managerial help in capacity development) and internal assistance in improving efficiency, boosting productivity, saving resources and speeding up technology transfer.

The combination of investment in operating and internal environments needs to improve the overall economy of the regions. Besides, direct jobs in SMEs targeted by interventions could also stimulate indirect employment. A functioning and well-developed regional economy will be more resilient and able to accept potential shock caused by decarbonisation.

A just, socially sensitive and low-carbon industrial transition in the regions is a matter of vision, combined with hard and soft measures. Vision and Mobilisation means, that besides top-down policies, there is local co-ownership bottom-up approach to formulation of needs. Leadership in regions is needed for coordination and utilisation of opportunities available. The issue of coordination and joint efforts on the regional level is crucial for improving the absorption. The focus is on real quality of the technical assistance as the key to support local capacity building, as well as to improving access to the information.

IX. Conclusion

While EU funds provide important leverage to drive policies and achieve EU and national targets, in the longer term we would need a significant effort by Member States to focus available policy and economic instruments on achieving climate neutrality. This would inevitably require opening up the debate on the roles and priorities of the national budget and on green tax reform.

The government's programme statement for 2021-2024 is relatively sober on green tax reforms: "With a view to environmental sustainability, we will strengthen the role of environmental taxes while rethinking subsidy schemes towards incentives for green behaviour" (*Programové vyhlásenie…* 2020).

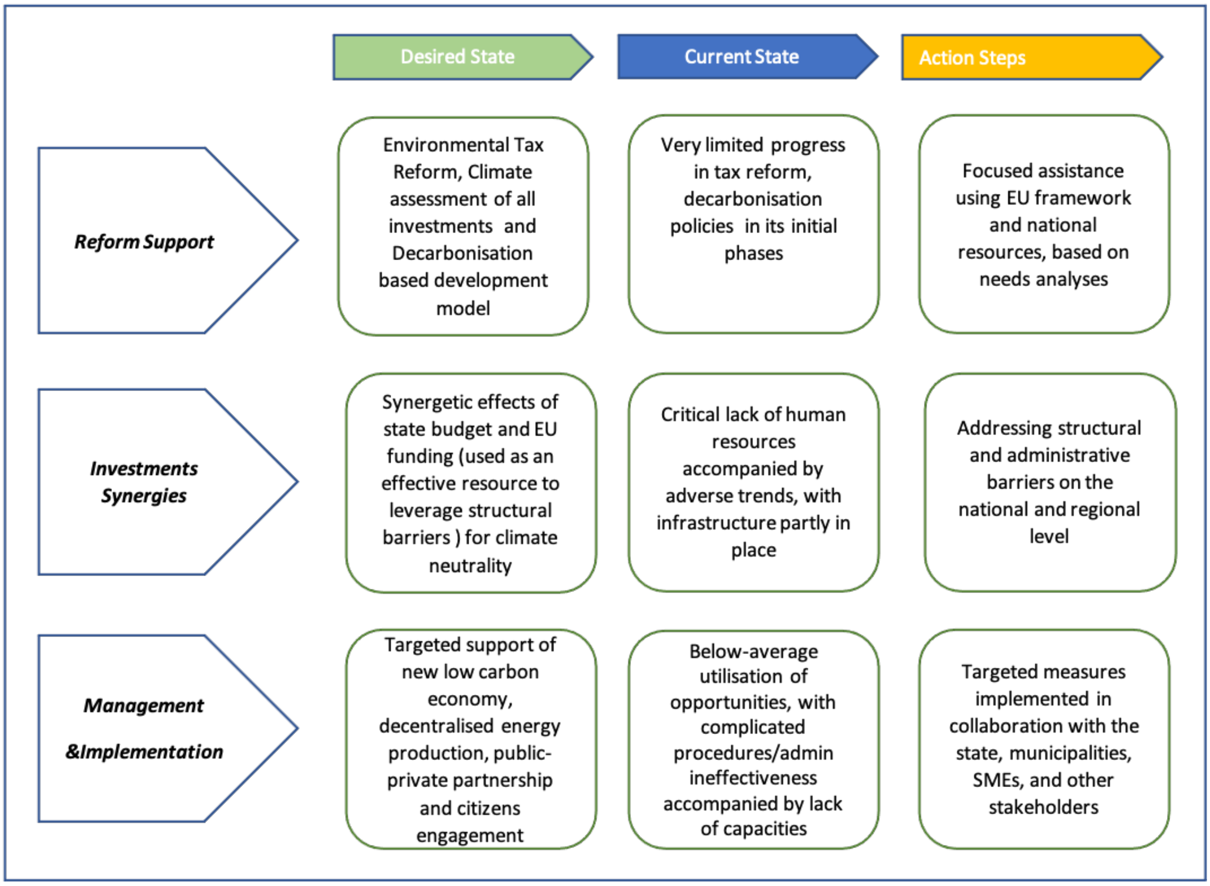
RRP in its component 18 (Heathy Public Finance) explicitly mention green taxes, within the aim of “direct savings in the form of reduced debt service expenditures, increasing the sustainability of public finances, also reflected in better economic condition and competitiveness or increased public finance capacity and resilience to unforeseen circumstances, such as the COVID pandemic. The shift in taxation from labour to consumption, property and an expanded green tax base, together with the elimination of tax exemptions, will have a positive effect on long-term economic growth.” The foreseen Double Transformation should lead “to shifting taxation from labour to higher taxes on negative externalities (for polluters) and will help the overall effectiveness of environmental policy, green transformation and allow the limited resources of the public budget to be used for more acute needs.” Component 3 of the RRP directly lists taxation of CO_2 emissions from cars and higher taxes on negative externalities. These are however mentioned as tax reform outside the framework of the Recovery and Resilience Plan.

In addition to a gradual transformation towards environmental tax reform, there is the potential to develop stringent criteria for all public and municipal investments, based on a methodology developed by the Technical Expert Group (TEG) and using a Doing No Significant Harm (DNSH) assessment.

Financing climate neutrality in the long term would require a restructuring of the tax system and optimal use of EU funds. As shown in Figure 3, environmental tax reform should be coupled with a climate assessment of all investments. It is very important to establish an overall framework for decarbonisation as a development model for national, regional and local economies.

The synergistic effects of the national budget and EU funding (used as an effective resource to counter structural barriers) should lead to climate neutrality. At the same time, this shift would require targeted public support for a new low-carbon economy, using a variety of approaches attractive to municipalities and stakeholders, such as decentralised energy production, public-private partnerships and citizen engagement.

Figure 3. Financing climate neutrality - GAP analysis



Source: authors

Progress in financing carbon neutrality would also require to address various structural barriers for a better utilisation of available and incoming financial resources. There is so far very limited progress in tax reform, decarbonisation policies are only in the initial phases. The country faces critical lack of human resources accompanied by adverse demographic and migration trends. The infrastructure for decarbonisation is partly in place, but it would require further training, investments and evaluations.

Below-average utilisation of opportunities (e.g., experience from the cohesion policies implementation) are in practise visible in complicated procedures/admin ineffectiveness accompanied by lack of capacities.

Development of the effective and working financial framework for climate neutrality would require focused assistance (using EU framework and national resources), based on needs analyses. Addressing structural and administrative barriers on the national and regional level with targeted measures implemented in collaboration with the state, municipalities, SMEs, and other stakeholders.

In this context it is important:

(1) Gain public support: climate neutrality is a unique opportunity for economic and social transformation, leading not only to climate change mitigation/adaptation, but also to industrial and service competitiveness.

(2) Ensuring the social dimension of the transformation: Developing welfare state instruments, introducing clear definitions of vulnerable households leading to easily definable and verifiable entitlements of people to social offsets and to targeted support n energy efficiency and RES for vulnerable households

(3) Climate assessment of public investments: developing an assessment tool for all public investments using six taxonomy areas, establishing the taxonomy as a classification system for all public investments, creating a list of environmentally sustainable economic activities and avoiding investments in climate-unfriendly projects and activities.

(4) Building synergies instead of overlaps: Improve the policy and governance framework for building complementarities and synergies between the different sources of financing available and under preparation for climate neutrality.

(5) Improving the implementation framework: Effective use of available resources would require building on the evaluation of experience with cohesion policies and further developing an effective system for implementation and increasing absorption capacity.

Effective use of available resources would require building on the evaluation of experience with cohesion policies and further developing an effective system for implementation and increasing absorption capacity.

In Slovakia, public support for more ambitious and immediate pro-climate policies and measures is growing, and the policy network has recently been strengthened. The international framework, and in particular the EU framework, is proving crucial in this respect. Despite the COVID-19 pandemic that has dominated the public agenda since the beginning of 2020, climate change has strengthened its position in public discourse. However, Slovakia is far from being on a fast track to carbon neutrality, and much effort will still be needed to accelerate the transformation towards a decarbonised economy. The international framework of the global targets of the Paris Agreements needs to be reinforced by ambitious EU policies and supported by bottom-up domestic political pressure.

Policy coordination across sectors (i.e. ministries) is weak, despite the newly established Green Deal Council. The forthcoming climate law, supported by clearly targeted investments in decarbonisation, can provide an important impetus to this process.

A positive trend is that the public debate is not channelled by the issue of climate change as such - only marginal political forces and parties deny the existence of the problem. At the heart of the debate are the economic and social costs, the speed of the transformation and its impact on Slovak industry, services and, last but not least, on people. These are the issues to which politicians, academics, NGOs and entrepreneurs need to find solutions and create a framework for public debate on the possibilities associated with a major transformation.

However, ambitious 2030 targets and especially climate neutrality by 2050 will require a shift from incremental change to more comprehensive reform. The economic and social costs of decarbonisation will be significant. Energy prices will increase, leading to higher costs for goods and services. Many people will face labour market insecurity caused by the combined effects of Industry 4.0 and automation with the impacts of decarbonisation policies.

If the negative effects are not identified early enough and addressed, large sections of the public may turn against these policies. The emerging framework for a fair transition of social finance is a step forward, but the question is whether it will be enough and whether such a fundamental change can be achieved without an overall environmental tax reform based on the principle of solidarity. Maintaining climate neutrality objectives while preserving social peace would require a clear commitment to solidarity-based environmental tax reform.

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