

## **NOW OR NEVER: WILL BULGARIA CATCH THE LAST TRAIN TO GREEN ECONOMIC RECOVERY?**

**Policy Brief No. 95, December 2020**

During the EU Summit on 10-11 December 2020 EU leaders reached a final agreement on the largest green stimulus package in the EU history. It foresees a total of € 1,824 billion for the period 2021 – 2027, out of which € 074 billion for the Multiannual Financial Framework (MFF) and € 750 billion for the NextGenerationEU (NGEU) instrument. The Heads of State and Government also reached a compromise on a new rule of law conditionality mechanism, which is foreseen to protect EU funds from corruption, conflicts of interest and cases of non-independent judicial supervision affecting EU funds.<sup>1</sup> This is good news for Central and Eastern Europe and Bulgarian citizens, in particular for vulnerable society groups and small businesses, who have previously not benefited sufficiently from EU financial support as a result of corruption and clientelism of EU funds at national level.

Through the stimulus package the EU hopes to encourage member states to put ecological and digital transformation at the heart of Europe's economic recovery process in the aftermath of COVID 19. These

<sup>1</sup> European Council, (2020). 'European Council meeting (10 and 11 December 2020) – Conclusions', EUCO 22/20, European Council: Brussels, December 11.

### **KEY POINTS**

- The twin goals of green and digital transition are at the heart of the next EU budget-and-recovery package 2021 – 2027. With enhanced climate conditionality, EU spending priorities will be tightly linked to EU climate policies. The endorsement of the more ambitious EU 2030 emissions reduction target of 55% necessitate a coherent coal phase out strategy to be put in place in Bulgaria as early as possible.
- Yet, both the draft national operational programmes and the draft National Recovery and Resilience Plan of Bulgaria lack a comprehensive assessment and long-term perspective on how to best mobilise the available EU funds. They need to better demonstrate significant emission reductions across different sectors. The focus of the Plan and the operational programmes should move away from large infrastructure projects (including nuclear and gas) to providing resources for more decentralised sustainable energy projects, tackling energy poverty and supply diversification.
- Bulgaria should prioritise investments to realise its significant potential in sectors like low-carbon infrastructure and services (smart grids, micro-grids, smart charging infrastructure, engineering services, car sharing and electro mobility), storage, and energy efficiency technologies.
- A preliminary impact assessments of energy system targets and projections of the National Recovery and Resilience Plan have to be carried out to ensure their coherence with the overall policy framework of the European Green Deal, and to enable the development of more detailed investment measures.
- Bulgaria needs to put in place better monitoring tools for measuring the impact of funded projects. This could be achieved by introducing relevant measurable indicators that can be checked in 'real time' through impact assessments, energy audits, and environmental assessments.

two pillars will determine the direction in which the EU trillions will flow over the course of the next decade. More than 50% of the MFF and the NGEU will support modernisation through policies that include:<sup>2</sup>

- research and innovation via the Horizon Europe programme;
- climate, energy and digital transformation via the Just Transition Fund and the Digital Europe programme;
- green recovery, resilience and crisis preparedness via the Recovery and Resilience Facility (rescEU) and the new EU4Health programme.

The 30% climate mainstreaming target for EU funding, under both NGEU and MFF, presents a powerful injection for stimulating a green revival of the European economy. For countries like Bulgaria, this is the last train they could catch to catalyse the much-needed transition to a carbon neutral, innovation-driven and green growth-based economy. The traditional redistribution policies such as the Cohesion Policy and the Common Agricultural Policy will also aim to fulfil the goals of the green and digital transitions. This would give Bulgaria an even stronger incentive towards the required transformation and reforms. However, the endorsement of the more ambitious EU 2030 emissions reduction target of 55% and the climate conditionality rules for the Just Transition Fund require Bulgaria to more speedily adopt a comprehensive long-term coal phase-out strategy, encompassing the economic restructuring of the coal regions and a just transition.

## Overview of the enhanced EU budget-and-recovery package

The next MFF will be allocated along seven major headings associated with the EU's priority policy areas. The first three – (i) Single Market, Innovation and Digital, (ii) Cohesion, Resilience and Values and (iii) Natural Resources and Environment will be key to the green recovery and sustainable energy transition. Slightly above 80 % of the MFF budget is allocated to these first three headings, giving them a significant weight. The MFF will be enhanced by the temporary recovery instrument NextGenerationEU. The NGEU will be embedded in the overall MFF framework and lead to targeted reinforcements of EU programmes that will be key for the green economic recovery of Europe in the aftermath of the Covid 19 crisis.

The centrepiece of NGEU is the Recovery and Resilience Fund (RRF) with a total amount of € 672.5 billion comprised of loans and grants.<sup>3</sup> In order to access this fund, member states have to submit National Recovery and Resilience Plans (NRRPs) under this facility. NRRPs have to be drafted in accordance with the reforms and investments outlined in the 2019 National Energy and Climate Plans (NECPs), the seven flagship initiatives of the EU's Annual Sustainable Growth Strategy,<sup>4</sup> its digital transition goals and the European Green Deal.<sup>5</sup>

There are several specific additional EU instruments, which Bulgaria needs to take into account and make use of in its drive for economic revival and transformation. The Renovation Wave (RW) Strategy stands out as a cross-cutting flagship initiative of the recovery instrument. It is funded primarily under the Re-

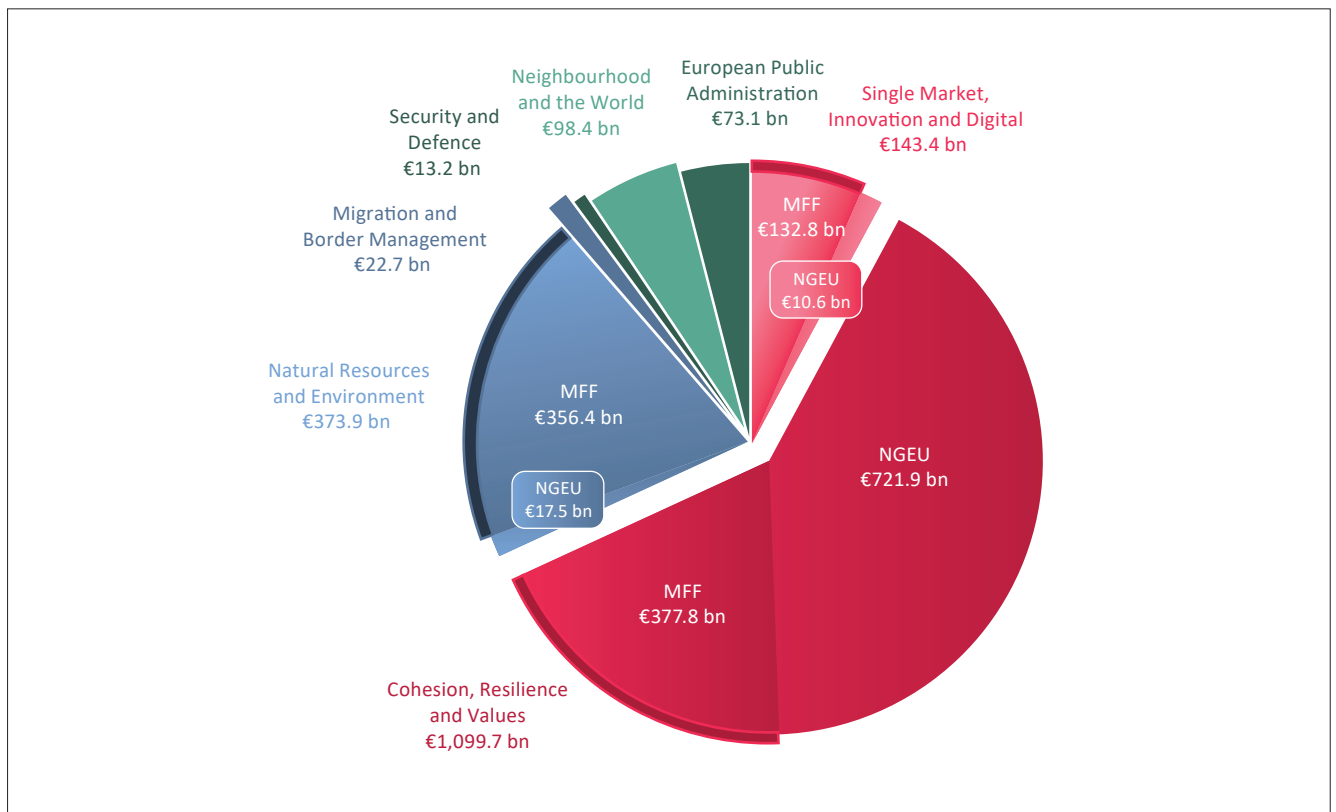
<sup>2</sup> European Commission. (2020) *'EU's Next Long-Term Budget & NextGenerationEU: Key Facts and Figures'*, Publication Office of the European Union: Brussels, November 11.

<sup>3</sup> European Commission. (2020) *"NextGenerationEU: Commission presents next steps for € 672.5 billion Recovery and Resilience Facility in 2021 Annual Sustainable Growth Strategy"*, Press Release, European Commission: Brussels, September 17.

<sup>4</sup> These initiatives are thematic: power up (renewable energy generation), renovate (energy efficiency), recharge and refuel (electric and hydrogen cars), connect (digitalisation), modernise (efficiency in public administrations and services), scale up (technology production and data services) and reskill and upskill.

<sup>5</sup> Ibid.

**Figure 1. MFF and NGEU total allocations per heading**



Source: European Commission 2020.

covery and Resilience Facility.<sup>6</sup> The RW is also open to national and private funds used in combination with EU facilities. The strategy is a major building block of the European Green Deal, as the building sector is one of the biggest energy consumers in the EU and is responsible for more than one third of EU's emissions. The initiative aims to double the annual rate of renovations (encompassing both residential and non-residential buildings) by 2030, renovate 35 million building units renovated by 2035, achieve deep renovations and mobilise different drivers at all levels.<sup>7</sup> The renovations of buildings also could also play a key role in the EU and Bulgarian recovery from the COVID-19 pandemic, as the sector offers a lot of employment opportunities.

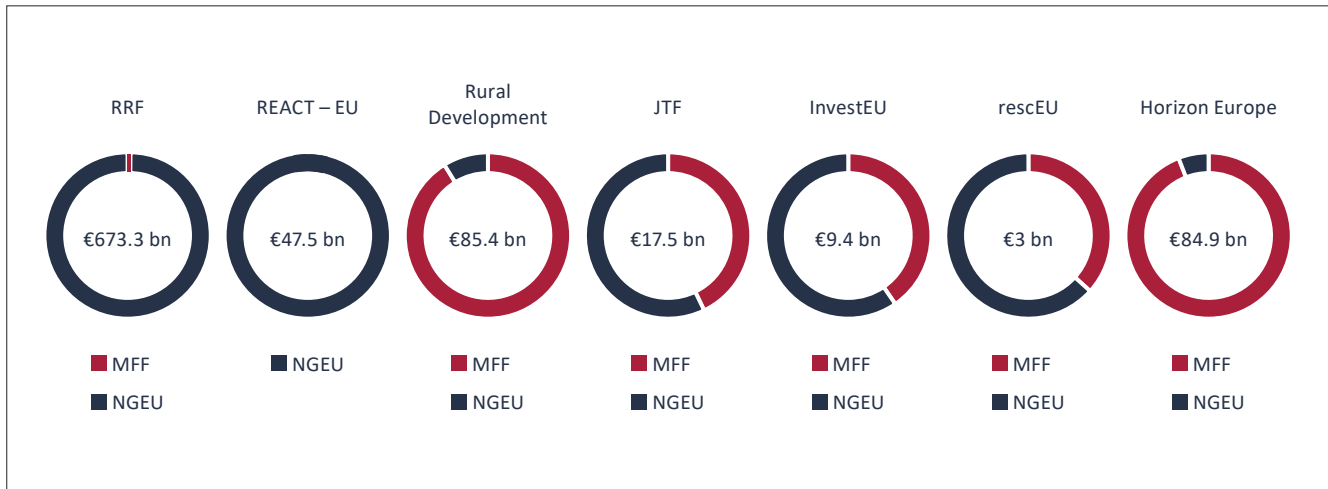
As part of the EU Cohesion Policy, the European Regional Development Fund and the Cohesion Fund will remain the most powerful instruments for the energy transition and the development of European regions that are lagging-behind. EU Cohesion Policy will also be enhanced by € 47.5 billion via REACT-EU programme that aims to extend the crisis response measures delivered through the Coronavirus Response Investment Initiative and the Coronavirus Response Investment Initiative Plus.<sup>8</sup> The green, digital and resilient recovery of the economy are the major goals of this programme. The funds will be added to the European Regional Development Fund (ERDF), European Social Fund (ESF) and the Fund for European Aid to the most Deprived (FEAD) funds. NGEU will

<sup>6</sup> In addition, InvestEU and REACT-EU will also support various areas of the initiative via the ELENA scheme, the Just Transition Fund (JTF), Horizon Europe and the LIFE programme.

<sup>7</sup> European Commission. (2020) "A Renovation Wave for Europe: greening our buildings, creating jobs, improving lives" Strategy Paper, European Commission: Brussels, October 14.

<sup>8</sup> European Parliament. (2020) "REACT-EU: additional support of € 47.5 billion agreed to address impact of COVID-19", Press Releases, European Parliament: Brussels, November 18.

**Figure 2. EU funds under MFF and NGEU that could support green recovery projects**



Source: European Commission 2020.

also enhance the budget of European programmes or funds such as Horizon2020, InvestEU, rural development or the Just Transition Fund.

Just transition is among the main priorities of the European Social Fund for the new programming period. It will play a key role in maintaining employment rates and supporting social inclusion within REACT-EU. Some of the specific objectives of the fund include the re-training and re-skilling of workers so that they can better adapt to new and changing sectors (including energy) in the economy. The significant downsizing of the Just Transition Fund from € 40 billion (€ 10 billion in MFF + € 30 billion in NGEU) to € 17.5 billion (€ 7.5 billion + € 10 billion) is disappointing. Similarly, the drastically reduced InvestEU fund from € 15.3 billion to € 5.6 billion under NGEU may threaten the delivery of the EU 2050 climate and targets in some of the member states that most need it. These funds must be invested in the economic restructuring and green recovery of the coal intensive regions.

In addition to these major levers, Bulgaria can benefit from the following financial instruments: the 4<sup>th</sup> Phase of the EU Emission Trading Scheme (ETS), the Modernisation Fund, Innovation Fund, InvestEU, Horizon Europe and the European Globalisation Adjustment Fund (EGF). All these instruments have been further enhanced by additional mechanisms in the recently proposed New Generation EU recovery package (NGEU).<sup>9</sup>

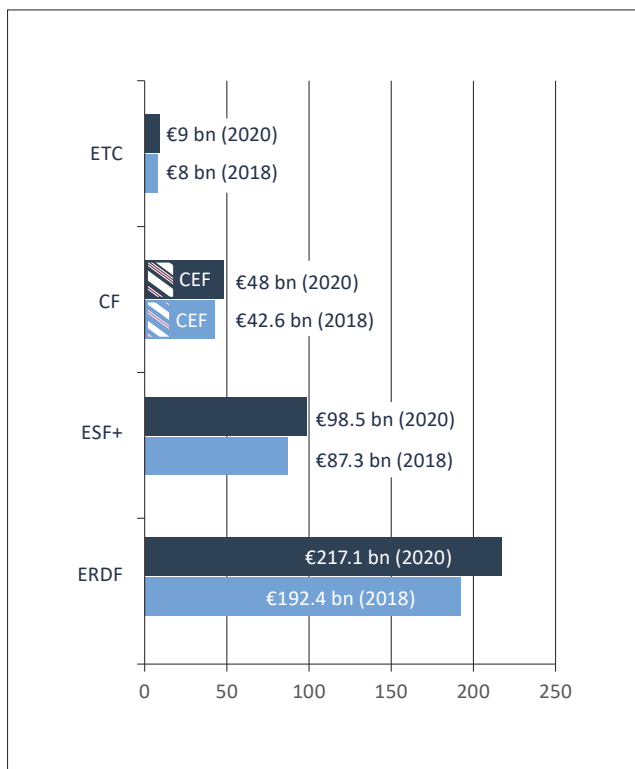
The Modernisation Fund<sup>10</sup> will be made up of 2% of the revenues from the sale of allocated emission allowances. With the current emission prices of around € 25 per tonne, Bulgaria can count on € 452.6 million or 5.84% of the total fund for the period up to 2030.<sup>11</sup> In addition, according to some forecasts, emission prices are expected to rise which would significantly increase revenues for Bulgaria. About 70% of the funds should be spent on three major categories: i) Modernisation of Energy Systems; ii) Increasing Energy Efficiency; and iii) Just Energy Transition of the Coal Regions. The remaining 30% can be used

<sup>9</sup> European Council. (2020) “A recovery plan for Europe”, European Council: Brussels, November 19.

<sup>10</sup> The Modernisation Fund is a key funding instrument of the European Green Deal, which aims to contribute towards a levelling of the playing field for green and best practice investments amongst the 10 lower-income EU Member States. Revenues for the fund derive from two main sources: the EU’s Emissions Trading System and through additional allowances from beneficiary member states (currently these states are Croatia, Czechia, Lithuania, Romania and Slovakia). This amounts to a total of approximately € 14 billion from 2021 – 2030.

<sup>11</sup> The total value of the Fund can vary between € 4.65 billion and € 7.75 billion at a carbon price between € 15 and 25 per tonne.

**Figure 3. MFF Cohesion Policy Instruments (EU)**



Source: European Commission 2020.

for projects that are not directly related to the prioritised regions but are in line with the 2030 targets set out in the Integrated National Energy and Climate Plan (NECP).<sup>12</sup> The projects can also be co-financed by the state through existing schemes for subsidising renewable energy sources (RES) and energy efficiency, such as the national fund for “Energy Efficiency and Renewable Sources”. The new ETS Directive enables an increase of the Modernisation Fund of up to 40% of the freely allocated carbon allowances.<sup>13</sup>

In addition, the MFF includes a financial mechanism for community-led local development.<sup>14</sup> According

to this, the ERDF, ESF + and European Maritime and Fisheries Fund (EMFF) can support community-led local development projects, such as the promotion of self-sustaining energy production.<sup>15</sup> These financial instruments can also be used to create local energy communities in coal intensive regions. This in turn possesses the potential to tackle energy poverty for vulnerable consumers, promote consumer energy independence and boost energy savings at the local level.

## National policy context for the Just Transition and Green Recovery in Bulgaria

The delayed energy transition in Bulgaria poses many complex social, political, administrative, regulatory and economic governance challenges. The green transformation of the coal regions and their economic restructuring should be seen as the cornerstone of the Bulgarian green recovery.

Bulgaria has the most energy-intensive economy in the EU, it uses 3.6 times more energy resources per unit of GDP than the EU average rate of energy consumption.<sup>16</sup> One of the main problems in urban development is still the low energy efficiency of multi-family residential buildings as well as public buildings. In addition, it is the most carbon-intensive EU member state with a greenhouse gas emission intensity, which is 4.3 times higher than the EU average. Bulgaria is also the most resource-intensive economy in the EU, consuming 6.8 times raw materials per unit of GDP than the average.<sup>17</sup>

<sup>12</sup> European Commission. (2020) “Modernisation Fund”, European Commission: Brussels.

<sup>13</sup> Under Article 10c of the Directive.

<sup>14</sup> For more information, please check article 25 of the ‘Regulation of the European Parliament and of the Council laying down common provisions on the European Regional Development Fund, the European Social Fund Plus, the Cohesion Fund, and the European Maritime and Fisheries Fund and financial rules for those and for the Asylum and Migration Fund, the Internal Security Fund and the Border Management and Visa Instrument’, European Commission: Strasbourg, May 29.

<sup>15</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2018%3A375%3AFIN>

<sup>16</sup> Council of Ministers of Republic of Bulgaria. “Draft Partnership Agreement” 2021 – 2027, version as of October 2020, Sofia, 2020.

<sup>17</sup> Ibid.

However, the Bulgarian NECP reveals only moderate ambition and progress on energy efficiency, renewable energy and regional power market integration goals.<sup>18</sup> Successive Bulgarian governments have tried to maintain the role of coal in fear of losing the flexibility of the national energy system and sparking protests in mining regions. This has cost precious time for reform, hundreds of millions of euros in losses and subsidies and a delay in the penetration of renewable sources, particularly at community level.

The Council of Ministers presented the first draft of its National Recovery and Resilience Plan (NRRP) on the 30th of October 2020 and launched a public consultation. The objective of which is to present a final version of the NRRP by the end of January 2021. The first draft of the operational programmes for the programming period 2021 – 2027 have also been launched for public consultation and is expected to finish by January 2021.

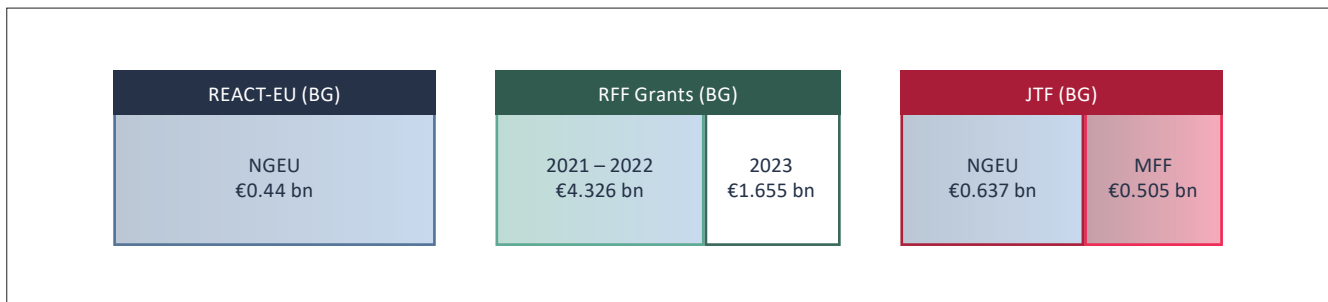
Due to the strong focus in the new financial instruments on the objectives of climate neutrality and environmental transition, the operational programs for 2021 – 2027 will need to be adjusted accordingly to reflect these focal points for both the new MFF and the NGEU programme. The new monitoring criteria for climate-spending and performance to be introduced by the EU will also require a different approach to defining priorities axes in operational programmes. It will necessitate the setting of measurable indicators and the monitoring of progress, with a heavier weight

given to environmental, climate and resource efficiency axes and sub-measures throughout.

Bulgaria will receive a total of € 1,178 million from the JTF under the two financial umbrellas of the MFF and the NGEU, which the country could mobilize to facilitate the industrial restructuring of its coal regions. For Bulgaria to benefit from the Just Transition Fund, it must urgently develop ambitious Territorial Just Transition Plans (TJTps). These must outline the long-term strategy for a coal-phase out, something Bulgaria has yet to do, and for the economic transformation of coal-dependent regions. This is an imperative for Bulgaria to truly capitalise on the opportunities presented by the Just Transition Plan.

From the total pot of € 330.235 billion dedicated to the EU Cohesion Policy under the MFF, Bulgaria will receive almost € 8.99 billion. In order to tap into these financial and structural opportunities, the government needs to identify appropriate incentives and financial mechanisms to support workers’ re-skilling. This includes workers who are both directly and indirectly employed in the coal industry. The transition will be most effectively achieved if it builds on the industrial heritage of coal regions, in tandem with novel competitive and innovative industries and services. For example, old lignite mines are suitable for large-scale solar power generation and could benefit from engineering skill clusters and greater land availability. New public and private investments could also be directed at supporting ad-

**Figure 4. Key green recovery funds – allocation for BG**



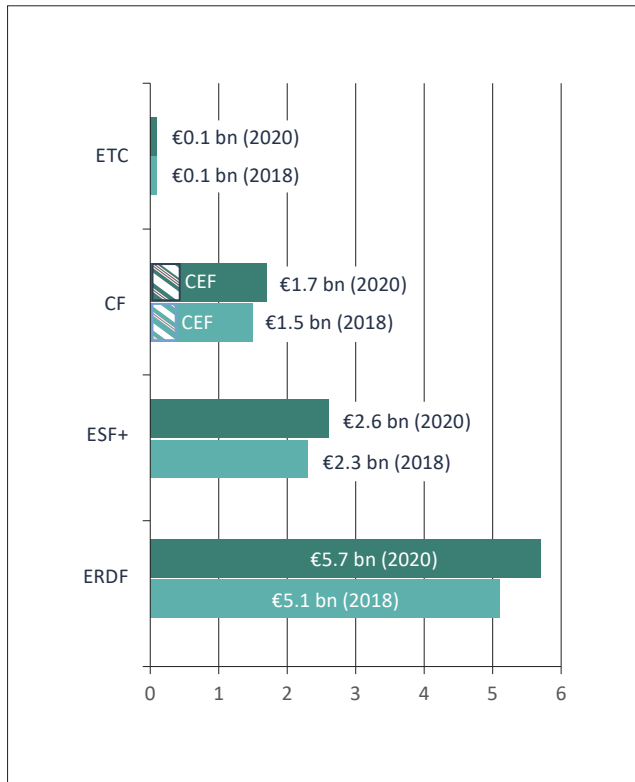
Source: European Commission 2020.

<sup>18</sup> Center for the Study of Democracy. (2020) ‘Lost in transition: Bulgaria and the European Green Deal’, Policy Brief No. 92. Center for the Study of Democracy: Sofia, May 19.



ditional innovation and industrial opportunities to help regional diversification.

**Figure 5. MFF Cohesion Policy Instruments – allocation for BG**



Source: European Commission, 2020.

In addition, Bulgaria is expected to receive a total of € 5.981 billion from the Recovery and Resilience Fund, from which € 4.326 billion has to be spent in the next 2 years. Given the significant potential in Bulgaria in fostering sectors like low-carbon infrastructure and services (smart grids, micro-grids, smart charging infrastructure, engineering services, car sharing and the electro mobility sector as a whole), storage and energy efficiency technologies (in the buildings and the

industrial sector), the country could prioritise investments in these sectors.

In the future operational programmes the amount of co-financing through national resources is set to increase from 15% in the current period to 30% in the following (2021 – 2027).<sup>19</sup> Given the fact that more than half of public investments in Bulgaria are financed through EU funds, these new requirements pose certain risks and could weakening of the incentives and commitment of municipalities to make more long-term investments in sustainable infrastructure and capital intensive RES facilities and technologies. This is, especially true for local municipalities that do not have their own financial resources or require a significant amount of pre-funding.

## The draft operational programmes – how transformative are the foreseen green economic policy objectives?

The draft Partnership Agreement between the European Commission and Bulgaria<sup>20</sup> highlights five key policy objectives<sup>21</sup> that will guide the investments from the operational programmes along the following priority axes:

- A more intelligent Europe through promoting innovative and smart economic transition.
- A green and low-carbon Europe by promoting a clean and just energy transition, green and blue investments, a circular economy, adaptation to climate change, risk prevention and management.

<sup>19</sup> European Commission. (2018) “Commission Staff Working Document (Swd/2018/171). Spending Review Accompanying The Document Communication From The Commission To The European Parliament, The European Council, The Council, The European Economic And Social Committee And The Committee Of The Regions A Modern Budget for a Union that Protects, Empowers and Defends The Multiannual Financial Framework for 2021 – 2027”, European Commission: Brussels, May 2.

<sup>20</sup> A Partnership Agreement is a document of reference between an individual EU Member State and the European Commission which outlines the strategy, goals and priority investments of the relevant Member State in relation to EU funding, [https://enrd.ec.europa.eu/policy-in-action/rural-development-policy-figures/partnership-agreement-summaries\\_en](https://enrd.ec.europa.eu/policy-in-action/rural-development-policy-figures/partnership-agreement-summaries_en)

<sup>21</sup> Council of Ministers of Republic of Bulgaria. “Draft Partnership Agreement” 2021 – 2027, version as of October 2020, Sofia, 2020.

- A better-connected Europe through improvement of mobility and regional connectivity of ICT.
- A more social Europe through the manifestation of the European pillar of social rights.
- A Europe close to its citizens by promoting sustainable and integrated urban, rural and coastal development and local initiatives.

The policy objectives incorporated in the Partnership Agreement seem to reflect the objectives of the European Green Deal. However, when it comes to the concrete measures proposed by the Bulgarian government in the first version of the draft programmes, the innovation potential does not seem to stand out.

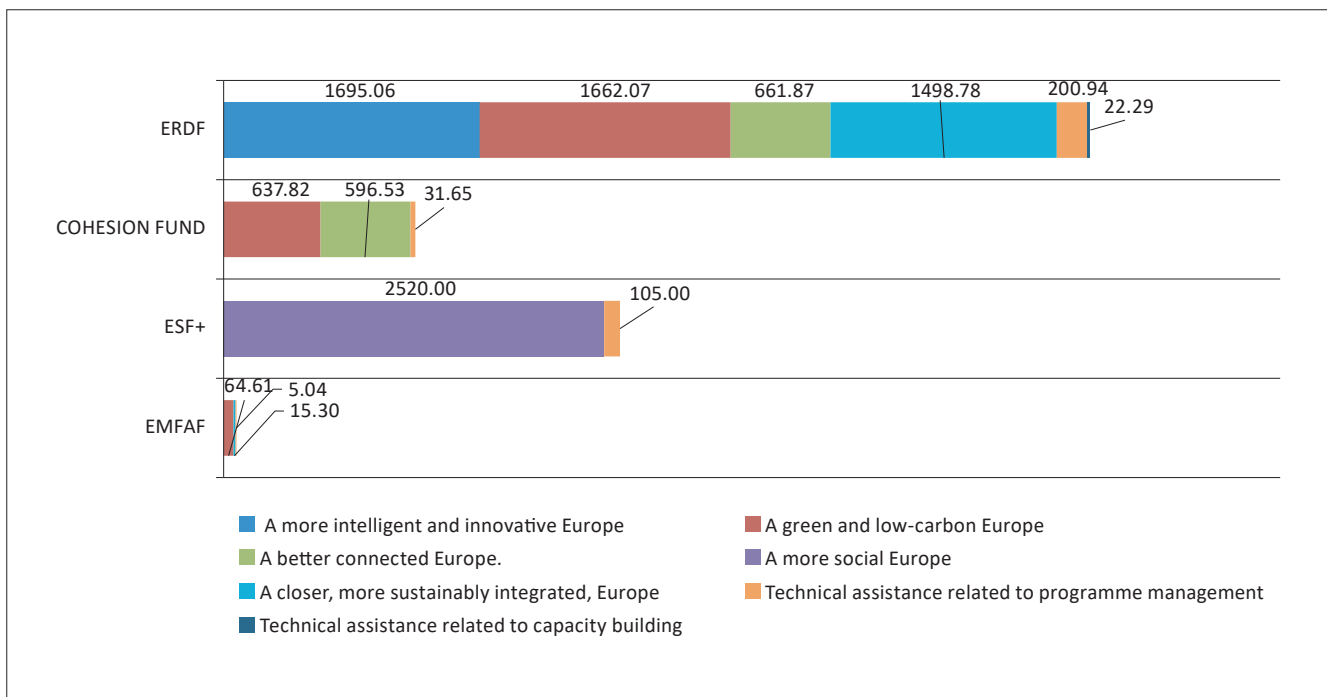
Both the operational programmes and the National Recovery and Resilience Plan (NRRP) lack a comprehensive assessment and long-term perspective on how to best mobilise the MFF and NGEU funds to achieve significant emission reductions across different sectors and ensure untapped opportunities are reaped for the successful economic recovery of Bulgaria in accordance to the ambitions of the European Green Deal. As such, a more integrated approach for emis-

sion reductions is needed. One which would require a better synchronisation of energy, industrial, transport and agricultural policies, strategies and goals with the long-term decarbonisation objectives for 2050.

The major focus of most of the operational programmes in terms of sustainable energy development is on the enhancement of energy efficiency, the development of strategic plans for new employment opportunities in the field of new clean technologies and the improvement of air quality. The operational programmes do not take into account procedures aimed at restructuring the energy sector. Rather, they follow the business-as-usual approach, namely investments in energy efficiency, promoting sustainable urban mobility, additional training of workers and investments in environmental infrastructures. In line with the objectives of the new recovery instrument, the programmes have to elaborate on reformist measures aimed at fostering decentralised renewable energy projects and low-carbon energy infrastructures.

Most of the measures related to sustainable energy and the transition to a circular economy are covered under the following operational programmes:

**Figure 6. Preliminary financial allocation from ERDF, CF, ESF+, EMFAF by policy objective**



Source: Bulgaria’s partnership agreement 2020.



## Competitiveness and Innovation in Enterprises Programme

The measures under the policy objective “Greener, low-carbon Europe” seek the promotion of a clean and just energy approach, encouraging green and blue investments and supporting the establishment of a circular economy, adaptation to climate change and risk assessment.<sup>22</sup> The key measures focus on **increasing energy efficiency** in the manufacturing process as part of a broader national support programme, which provides an integrated approach for the focused and coordinated implementation of energy efficiency measures throughout all economic sectors. Although the major policies and measures are relevant, their impacts and energy savings are not quantified in detail. Moreover, the specific objectives and measures do not include explanation on which measures will lead to the highest reductions.

A special focus in the implementation of new measures as part of the circular economy objectives will be the support for digital technologies. This is in line with the priority “**Clean technologies, circular and low-carbon economy**” of the **Innovation Strategy for Smart Specialisation 2021 – 2027**.<sup>23</sup> This programme aims to incentivise the development and implementation of innovative products, processes and business models aimed at permanently reducing industrial resource intensity. Priority will be given to companies carrying out activities as part of the EU Strategic Value Chains: clean, connected and autonomous vehicles, low-carbon industry, and the market-uptake of hydrogen technologies and systems.

A special territorial measure in the programme is the support of growth and **competitiveness of SMEs within new/existing industrial parks**, including the construction of the production infrastructure. These measures are coordinated with the “**Research, Inno-**

**vation and Digitalisation for Intelligent Transformation**” programme. This programme establishes a type of open innovation model, primarily by supporting key scientific and innovation infrastructures within industrial parks and scientific units with innovation clusters.

## Development of Regions Programme

Energy efficiency measures in the building sector are specifically covered by the programme under **Priority 1 “Integrated urban development”** and **Priority 2 “Integrated regional territorial development of the regions.”**<sup>24</sup> These include measures for **the renovation of residential and non-residential buildings** in line with the Bulgarian long-term strategy for renovation of buildings up to 2050. The integrated approach in Bulgaria will be implemented on the basis of integrated territorial strategies and urban development. This will build on the plans for integrated municipal development for the target urban municipalities. It is not clear how the programme is addressing key **socio-economic challenges of the renovation and the energy transition** which are a key aspect of the **new Renovation Wave (RW)** strategy.<sup>25</sup> Measures here should prioritise the worst performing buildings and make households suffering from energy poverty among the key beneficiaries.

The objectives and measures of this programme should be tightly linked to the European Green Deal’s implementation roadmap, the JTF and the new REACT-EU initiative. Both Priorities 1 and 2 of the Development of Regions Programme need to specify their financial resources and detail their measures on tackling energy poverty. Additionally, further information on energy poverty is needed. This includes an estimate of the number of energy-poor households (together with an updated, forthcoming definition), an indicative target to reduce

<sup>22</sup> Council of Ministers of the Republic of Bulgaria. “**Competitiveness and innovations in enterprises**” Programme 2021 – 2027, version 1.0, Sofia, 2020.

<sup>23</sup> Innovation Strategy for Smart Specialisation of the Republic of Bulgaria 2021 – 2027, Version 27.06.2017.

<sup>24</sup> Council of Ministers of the Republic of Bulgaria. **Development of Regions Programme 2021 – 2027**, Sofia, 2020, version 1.0.

<sup>25</sup> European Commission. (2020) “**A Renovation Wave for Europe: greening our buildings, creating jobs, improving lives**” Strategy Paper, European Commission: Brussels, October 14.

this number, and robust policies and measures. These steps are all the more needed since Bulgaria's performance – in regard to the level of certain energy poverty recorded by the EU Energy Poverty Observatory – is still significantly worse than the EU average (despite strong positive evolution in recent years).

The Development of Regions Programme should prioritise smaller municipalities with limited technical capacity and human resources needed to manage and implement complex building renovation projects and programmes as well as any scale-up to their renovation models. These municipalities require support as they lack human, technical and financial resources to afford quality planning services or quality consultancy services. The first should also consider approaching additional resource facilities, such as the EU city facility initiative, which could support research and feasibility studies and technical consultancies. One possibility is to put together joint projects; however, this would require much stronger cooperation between municipalities. Another priority of deep renovation should be the improvement of indoor environmental quality especially in schools, kindergartens and hospitals. This could be also covered by the environmental programme.

In addition, the Development of Regions Programme 2021 – 2027 lacks a targeted strategy for supporting the economic restructuring of the coal regions, which currently support the direct employment of over 14,000 workers and close to 29,000 indirect workers.<sup>26</sup> Consequently, the transition is expected to be particularly challenging for the regions of Stara Zagora, Pernik and Kyustendil.<sup>27</sup> Stara Zagora faces the greatest challenges as it hosts more than two thirds of the national lignite-fired generation capacity in the country. It also contains the largest lignite coal deposit in Bulgaria, known as the Maritsa East basin.

However, the province also manufactures machinery, industrial equipment and metal products. These sectors could replace lost revenue and employment as they have been increasing their efficiency, production quality, foreign investments, and exports.<sup>28</sup> The region's capital, the city of Stara Zagora, is also a small but growing hub for ICT companies.<sup>29</sup> Thus, the region's competitive and resilient constitution and its access to large markets is promising. Renewable energy business could also step in to take the slack from coal and mining.

The other two affected regions of Kyustendil and Pernik have already seen the emphasis on coal mining and coal-based power generation decline over the last decade. However, these two provinces have also historically been known for their industrial base that could become an engine for economic diversification in the future. The regions are home to leading pharmaceutical, chemical and mechanical engineering companies which are export-oriented with growing added-value and employment opportunities. Pernik is also the host of the largest steel plant in the country, a big local employer. Kyustendil is a more economically diversified region, with a well-developed agricultural sector. Yet the region depends heavily on EU funds and transfers from the central government. In addition, Kyustendil's demographic situation is among the worst in the country as the population has continuously declined, at double digit rates in some years. Targeted support measures for these regions should be integrated in the different operational programmes, in particular in the Development of Regions programme, the development of human resources programme, the education programme

With regard to enabling renewable self-consumers and renewable energy communities, neither the operational programme, nor the NRRP provide details on the form of support they intend to provide. The

<sup>26</sup> Szabo, L. et al. (2020) 'Accelerated lignite exit in Bulgaria, Romania and Greece', REKK, Budapest.

<sup>27</sup> NUTS3 regions called "oblasti" in Bulgarian.

<sup>28</sup> Aleksiev, Y., P. Georgieva, P. Ganev and A. Nikolov. (2019) "Regional Profiles: Economic Development Indicators for Haskovo, Yambol and Sliven. Foreign Direct Investment Analysis by Region", Institute for Market Economies, Simolini-94: Sofia.

<sup>29</sup> Georgieva, T. and R. Stefanov (eds.). (2019) "Innovation.bg 2019: Innovation and Economic Growth", Applied Research and Communications Fund. InnovationBG, pg. 56.

NECP only refers to general legislative changes to improve the current regulatory framework and better guarantee the rights of self-consumers.

In the course of transposing the new RED II Directive, the Bulgarian government has to adopt a regulatory framework to ensure that all consumers, including low-income households, can participate in the so-called “Renewable Energy Communities”. These communities must also be officially defined in the national legislation. In regard to enabling renewable self-consumers and renewable energy communities, neither the MFF operational programme nor the NRRP provide information on the form of support that will be provided for more decentralised citizens’ energy projects. As far as the renovation of both the existing housing stock and the commissioning of buildings after 2021 is concerned, similar ambitious requirements (i.e. near – zero consumption) have to be applied. In this context, it is necessary to assess the possibilities for achieving synergies between the measures for improving energy efficiency and the promotion of decentralised production of electricity from RES in residential areas. For this purpose, a detailed assessment of the costs and benefits resulting from self-consumption models in residential buildings have to be carried out. Therefore, a detailed analysis of the governance and administrative barriers to the decentralisation of electricity generation and the implementation of communal renovation projects must be made. These are the same barriers which slowed down the implementation of the first phase of the National Programme for Energy Efficiency of Multifamily Residential Buildings.

## Development of Human Resources Programme

Special programmes for skills readjustment and in particular capacity building for jobs in a green economy could be financed under Priority 1 “Promoting employment and skills development”<sup>30</sup> of the human

resources programme. A special objective should cover the needs of the coal regions and carbon-intensive areas of Bulgaria and include a funding programme for skills readjustment and re-employment of coal workers in sectors that could absorb the potential future job losses. The programme has to be supported by a comprehensive analysis of the social, employment and skills impact of the coal phase-out in these regions and of the measures proposed to mitigate the transition’s impact. In addition, a thorough socio-economic analysis on the consequences of the transition and the specific policies required for its implementation should be developed. Bulgaria has significant potential to foster growth in sectors that can facilitate the transition, such as infrastructure and services supporting the low-carbon sustainable agenda. The education systems of the three regions are relatively well-developed (this is especially true for Stara Zagora which scores among the highest in terms of educational standards).<sup>31</sup> However, there significant investments in boosting the technical and soft innovation skills of students are necessary. In addition, the education system needs to prepare them for the new high added-value industries that will be emerging. Such educational measures could be also developed under the Education operational programmes that needs to assign a priority to specific programmes on sustainable energy management and IT skills. This would also involve allocating a higher share of the EU and national budget to green tech R&D, including the development of a technology roadmap and a dedicated market uptake strategy that can help inform end-user purchasing decisions.

Renewable energy, efficiency renovation and circular economy together offer various opportunities to create new, well-paid jobs in urban and rural areas and keep young graduates and high-skilled specialists in the Bulgarian green labour market. The operational programmes should offer trainings and capacity building programmes for young people in qualifications and skills that are required for the energy transi-

<sup>30</sup> Council of Ministers of the Republic of Bulgaria. “Development of Human Resources” Programme 2021 – 2027, version 1.0, Sofia, 2020.

<sup>31</sup> Szabo, L. et al. (2020) ‘Accelerated lignite exit in Bulgaria, Romania and Greece’, REKK, Budapest.

tion and green recovery so that the Bulgarian labour market is prepared for this vast economic and social transformation. Marginalised and unemployed youth in smaller cities and rural areas should be a key beneficiary group for such measures as in line with the major actions in the RW strategy.

## Transport Connectivity Programme

The climate change goals and the ecological transformation objectives are also at the heart of the first transport operational programme that allocates a total budget of €1901,9 million towards sustainable mobility, infrastructure and connectivity.<sup>32</sup> The programme fulfils in particular policy objectives 2 and 3 of the partnership agreement. It holds a particular focus on the specific objectives “Development of stable, sustainable to climate change, intelligent secure and intermodal TEN-T” and “Promoting sustainable multimodal city mobility”. The programme covers measures related to the development of railway and road infrastructure, integrated public transport and modernisation of urban infrastructure and interconnectivity. The measures of both transport programmes should be better aligned with the proposal for an EU “Sustainable and Smart Mobility Strategy” that was launched by the European Commission in December 2020 that includes ambitious targets, such as the operation of at least 30 million zero-emission cars on European roads, climate neutrality for 100 European cities, doubling high-speed rail traffic across Europe by 2030, as well as turning nearly all cars, vans, buses as well as new heavy-duty vehicles into zero emission vehicles and the development of a fully operational, multimodal Trans-European Transport Network (TEN-T) for sustainable and smart transport with high speed connectivity.<sup>33</sup> Such ambitious targets are not fully reflected yet in both Bulgarian transport programmes. However, the draft programmes do make an emphasis the development of railway infrastructure, intelligent secure and intermodal TEN-T and promoting sustainable ur-

ban mobility. However, the specific measures need to be spelled out.

## Environment Programme

Green economic measures are also funded under the Environment operational programme, in particular Priority 2 “Waste” and Priority 5 “Air quality”. In the area of air quality, measures foresee to first address a number of urgent priorities, such as: the reduction of air pollution from domestic heating by the replacement of fossil fuel-based heating devices, the introduction of low emission zones, the support for district heating alternatives (including the expansion of the district heating distribution network), the promotion of renewable energy, hydrogen, other innovative alternatives. In addition, the programme aims at reducing of air pollution from transport – by phasing out the use of high emission private vehicles and substituting them with electro-mobility alternatives, including infrastructure development for alternative fuels. The programme, however, does not contain specific sub-programmes and incentives for replacement of high-emission vehicles and promoting hybrid, electric or fuel cell vehicles.

The energy efficiency measures envisaged both in the draft version of the NRRP and the MFF operational programmes are long-term. As such, it would be advisable to include concrete steps and an explanation of how to support energy-poor households as a specific target group. To encourage this vulnerable community to become active participants in the energy transition, the government should adopt incentives for energy saving, consumer behaviour change and reduction of energy bills. Moreover, energy efficiency measures in both the MFF and the NRRP have to be strongly aligned with the Bulgarian long-term renovation strategy that has not yet been elaborated in its final version. In its RW strategy, the EU is stressing the importance of standardisation and aggregation to really boost these initiatives and allow for an acceleration of renovation. The Bulgarian gov-

<sup>32</sup> Council of Ministers of the Republic of Bulgaria. “Transport Connectivity” Programme 2021 – 2017: [Part I](#) and [Part II](#), version 1.0, Sofia, 2020.

<sup>33</sup> European Commission, (2020). ‘Sustainable and Smart Mobility Strategy – putting European transport on track for the future’, European Commission: Brussels, December 9.

ernment has commendably allocated an extensive budget on energy efficiency both in the operational programmes and the NRRP. However, more strategic and comprehensive approach is needed to expand the markets for green energy services, to improve their accessibility for vulnerable groups and create one-stop-shops on all governance levels. Since EU funds will not be enough to cover all the renovation work, it is crucial to also attract private capital by de-risking investments in energy innovation. In particular, this can be achieved through regulatory and financial incentives which send signals that deeply renovated building stock will hold less risk and thus could be a good investment for the future.

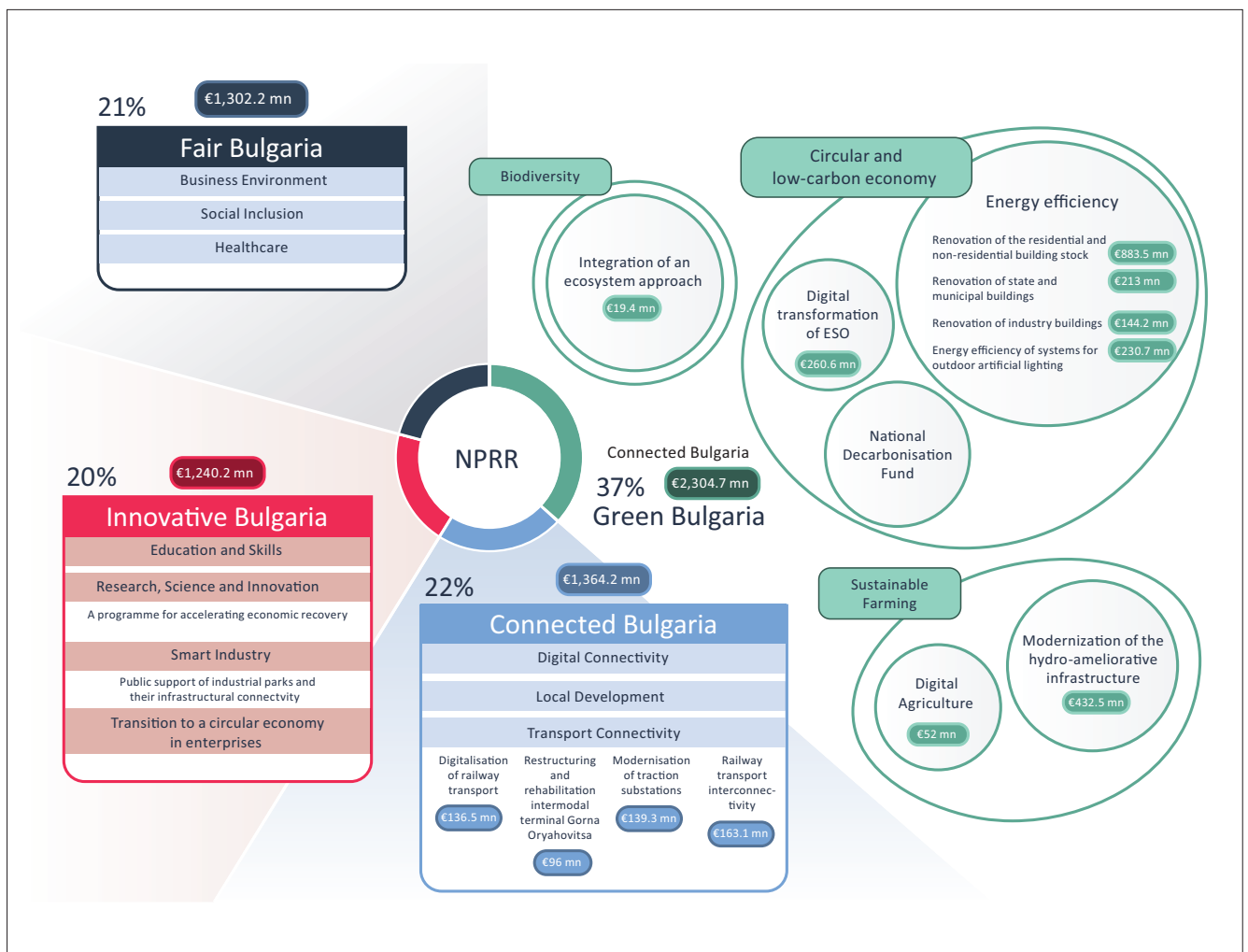
The operational programmes do not explain how they ensure complementarity and additionality of

their measures with the NRRP, as some of the measures attached to the energy efficiency, sustainable mobility, transport interconnectivity, human resources and innovations are eligible for funding under both the Structural and Cohesion funds, as well as the NRRP.

## Synchronising the National Recovery and Resilience Plan with the EU energy and climate targets for 2030

The Bulgarian draft NRRP builds on four major pillars – Innovative Bulgaria, Green Bulgaria, Connected Bulgaria and Fair Bulgaria. The energy and climate

Figure 7. National Resilience and Recovery Plan – Green Recovery Instruments



Source: Bulgarian Resilience and Recovery Plan, 2020.



goals of the plan are included primarily in the pillar “Green Bulgaria” with a total budget of BGN 4,499 million (€2,300 million), covering measures in three main areas: circular and low-carbon economy, biodiversity and sustainable agriculture.<sup>34</sup>

In accordance with the EU’s fundamental priority in its policies for putting citizens at the heart of the energy transition, the NRRP has to shift its focus from large infrastructure projects (including building new nuclear capacities and gas pipelines) that could lead to a long-term lock-in in expensive and unsustainable infrastructure to providing resources for more decentralised sustainable energy projects (such as the introduction of small-scale RES installations, both at the level of individual households and energy communities), tackling energy poverty and supply diversification. This is key for ensuring the consistency of the sustainable measures in the plan and complying with the EU “do-not-harm” requirement for EU funds.

## Energy efficiency

Energy efficiency measures are at the core also of the NRRP’s “Green Bulgaria” pillar. The energy efficiency programme envisages the implementation of four components with a total resource of BGN 3 billion (€ 1.53 billion), of which BGN 1,728 million (€ 883.5 million) will be allocated for the first component: increasing energy efficiency in the country’s housing stock. This is in accordance with the objectives of the Long-Term National Strategy to Support the Renovation of the National Building Stock of Residential and Non-residential Buildings (with a target deadline of 2050).

The plan needs to specify financial resources and measures to tackle energy poverty. To that end, cre-

ating energy communities among socially vulnerable consumers can increase energy savings and encourage the replacement of polluting fuels and technologies with more environmentally friendly ones. Therefore, future renovation strategies have to be linked to social indicators and policies to address energy poverty. This has been highlighted as one of the major objectives of the RW strategy.<sup>35</sup> The stimulation of RES investments among households must be combined with the initiative for renovation of residential buildings in order to achieve close to zero energy consumption by 2030. Moreover, the plan needs to mention how the foreseen renovation improvements could contribute to the fulfilment of the EU indicative requirement of an annual increase of renewables in heating and cooling of 1.3 percentage points per year.<sup>36</sup> The current plan estimates an annual increase of 1.15%, which falls short of the EU requirements and is deemed insufficient according to the European Commission.

The decarbonisation of the heating and cooling sector, which is a major pillar in the EU RW strategy, is not explicitly covered by those measures. Since it has a major impact on the emission levels from the building sector and also the energy efficiency measures in the buildings, the plan needs to be better aligned with promoting renewable energy heating and considering other alternative RES sources beyond biomass, such as heat pumps, solar collectors and geothermal energy. The plan could also include district renovation projects with the long-term goal for developing smart neighbourhoods. The promotion of sustainable construction products should be also an imperative. This ought to be the next measure to fulfil the objectives of the Construction Products Regulations revision<sup>37</sup> and design a long-term strategy for making the construction ecosystem fit for sustainable renovation. In support of the Bulgarian long-term decarbonisation

<sup>34</sup> Council of Ministers of the Republic of Bulgaria. “Resilience and Recovery Plan of the Republic of Bulgaria”, 2021 – 2027, Sofia, 2020.

<sup>35</sup> European Commission. (2020) “A Renovation Wave for Europe – greening our buildings, creating jobs, improving lives”, Strategy Paper, European Commission: Brussels, October 14.

<sup>36</sup> European Commission. (2019) “Commission Staff Working Document: Assessment of the draft National Energy and Climate Plan of Bulgaria”, European Commission: Brussels, June 18.

<sup>37</sup> European Commission. (2019) “Commission Staff Working Document: Evaluation of Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC”, European Commission: Brussels, October 24.



strategy for 2050, the country has to develop a national roadmap for reducing the life-cycle emissions in the building sector.

**The second component** of the energy efficiency programme envisages financing of measures for **energy renovation of state and municipal buildings** with an indicative budget of BGN 417.5 million (€ 213 million). The component does not define clear criteria or indicators for determining the type of public buildings to be financed. In order to be effective, these measures have to be synchronised with amendments to the Bulgarian Public Procurement Act in order to introduce the concept of “green public procurement”, so that green economic services could have preferential status and access to financing. Community-based criteria should be included in the procurement of energy services and community projects should benefit from targeted support schemes.

**The third component** envisages financing measures for **energy renovation of industrial buildings** with an indicative resource of BGN 282.2 million (€ 144.29 million). Given the high energy intensity of the Bulgarian economy, this measure has to be combined with a transformation of the industrial process itself. This transformation should promote the circular economy which will subsequently ensure lower operating costs. The achievement of this goal is possible only with the adoption of a national low-carbon industrial strategy. This would include a combination of incentives and regulatory requirements for mandatory optimisation of the use of resources in industrial processes. Special attention should be paid to resource-intensive sectors such as the textile industry, construction, electronics and plastics production. The promotion of industrial modernisation can be facilitated by promoting ESCO contracts, which are guaranteed through special national financial instruments.

**The fourth component** envisages financing of energy efficiency measures for **outdoor artificial lighting** systems with an indicative resource of BGN 452.3 million (€ 231.26 million). This is a step in the

right direction, but could be further developed. Specifically, by adding concrete geographic, urban planning and financial indicators for determining the energy parameters in the prioritisation of municipalities and neighbourhoods. It is important that this process is linked to financing local RES systems for electricity generation in the form of municipal power plants. Such projects could be partially funded through savings from lower communal costs. In this way, projects for the construction of medium-scale district heating capacities for RES in rural areas and small towns can also be supported.<sup>38</sup> This would solve the problem of the inefficient use of firewood by individual households and would significantly reduce air pollution. The programme could also support innovative systems for combined heat and power in areas with high geothermal potential, including some of the largest mountain resorts in the country.

The NRRP lacks a detailed plan and concrete timetables for the renovation of the different types of buildings.

### Establishment of National Decarbonisation Fund

The National Decarbonisation Fund aims to support investments in low-carbon economic development through sustainable and targeted financing of a wide group of beneficiaries – end users of energy. It does so with a view to accelerate the decarbonisation of the Bulgarian economy. In order for the fund to become a successful strategy for financing low-carbon projects, the criteria for selecting the final beneficiary groups need to be defined in detail and more sectors of the economy such as transport, industry and agriculture need to be included. The main objective of the fund should be to promote the allocation of financial resources for **job creation in green sectors**. In addition, the Fund could create tools to attract private and institutional investors (e.g., pension funds, government funds, investment bankers) to support green business start-ups and initiatives. Particularly, investors could

<sup>38</sup> Vladimirov, M. and R. Primova. (2020) ‘Lost in transition: Bulgaria and the European Green Deal’, Policy Brief No. 92. Sofia, May 19.

be encouraged by reducing credit risk in these sectors which still possess one of the highest risk levels in Europe. The measures envisaged in the fund have to be combined with a **strategy for stimulating small and medium-sized enterprises (SMEs)** as an engine for the ecological and digital transition and synchronised with the measures in pillar 1 “Innovative Bulgaria”. In order to develop the capacity of SMEs to achieve the digital and energy transition, the government needs to upgrade its **national enterprise network with special advisers on sustainable development and the green economy**. It is essential to combine one-stop-shops of technical assistance for applicants with capacity-building measures for more **accessible information on the return on green investment through financial intermediary instruments**. Such assistance, would benefit major consumers and small, large and medium-sized producers.

**The decarbonisation fund should prioritise access to funding for vulnerable citizens and SMEs.** This should be at the heart of the green recovery support. **Micro-grants** can be used to finance projects for the creation of energy communities or for installation of systems for **shared use and the trade of electricity** between households on the basis of bilateral agreements. This instrument may also include measures to tackle **energy poverty among vulnerable groups** through special state support for the unification of households in RES communities or for financing investments aimed at changing the fuel base through gasification and electrification. National governments should consider designing electricity sharing schemes tailored to the needs of households in order to facilitate joint household renewable energy projects.<sup>39</sup>

The new fund can also provide support for the introduction of tenders for new RES plants, thus unlocking large private investments in the sector. At current prices for renewable power generation, the tender

price is close to the market price, especially if premium contracts are concluded in the period leading up to 2030. A study carried out by the Center for the Study of Democracy on the development of electricity markets in the new decade shows that the wholesale price of electricity will reach nearly € 75/MWh by 2030 as a result of rising carbon prices.<sup>40</sup> Such price levels would justify market investments in large solar and wind farms.<sup>41</sup>

The decarbonisation fund should be able to facilitate innovative finance mechanisms at the local level that are tailored to the specific needs of municipalities and local communities. Such financial support schemes could be local investment funds, revolving funds linked to grants and soft-loan schemes, local public and semi-public companies. It could also take the form of an Eco/Super-bonus that would allow domestic residential users to benefit from tax deductions on the total expenditure for energy efficiency works. This would be specifically in relation to building renovation or the installation of a RES power plant and the Consumer Stock Ownership Plan (CSOP) which was developed to promote the co-ownership of renewable energy sources by vulnerable consumers. CSOP is a consumer-centred investment model for general services that enables the participation of citizens in the management and financing decisions, while at the same time avoiding any personal liability for the consumer-shareholders.<sup>42</sup> The model allows co-investments between municipalities, small and medium sized enterprises (SMEs) and other local stakeholders. CSOP foresees the creation of an operating company that allows individual consumers to pool their investments together. It provides several advantages for consumers such as flexible participation, external financing, long-term loan repayment and thereby the engagement of low-income households.<sup>43</sup> The Bulgarian government should specifically support business models like CSOPs that ensure the feasibility of renewable

<sup>39</sup> Center for the Study of Democracy. 2020. Mapping Policy Options for Renewable Energy Communities in Europe. Policy Brief No 93 (forthcoming).

<sup>40</sup> Szabo, L. et al. (2020) ‘Accelerated lignite exit in Bulgaria, Romania and Greece’, REKK, Budapest.

<sup>41</sup> Ibid.

<sup>42</sup> ‘Towards a Definition of a Consumer Stock Ownership Plan (CSOP)’, CSOP-Financing, SCORE, 2020.

<sup>43</sup> ‘Advantages of CSOPs for Stakeholders’, CSOP-Financing, SCORE, 2020.

investments for municipalities and local SMEs and at the same time allow strategic partnerships with commercial investments. Such partnerships can scale-up Renewable Energy Communities (RECs) while limiting incumbent control.<sup>44</sup>

### The digital transformation and modernisation of the Electricity System Operator

The measures for digitalisation and modernisation of the Electricity System Operator are outlined in greater detail in the plan than the programs for energy efficiency and decarbonisation. However, significantly larger financial resources are needed for the planned modernisation of the distribution system networks, which are considered the backbone of the energy transition in Bulgaria. The redirection of nearly half a billion BGN (€255 million) to ESO is justified by the need to modernise the network given the expected connection of nearly 4 GW of new RES installations to the grid by 2026. The plan should also specify in detail how this project value is formed and whether the European Commission could see this as overcompensation under the state aid rules if the funds are provided as grants.

It is crucial that the infrastructural modernisation of the network is combined with the introduction of more transparent mechanisms for allocating cross-border transmission capacities and tenders for additional availability, which will support both the regional integration of electricity markets and the balance of large fluctuations in the Bulgarian market.

The NRRP lacks a timetable for the fulfilment of its energy-related measures and is not well coordinated with the rest of the funds to be made available in the 2021 – 2027 MFF. Some of the measures included in the NRRP (including the energy efficiency measures and promoting sustainable mobility goals) are also eligible for support under the Cohesion or ERDF fund. The overview of potential sources of investments is largely limited to funding opportunities at EU level

and does not mention how it will attract private investors and national institutional investors.

The successful implementation of the NRRP is also dependant on other strategies. For example, the need for a coal phase-out strategy and the economic restructuring of the coal regions. The closing of the lignite-fired power plants, is of the utmost importance for achieving the greenhouse gas emission reductions targets by 2030. The plan should define specific financial instruments to support the industrial restructuring of coal regions and the creation of new industries and markets. These resources will complement the EU Just Transition Fund, which can cover the compensation and retention of related workers and businesses. The phasing out of lignite plants would enable the Bulgarian government to reduce financial support to power plants. Instead, freeing-up these revenues to be invested in renewable energy projects, grid modernisation and expansion, energy efficiency measures and the protection of vulnerable consumers – these are all measures that could increase the synergy of the green recovery measures foreseen in the NRRP.

### What's next

In conclusion, Bulgaria is poised to receive a considerable boost in funding support from the EU in the coming years. This support would more than double in the years 2021 – 2023 in comparison to the current financial period (2014 – 2020). In addition, the EU has provided many more instruments at EU level for enabling the green and digital transition of member states. However, Bulgaria seems to be among the countries with serious capacity constraints both on the part of its national policy-making and public administration, but also as regards its private sector. That is why the Bulgarian government needs to act now to pre-empt considerable bottlenecks in the economic recovery and transition process by focusing on a twin policy strategy of requesting all the assistance it can receive from the European Commis-

<sup>44</sup> Center for the Study of Democracy. 2020. Mapping Policy Options for Renewable Energy Communities in Europe. Policy Brief No 93 (forthcoming).

sion services and of engaging coherently and proactively international investors and the local private sector.

The following specific **recommendations**, besides the ones already introduced in the text above, could be considered for improving the MFF operational programmes, the NRRP, and the design of alternative financial measures and green loan policies. In particular, these will require a much stronger political will and rigorous work in 2021 for the long-term decarbonisation of the Bulgarian economy and a comprehensive plan for the implementation and monitoring of the NECP, the long-term decarbonisation strategy and the enhancement of synergies between the different available tools and green stimuli.

- Introduce an integrated approach for reducing emissions in all sectors and developing a low-carbon economy should be applied, with a focus on strategic supply chains and the broad development of innovative green technologies.
- Mandate the carrying out of preliminary impact assessments of energy system targets and projections based on the NRRP to ensure their coherence with the overall policy framework of the EU energy transition, and more importantly, by planning more detailed investment measures.
- The government should develop more remuneration incentives for green investments. This could include income tax deductions/reductions for individuals and small companies that develop low-carbon economic activities, the development of micro-finance mechanisms, as well as the remuneration of ecosystem services for the implementation of programmes designed to launch green economic start-up activities. The delivery of energy service companies' (ESCO) services should also receive a preferential tax status providing the companies in the sector with more incentive to put the initial investment that ESCO clients often demand to join the project.
- The government should consider introducing monetary and non-monetary incentives for promoting decentralised RES generation, energy efficiency measures and low-carbon technologies. The monetary incentives could be in the form of a reimbursement of the capital expenditures for energy-related interventions or an operating account which would be running throughout the life span of a RES development plan.<sup>45</sup> In the case of non-monetary incentives, a bond could be issued that could be spent on the energy market or be used as a tax deduction.
- The green recovery measures should go hand in hand with the completion of the liberalisation of the electricity market. This would include a complete phase out of regulated prices for households and the quota principle for setting prices for the purchase of electricity for the regulated market segment. To mitigate the negative effect for household incomes, the scope of social payments for energy poverty can be expanded and refined. More efficient incentives need to be introduced for households that want to switch to a more efficient heating method in order to reduce the share of firewood and coal in energy consumption.
- In order to better monitor the performance and impact of funded projects, it is necessary to introduce relevant measurable indicators, which can be checked in 'real time' through impact assessments, energy audits, and environmental assessments. Currently, the indicators used for assessing the country's progress in the field of energy transition are insufficient and measurements are either unreliable or absent altogether.
- The development of specific national standards and indicators for efficiency of decentralised electricity generation, heating, storage and sustainable transport.
- The inclusion of alternative renewable heating sources, including solar collectors, geothermal energy and heat pumps. This would be achieved by setting up dedicated state-supported programmes for the construction of small-scale RES installations in order to reduce the dependence of households on energy subsidies.
- A major innovative element that can be added to the NRRP is the use of the offshore wind potential in the Black Sea. For example, the NRRP could

<sup>45</sup> Mutani, G. et al (upcoming) Economic incentives for energy efficiency measures and low-emissions technologies.

launch an entirely new national program in line with the EU strategy for the development of off-shore wind energy, as well as the adoption of a national strategy for the market uptake and use of green hydrogen. This would establish a central element to Bulgaria's NRRP, just as other EU countries have incorporated in their plans.

- Overcoming the structural deficits in the NRRP regarding the labor market, including the mismatch between the offered and demanded skills by the re-skilling of the Bulgarian workers for the needs of the green economy. The education of energy specialists should be among the highest priorities of the Bulgarian employment strategy. For this purpose, the Bulgarian government could make use of the **Pact for Skills** that will be launched by the Commission to bring together private and public stakeholders with the shared objective of up- and re-skilling Europe's workforce. This initiative will build on the 2020 Skills Agenda and the Blueprint for sectoral cooperation on skills. In addition, enterprises could also take advantage of the Commission's **Youth Employment Support package** launched in July 2020 that foresees a renewal of the European Alliance for Apprenticeships.
- Developing capacity for a green economy within enterprises, including through corporate social and environmental responsibility, the use of specific business charters and professional training in the respective professional branches.
- Widespread dissemination of know-how at the national level on promoting technologies and innovations that fulfil green economic goals. This includes the involvement of the private sector, SMEs, start-ups, rural communities and the Bulgarian Chamber of Commerce and Industry to raise awareness and stimulate investments in green economic opportunities.
- An efficient implementation of the rule of law mechanisms and tackling governance bottlenecks in the policy coordination of energy strategies and regulation.