



RECOMMENDATIONS 1/2023

by the Energy Community Secretariat

**on the Draft integrated National Energy and Climate Plan
of the Republic of Serbia**



Energy Community Secretariat

Recommendations

on the draft integrated National Energy and Climate Plan of the Republic of Serbia
covering the period 2025-2030

Whereas:

- (1) Pursuant to Article 9(1) of the [Energy Community Governance Regulation](#)¹ (“Governance Regulation”) each Energy Community Contracting Party (“Contracting Party”) is obliged to prepare and submit to the Energy Community Secretariat (“Secretariat”) a draft integrated national energy and climate plan (“NECP”) covering the period from 2025 to 2030 in accordance with Article 9(1) and with Annex I.
- (2) The draft NECP was submitted by the authorities of the Republic of Serbia (“Serbia”) to the Secretariat on 29 June 2023.
- (3) Pursuant to Article 9 of the Governance Regulation the Secretariat is required to assess the draft NECPs and may issue recommendations until 31 December 2023. The Secretariat made a comprehensive assessment of the Serbian draft NECP, taking into consideration the relevant elements of the Governance Regulation.
- (4) In particular, the Secretariat’s recommendations may address (i) the level of ambition of objectives and targets with a view to achieving the Energy Union objectives and, in particular, the Energy Community’s 2030 targets for renewable energy and energy efficiency that the Contracting Party aims for in 2030; (ii) policies and measures relating to Contracting Party- and Energy Community-level objectives and other policies and measures of potential cross-border relevance; (iii) any additional policies and measures that might be required in the integrated national energy and climate plans; (iv) interactions between and consistency of existing and planned policies and measures included in the integrated national energy and climate plan within one dimension and among different dimensions of the Energy Union.

¹ Regulation (EU) 2018/199 of 11 December 2018 on the Governance of the Energy Union and Climate Action as adapted and adopted by Ministerial Council Decision 2021/14/MC-EnC

- (5) The Governance Regulation also requires Contracting Parties to provide a general overview of the investment needed to achieve the objectives, targets and contributions set out in the integrated national energy and climate plan, as well as a general assessment on the sources of that investment. The national energy and climate plans should ensure the transparency and predictability of national policies and measures in order to ensure investment certainty.
- (6) The Governance Regulation requires Contracting Parties to take due account of any recommendations from the Secretariat in their final NECP to be submitted until 30 June 2024. If the Contracting Party concerned does not address a recommendation or a substantial part thereof, it should provide and make public its reasons.
- (7) Where applicable, Contracting Parties should report the same data in their NECPs and updates in later years as they report to Eurostat or the European Environment Agency. The use of the same source is also essential to calculate the baseline for modelling and projections and to allow for a better comparability of the data and the projections used in the NECPs.
- (8) All elements of Annex I of the Governance Regulation are to be included in the final NECP. In this context, the macroeconomic and, to the extent feasible, the health, environmental, employment and education, skills and social impacts of the planned policies and measures should be assessed. The public and other stakeholders are to be engaged in the preparation of the final plan.
- (9) The Secretariat's recommendations to Serbia are based on the assessment of Serbia's draft NECP, which is published together with the present Recommendation.

THE SECRETARIAT HEREBY PROVIDES THE FOLLOWING RECOMMENDATIONS ON THE DRAFT INTEGRATED ENERGY AND CLIMATE PLAN OF THE REPUBLIC OF SERBIA:

On procedural aspects:

- (1) Extend the consultation period to allow for the thorough incorporation of opinions from both public and transboundary consultations and the Strategic Environmental Assessment ("SEA") report into the development of the NECP, with particular attention to transboundary consultation results, given the plan's substantial cross-border impact and interconnection projects with neighbouring Contracting Parties and EU Member States in Southeast and Central Europe.
- (2) Include a detailed description of all consultations carried out in the development of the draft NECP and the reasons in case the received feedback was not taken into account, in whole or in parts, in the final NECP.

On substance:

- (3) Regarding **general methodology and approach**, describe the quantitative contribution of all policies and measures (“PaMs”) to the achievement of the respective 2030 target or other policy objectives in a more explicit manner, such as adding the expected contribution to the reduction of greenhouse gas (“GHG”) emissions of each individual policy and measure.
- (4) Formulate policies and measures, in particular related to the planned adoption and implementation of legal acts, policy programmes or similar, in more concrete terms with clear milestones and progress indicators.
- (5) Explain the synergies between dimensions (such as how specific PaMs related to renewable energy contribute to energy and GHG savings, energy efficiency or reduce electricity imports).
- (6) Include the waste, land use, land use change and forestry (“LULUCF”) sectors in all scenario projections.
- (7) Significantly improve the SEA report by integrating relevant international, Energy Community and national environmental protection obligations, while providing a clear description of interactions in relation to biodiversity and the renewable energy targets pursued.
- (8) Ensure the utilization of comprehensive and up-to-date environmental data to refine the measures and monitoring plan for identified significant impacts.
- (9) Related to **decarbonisation and GHG emissions reduction**, implement a more ambitious reduction in coal-based electricity generation spread evenly between 2025 and 2050, i.e. start the decarbonisation earlier than 2030, which would significantly contribute to spreading the burden of the transition both on the economy and on citizens.
- (10) Assess and reconsider any investments that might result in significant stranded assets – such as the planned EUR 1.3 bn measure to modernize the coal mining industry between 2023-2030 and gas infrastructure that is not future proof. Give particular attention to expected useful lifetime and the costs of alternative solutions (including electricity imports) and ensure consistency across the Energy Union dimensions, in particular decarbonization.
- (11) Include in Chapter 5 of the NECP an assessment of the impacts of implementing the Energy Community [Large Combustion Plants](#)² and [Industrial Emissions Directives](#)³, as

² Directive 2001/80/EC on the limitation of emissions of certain pollutants into the air from large combustion plants as adapted and adopted by Ministerial Council Decision 2013/05/MC-EnC, amended by Decision 2015/07/ MC-EnC

³ Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control) as adapted and adopted by Ministerial Council Decision 2013/06/MC-EnC, amended by Decision 2015/06/MC-EnC

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- required by Annex I of the Governance Regulation. Analyse the NECP's interactions with air quality and present the impacts on air pollution for the various scenarios.
- (12) Consider implementing methane emission reductions, in line with Serbia's commitment to the Global Methane Pledge, in particular in coal mines, oil and gas sector.
 - (13) Integrate fair and just transition aspects better both on the level of objectives and in policies and measures, notably by providing more details on social, employment and skills impacts of planned objectives, and policies and measures. Prioritise the implementation and monitoring of Just Transition and the related Action Plan via an active planning for the transition of the regions and communities impacted by the coal phase-out, as well as incorporate more just transition policies and measures in the NECP itself. Increase the dedicated amount of funding of the just transition related measure from EUR 2 mln, which is less than 0.2% of the investment related to the modernisation of coal mines.
 - (14) Envisage a more impactful carbon price instrument designed and adopted under the Energy Community Treaty, to internalise the costs of emissions and in view of the European Union's [Carbon Border Adjustment Mechanism](#)⁴ ("CBAM Regulation") and electricity market coupling.
 - (15) Link measures related to boosting electromobility to incentives in the energy market regulation to ensure that electric vehicle charging infrastructure is supplied from renewable energy instead of the fossil fuel-based electricity.
 - (16) Consider introducing policies and measures for transport sectors other than road transport, especially multi modal systems.
 - (17) In the area of **decarbonisation and renewable energy**, match the level of ambition – i.e. 40.7% instead of a mere 33.6% – in the planned minimum share of renewable energy in gross final energy consumption by 2030 to the [decision of the Energy Community Ministerial Council](#)⁵, or explain the specific national circumstances to justify the gap between the ambition in the draft NECP and the target agreed by the Energy Community Ministerial Council.
 - (18) Increase the target for the share of renewable energy sources in heating and cooling, including district heating, and thus align with Articles 23 and 24 of the [Energy Community Renewable Energy Directive](#)⁶ ("Renewables Directive").
 - (19) Enhance the spatial planning policy and measures to expedite the deployment of renewable energy projects by incorporating explicit criteria for designating suitable areas,

⁴ Regulation (EU) 2023/956 on establishing a carbon border adjustment mechanism

⁵ Decision 2022/02/MC-EnC on amending Decision 2021/14/MC- EnC and incorporating Directives (EU) 2018/2001 and 2013/2002, Regulations (EU) 2018/1999, 2020/1044, and 2020/1208 in the Energy Community acquis

⁶ Directive (EU) 2018/2001 of 11 December 2018 on the promotion of the use of energy from renewable sources as adapted and adopted by the Ministerial Council Decisions 2021/14/MC-EnC and 2022/02/MC-EnC

- while adhering to the "do no significant harm principle" and establish an efficient dispute resolution mechanism.
- (20) In **energy efficiency**, pursue the same level of ambition – i.e. maximum 9.54 Mtoe instead of 9.7 Mtoe – in the planned total maximum level of final energy consumption by 2030 as per the decision of the Energy Community Ministerial Council⁷.
 - (21) Complete the legislation and regulations on energy performance of buildings as soon as possible and start activities already in 2024 to create enabling legislative framework for a number of other policies and measures related to energy efficiency and renovation of buildings.
 - (22) Finalise the adoption of comprehensive assessment of the potential for efficient heating and cooling and reflect the findings in the NECP. Introduce policies and measures that demonstrate full implementation of consumption metering and billing of district heat in line with the [Energy Community Energy Efficiency Directive](#)⁸ ("Energy Efficiency Directive").
 - (23) Concerning **energy security**, base policies and measures on clean energy sources, new technologies and energy efficiency and include regional cooperation and market integration instead of focusing only on self-sufficiency.
 - (24) Reconsider the strong reliance on fossil fuels in ensuring energy security such as additional dispatchable generation from natural gas and related gas infrastructure that is not future proof.
 - (25) Introduce policies and measures that demonstrate how Serbia is planning to implement the [Gas Security of Supply Regulation](#)⁹ and the [Electricity Integration Package](#)¹⁰ adopted by the Energy Community in 2022.
 - (26) Further align the draft NECP with the latest Ten-Year Network Development Plan ("TYNDP") 2023-2032 of the electricity transmission system operator ("TSO"), especially to reflect the possibility to integrate a considerably higher amount of renewable energy – as determined by the transmission system operator – in the draft NECP.

⁷ Decision 2022/02/MC-EnC on amending Decision 2021/14/MC- EnC and incorporating Directives (EU) 2018/2001 and 2013/2002, Regulations (EU) 2018/1999, 2020/1044, and 2020/1208 in the Energy Community acquis

⁸ Directive 2012/27/EU on energy efficiency as adapted and adopted by Ministerial Council Decisions 2015/08/MC-EnC, 2021/14/MC-EnC and 2022/02/MC-EnC

⁹ Regulation (EU) 2017/1938 concerning measures to safeguard the security of gas supply as adapted and adopted by Ministerial Council Decisions Decision 2022/01/MC-EnC and Decision 2021/15/MC-EnC

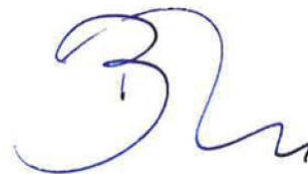
¹⁰ Decision 2022/03/MC-EnC on the incorporation of Regulation (EU) 2019/942, Regulation (EU) 2019/943, Regulation (EU) 2015/1222, Regulation (EU) 2016/1719, Regulation (EU) 2017/2195, Regulation (EU) 2017/2196, Regulation (EU) 2017/1485 in the Energy Community acquis, amending Annex I of the Energy Community Treaty and on the amendments of the Ministerial Council Decisions No 2021/13/MC-EnC and No 2011/02/MC-EnC

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- (27) Focus policies and measures on using the existing electricity and gas infrastructure in a more efficient manner, implement market rules that remove limitations from capacity use and focus on regional cooperation, instead of pursuing extensive new infrastructure projects. When proposing new infrastructure projects ensure that consultation with the impacted Contracting Party(ies) is undertaken to ensure the viability and successful implementation of the future project.
 - (28) Regarding the **internal energy market**, design policies and measures in electricity that enable the fulfilment of the minimum cross-zonal capacity target of 70% and the development of competitive wholesale and retail markets. Include increased regional and European cooperation, especially for the exchange of balancing resources, in the policies and measures to enable the objective of increased flexibility necessary for the integration of renewable energy.
 - (29) Revise the net metering scheme, as granting new rights under such schemes after 31 December 2026 is no longer allowed.
 - (30) Define and implement adequate policies and measures to complete electricity market coupling, and thus ensure alignment with the CBAM Regulation in order to minimise its impact on the operation of the domestic and regional electricity sector.
 - (31) Be more precise in mapping envisaged funding sources in the area of **research, innovation and competitiveness**.

Vienna, 31 October 2023



Artur Lorkowski
Director






Dirk Buschle
Deputy Director/Legal Counsel

ANNEX
To the Energy Community Secretariat
Recommendations
on the draft integrated National Energy and Climate Plan of the
Republic of Serbia covering the period 2025-2030

Detailed assessment of the draft integrated National Energy and Climate Plan of
the Republic of Serbia

1. Summary

1.1. Overview of the key objectives and targets

Target/objective		Energy Community 2030 target for the Republic of Serbia	Value in the draft NECP of the Republic of Serbia
	GHG emissions reduction of total emissions in the policy scenario compared to 1990 levels	-40.3% (47.82 MtCO ₂ of total emissions) compared to 1990 levels	-40% (47.76 MtCO ₂ of total emissions) compared to 1990 levels
	Share of renewable energy in gross final energy consumption	40.7%	33.6%
	Energy efficiency	Primary energy consumption: 14.94 Mtoe	Primary energy consumption: 14.68 Mtoe
		Final energy consumption: 9.54 Mtoe	Final energy consumption: 9.7 Mtoe

1.2. Main observations

- (1) **Public and regional consultations** on the draft NECP were carried out in parallel to the submission to the Secretariat. The submitted draft plan does not include all the necessary information related to the summary of national consultations, the result of the transboundary consultations, the input received and how it was considered for the NECP.
- (2) A **Strategic Environmental Assessment** was carried out and was part of the submission to the Secretariat together with the draft NECP.
- (3) The draft NECP is **structured** in line with the requirements of the Governance Regulation, and provides an extensive overview of the legal framework, policy documents and the overall policy context of each dimension on national level.
- (4) The draft plan sets **2030 targets** for GHG emissions reduction and for primary energy consumption in line with the targets set for Serbia by Ministerial Council Decision No 2022/02/MC-EnC. It however **falls significantly short** of complying with the minimum **share of renewable energy** in gross final energy consumption and for the maximum **final level of energy consumption**, without any explanation for such a difference.
- (5) **Policies and measures** are listed in a structured and clear manner, including in several instances investment costs and the links to other PaMs in other dimensions, even though without any detailed explanation. However, PaMs are often defined in too general terms without concrete actions (indicating that certain actions will be “examined” but without committing to any action) and are not linked to the 2030 targets by indicating a quantified contribution thereto. The absence of such information will make the assessment of the potential contribution of individual PaMs in the achievement of targets impossible and the compilation of integrated progress reports on the implementation of the NECP by the Serbian authorities very challenging.
- (6) The **share of coal in electricity generation** is planned to be reduced by not more than 25% in 2030 compared to the status in 2019 in the policy scenario, but it will still account for approximately half of total power generation by 2030. The complete **phase-out of coal in the electricity mix** is expected to take place by 2050 in the policy scenario. Concentrating the majority of the ambition in the post-2030 period will require an accelerated closure of coal-based generation capacities between 2030-2050 coupled with an extremely ambitious investment in new generation capacities, which will pose challenges to the economic feasibility and fairness of the green transition.
- (7) The draft plan also claims that all “*Fossil fuel thermal power plants are expected to completely stop generation of electricity by 2050.*”¹¹ This does not only put in question the achievement of the 2030 GHG emissions reduction target. It is also not underpinned by the figure below the referred statement, because natural gas still appears in the electricity

¹¹ Integrated National Energy and Climate Plan of the Republic of Serbia for the period 2030 with the projections up to 2050 (p. 239), Chapter 5 – Impact Assessment of planned policies and measures

mix in 2050. This lack of consistency raises serious doubts about the ambition of fossil fuel phase out in the electricity sector.

- (8) **No economy-wide climate neutrality** is planned to be reached by 2050. The most ambitious policy scenario with additional measures (“WAM”) achieves 75% of net emission reductions on the level of the overall economy from 1990 in 2050.
- (9) A **carbon tax** is included among the policies and measures, albeit only in the form of *facilitating* its introduction, without any concrete action planned. A footnote in the draft NECP points to a potential introduction of such a tax from 2027 at a low rate of EUR 4/ton and increase to either EUR 40/ton (in Chapter 5) or to EUR 70/ton (in Annex II) in 2030. There is no information related to the introduction of an emission trading system, which could be instrumental for securing an exemption from the European Union’s CBAM Regulation and thus for preserving any market coupling in electricity.
- (10) The draft plan contains few links both in references and in PaMs to the **emission reduction obligations of Serbia**. This, coupled with a forecasted continued use of several parts of the old, polluting generation fleet raises doubts how Serbia is planning to comply with the obligations of the **Industrial Emissions Directive**.
- (11) Compared to the prominent role of coal at least until 2030 and the plans related to the modernisation of the coal mining industry, a detailed planning of the policies and measures to prepare the Serbian society and economy to manage the phase-out – i.e. **just transition** – are largely absent.
- (12) There is no explanation as to what extent or whether at all, any cross-sectoral assessment was performed considering the pace, ambition and feasibility of increasing the share of renewable energy when planning the uptake of electric vehicles (EV). Operating an EV fleet with electricity supplied from fossil fuels does not reduce the carbon footprint of the **transport sector**.
- (13) **Solar and wind** energy is expected to take over the place of coal in electricity generation, however the growth in renewables follows a slow trend until 2030 and is forecasted to accelerate substantially only between 2030 and 2050. More detailed measures to enhance **spatial planning** policy facilitating the designation of suitable areas for renewables while pursuing the “do no significant harm” principle could contribute to a higher share of renewable energy.
- (14) The integration of **renewable energy in district heating** is not as ambitious as required by Article 24 of the Renewables Directive and could be further enhanced by setting the goal of increasing renewable energy by 1 percentage point annually and supporting the integration of renewable energy sources other than biomass, such as geothermal, solar thermal and waste heat sources. There are measures planned for **self-consumption and energy communities**, however in the absence of tangible targets in this respect, it will be difficult to track the progress.
- (15) The draft plan aims for a **final energy consumption** (“FEC”) of 9.7 Mtoe and a **primary energy consumption** (“PEC”) of less than 14.68 Mtoe in 2030, representing a reduction

of 17% and 9% respectively compared to the scenario with existing measures (“WEM”). Additionally, a cumulative energy-saving target of 2023 ktoe by 2030 has been set under Article 7 of the Energy Efficiency Directive, distributed across various sectors.

- (16) The draft NECP includes PaMs targeting energy **efficiency improvements** in buildings, industry, agriculture, energy infrastructure, and the water sector. These measures encompass a range of activities such as energy audits, management systems, labelling, certifications, capacity building, financing schemes, and smart city initiatives.
- (17) The implementation timeframe for the **energy performance of buildings** creates an enabling framework for energy efficiency improvements in buildings. The activities are planned to start from 2025, however the start date should foresee activities already from 2024 and start with an update of the existing legal framework.
- (18) The draft NECP lists measures in the **heating and cooling sector**, including on integrating renewable energy sources, such as the installation of heat pumps, the assessment of mandatory use of specific technologies in new buildings, and the replacement of inefficient appliances. District cooling is not considered an option in the period until 2030. The draft NECP does not reflect the status of fulfilling the obligation to carry out a comprehensive assessment of the potential for the application of efficient heating and cooling. The draft plan does not provide any details regarding the implementation of **consumption-based billing**, which is currently only partially applied.
- (19) The energy efficiency dimension accounts for most of the **implementation costs** (cca. 68.97%) outlined in the draft plan showing the magnitude of investments needed for this dimension.
- (20) Regarding **energy security**, the draft NECP focuses on the development of new interconnection and storage capacities, regulating storage and reserve accumulation obligations as well as regulatory measures in the areas of electricity, natural gas, and oil products. Self-sufficiency is the central guiding principle, without taking regional cooperation and the regional dimension into account. This will significantly increase the costs of the transition. A balanced mix of diversification measures with policies that enhance cross-border energy trade, in particular coming from sustainable renewable energy, could result in a lower level of necessary investments while reaching the same level of energy security in a low-carbon manner.
- (21) Most policies and measures regarding energy security **rely on fossil fuels** including coal-fired units, weakening the development of a sustainable energy sector and not reflecting the objective of the draft NECP to phase-down lignite by up to 25% in 2030. The **modernisation of the coal mining industry** represents a PaM with significant investment needs (1.5 times higher than the costs of all PaMs dedicated to GHG emissions reduction combined) which calls into question the impact of the planned actions in the decarbonisation dimension.
- (22) The draft plan is not aligned with the **TYNDP 2023-2032** of the electricity transmission system operator, which foresees a significantly higher potential of integrating renewables in the transmission network than the value indicated in the draft NECP.

- (23) The area of the **Internal Energy Market** includes a mix of infrastructure investments and regulatory and legal measures. Targets and objectives in this dimension – except for the target for reducing energy poverty – are not clear and measurable. There is no assessment of the potential **implications of the CBAM Regulation** on the electricity market coupling, let alone adequate PaMs.
- (24) Policies and measures for the Internal Energy Market Dimension mostly have one broad, extensive objective, summarising general topics related to further market development, which is not adequately translated in the quantified objective(s) and in quantifiable and relevant progress indicators. Furthermore, these policies and measures do not appropriately reflect the applicable legal and regulatory framework of the Energy Community, in particular the Electricity Integration Package adopted in December 2022.
- (25) Policies and measures for the Internal Energy Market dimension – both in electricity and in gas – **heavily focus on new infrastructure investments** rather than addressing existing shortcomings and designing actions that facilitate competitive cross-border exchange of energy. This leads to a continued sub-optimal use of interconnections. Several infrastructure development PaMs include projects of which the economic viability and expected technical progress are questionable. The **lack of consultation** of some projects with the impacted neighbouring Contracting Parties also raises doubts about their successful implementation.
- (26) The proposed objectives in **research and innovation** include the promotion of reducing energy intensity and greenhouse gas emissions intensity, the reduction of energy costs, increasing the domestic added value of the energy sector, and transition to a low-carbon economy. All of them are coherent with other national plans. Policies related to innovation and research include a wide range of reasonable and feasible activities to promote energy efficiency, renewable sources, clean transport, and other low-carbon technologies. However, funding sources are not clearly defined.

2. Preparation and submission of the draft plan

2.1. Process and structure

The draft plan was submitted to the Secretariat on 29 June 2023, before the legal deadline set in Article 9(1) of the Governance Regulation, accompanied by the Strategic Environmental Assessment Report of the Integrated National Energy and Climate Plan of the Republic of Serbia.

The development process of the draft plan was managed by the Ministry of Mining and Energy, which was assisted by a Project Steering Committee consisting of the ministries responsible for energy, finance, environmental protection and for European integration, as well as the Delegation of the European Union to the Republic of Serbia and the consultant. The definition and selection of scenarios took place in a project working group, which comprised government institutions, agencies, regulatory bodies, the statistical office, energy companies and civil society organizations. The Secretariat participated in the sessions of the project working group as an observer.

The Secretariat has a strictly defined formal role in the Governance Regulation and adheres to that role in its interactions with the Contracting Parties in relation to developing the draft or final NECPs. The Secretariat has the formal role of assessing the draft plan and providing recommendations on it. Apart from providing informal input on an early draft version of the plan – if requested explicitly by a Contracting Party – the Secretariat does not have any consultative functions during the development stage. The current assessment and the Recommendations represent a thorough analysis of the compliance of the draft plan to the requirements of the Governance Regulation.

The draft NECP falls short of describing the details of the operation of the project working groups, the types of activities carried out, the types of input received and how this was channelled into the submitted draft. The final draft NECP should include a more thorough description of those activities and must explain how the Recommendations of the Energy Community Secretariat have been taken into account.

2.2. Public consultation

The draft plan and the draft SEA report was published for public consultation in parallel with its submission to the Secretariat. According to public information sources, public hearings in Belgrade, Novi Sad and Niš took place between 11 and 14 July 2023, however there is no report on these events in the draft NECP. The description of the consultations organised for the involvement of stakeholders including the various milestones and their dates, a summary and the number of the feedback received, the overall summary of these consultations and how the

received feedback was considered and – if applicable – why it was not accommodated, is not explained in detail. A statement summarising how the environmental considerations have been integrated into the plan and how the SEA report, opinions gathered during the consultations, including the result of any transboundary consultations, have been taken into account should be included in the final draft of the NECP. The statement should also outline the reasons for choosing the plan as adopted in light of the other reasonable alternatives and the monitoring measures foreseen by the SEA report.

It would be worthwhile to specify if and how marginalised groups, gender-responsive processes or the voice of youth was included in the (multilateral) preparation of the NECP or the public consultation.

2.3. Regional consultation

The final NECP should describe in detail how Serbia consulted the draft plan with its neighbours, how the **regional consultation process** looked like, what feedback was received and how it was taken into account. The contribution of Serbia to the consultations on neighbouring draft plans should also be described, indicating the potential links of other NECPs to the Serbian plan.

The assessment regarding the **impacts of the planned policies and measures** on other Contracting Parties and/or Member States of the European Union and regional cooperation at least until the last year of the period covered by the plan is missing and should be added in the final NECP.

If any **regional cooperation** took place in the development of the draft plan, it should also be described in the final plan.

3. Assessment of the ambition of targets, objectives and adequacy of supporting policies and measures

3.1. Decarbonisation – greenhouse gas emissions and removals

The 2030 greenhouse gas emission reduction **target** in the draft plan is in line with the Ministerial Council Decision, however, a larger consistency in expressing the numerical value of the target would be welcome (currently three figures appear throughout the text – 40,3%, 40% and 40,4%). There is also inconsistency between the metrics using CO₂ in WEM and CO_{2eq} in the WAM scenarios making comparisons difficult.

All sectors are covered by **sectoral targets**, however, the waste and LULUCF sectors are missing from the projections in WEM, and there is no sectoral breakdown at all for the projected GHG emissions including both energy and non-energy in the WAM scenario (an aggregated sector scenario is available in figure 5.1) making the assessment of sectoral contributions to the overall emission reduction target impossible. Targets, specific to **non-energy sectors** are only mentioned in the description of policies and measures, and it remains unclear whether these are targets specific to the respective policies and measures or whether they reflect a general target for the whole sector. These are the following:

- Communal waste recycling 60% by 2030;
- Reducing food waste by 50% by 2030;
- Limit GHG **emissions growth** from industrial processes and product use by 7% by 2030 compared to 2010, showing a gradual but slow decrease in emissions intensity;
- Reduce GHG emissions in the waste sector by 13% by 2030 compared to 2010, diversion of 65% of biodegradable waste from landfill by 2030 (compared to 2008);
- Increase the carbon sink in the Serbian Forest by 17% by 2030, compared to 2010;
- Decrease the CH₄ emissions from the enteric fermentation of animals by 15% by 2030, compared with 2010;
- Decrease the CH₄ and N₂O emissions through the improvement of manure management by 15% by 2030, compared with 2010.

The above policies and measures refer to two strategic documents and seem to be derived from there (using a comparison with the reference year 2010) based on the:

- Second National Communication (“SNC”) of the Republic of Serbia under the UNFCCC (2017);
- Draft Low Carbon Development Strategy (“LCDS”) with Action Plan (2023)¹².

It is unclear whether SNC/LCDS results were updated and aligned with the NECP work using 1990 as reference year, in particular with the energy related analysis and the policies and measures and in particular because the development of the Low Carbon Development Strategy is indicated as a measure in the draft NECP. **The reference to the year 2010 makes it impossible to track how much non-energy sectors will contribute to the overall 40.3% GHG emissions reduction target**, which compares 2030 to 1990.

In the **electricity sector**, both WAM scenarios (S and S-N) indicate a coal phase out date by 2050. By 2030 there is a planned reduction of 25% from 2019 levels, which represents a coal phase-down (not a "phase out" as described in document). The WEM scenario projects a level similar to 2030 of emissions from coal in 2050. In order to enable a coal phase-out, an increase in solar and

¹² The Low Carbon Development Strategy was adopted in June 2023 shortly before the communication of the draft plan to the Secretariat.

wind power generation will take place, followed by hydropower and natural gas in the WAM-S scenario.

None of the scenarios point to reaching economy-wide climate neutrality by 2050. The most ambitious WAM scenario achieves 75% of net emission reductions on an overall economy level from 1990 in 2050. By 2050, the largest share of emissions is expected to come from the industrial and transport sectors.

Most **policies and measures** in the GHG emissions reduction part of the decarbonisation dimension – particularly in the agricultural, waste, and transport sectors – rely on **investment and not so much on policy (reform) measures**, which could be an indication of shortcomings in the relevant sectoral strategies. Those actions, which are indicated in the policy area are formulated in a very general manner and **lack quantification**.

Even though they are referred to in the introductory remarks, it would be important to indicate all relevant **sectoral strategies** in the description of policies and measures in the Decarbonisation dimension such as:

- Industrial Policy Strategy of the Republic of Serbia from 2021 to 2030¹³;
- Action Plan for the Implementation of the Industrial Policy Strategy of the Republic of Serbia from 2021 to 2030, for the period from 2021 to 2023¹⁴;
- Waste Management Program of the Republic of Serbia for the period 2022-2031¹⁵;
- Forestry Development Strategy for the Republic of Serbia¹⁶ and any current project aiming at the assessment and improvement of the current policy and administrative capacities in the forestry sector of Serbia;
- National Agriculture and Rural Development Strategy of the Republic of Serbia.

The planned **carbon tax** is the only carbon pricing instrument mentioned directly, yet it is unclear what the concrete planned action is as the description of the policy only refers to *facilitating* the introduction. The anticipated impact of the tax is not assessed either on fuel use or emissions, especially in the given lower price range of EUR 4/ton starting from 2027 and reaching EUR 40/ton by 2030. Details regarding the taxable fuels, the tax level and tax revenues are unknown as well as the interrelation with a future ETS. On the other hand, a policy and measure foresees the establishment of an “Observatory for the calculation and reduction of carbon footprint **of non-**

¹³ <https://privreda.gov.rs/sites/default/files/documents/2021-08/Industrial-Policy-Strategy-2021-2030.pdf> - last accessed 18.10.2023

¹⁴ <https://privreda.gov.rs/sites/default/files/documents/2022-02/IP%20Action%20plan%202021-2023.pdf> - last accessed 18.10.2023

¹⁵ https://www.ekologija.gov.rs/sites/default/files/2022-03/program_upravljanja_otpadom_eng_-_adopted_version.pdf - last accessed 18.10.2023

¹⁶ <https://faolex.fao.org/docs/pdf/ser148208.pdf> - last accessed 18.10.2023

ETS economic operators”. It could be deduced from **this that there will be a description concerning who the ETS economic operators are.**

The policy and measure dedicated to the **modernisation of the coal mining industry** in the energy security dimension is in clear contradiction to the goal of coal phase-out, and implies a carbon lock-in, with EUR 1,3 bln of investments foreseen for the purpose. By comparison, the measure dedicated to the **implementation and monitoring of just transition and the related action plan**, which could be considered as the backbone of actions when it comes to managing a successful transformation of regions away from coal, foresees funding of EUR 2 mln, in other words less than 0.2% of the costs intended to be channelled to the modernisation of the coal mining industry.

Overall, **just transition** aspects have not been sufficiently taken into account in the document as it is limited to impacts on the job market. The draft NECP stipulates that the policies and measures, which will be integrated into the Just Transition Plan (JTP), will be implemented in the areas that will be affected most. That said, the draft NECP lacks policies and measures on just transition except the implementation and monitoring of a JTP. There is also no indication of ending **fossil fuel subsidies**.

There is no direct link between the PaMs foreseen under the GHG reduction dimension and the general emission reductions in the Thermal Power Plant sector (the introduction of a carbon tax would have a direct and significant impact on them, but this is also not mentioned). The draft plan does include reference to the **Industrial Emissions Directive** (albeit only for the industrial, but not for the energy sector) but there is no mention of the obligation that under Energy Community law, existing combustion plants have to meet the Directive’s emission limit values from **1 January 2028**. The necessary investments would need to entail plant efficiency improvements to reduce the emission of pollutants, which would in turn might lead to higher level of energy consumption of the plant.

The National Emissions Reduction Plan (“NERP”) is mentioned twice in the entire document, however not linked to any of the measures. There are no linked PaMs or investments even though, in practice, they exist, and the information is available to the Ministry. Emission reduction is addressed only indirectly via certain PaMs (e.g. introduction of carbon tax or the installation of decarbonisation technologies). At the same time, the draft plan still counts on the utilisation of a large share of the existing TPP fleet even beyond 2040, which calls into question the credibility of the decarbonisation efforts.

While the WAM scenario states that “Fossil fuel thermal power plants are expected to completely stop generation of electricity by 2050.”, the graph below however still shows approximately 5% natural gas in the energy mix.

In the **transport sector**, the anticipated boost in the number of EVs from 2030, with an accelerated increase after 2040 needs to go hand in hand with the decarbonisation of the electricity generation sector in order to achieve true GHG emissions reduction.

3.2. Decarbonisation - renewable energy

The achievement of the **2030 target** in renewable energy is legally binding upon Serbia under Ministerial Council Decision No 2022/02/MC-EnC. This requires that Serbia pursues the same level of ambition – i.e. 40.7% instead of 33.6% – in the planned minimum share of renewable energy in gross final energy consumption by 2030. The lack of ambition in the draft NECP in that respect is also at odds with the commitment that “*the increased penetration of RES will constitute one of the most important objectives of the INECP*”¹⁷.

If the gap occurs between the ambition in the draft NECP and the target agreed by the Energy Community Ministerial Council, as in case of the draft NECP, Serbia needs to explain the specific national circumstances to justify this gap.

The overall 2030 renewable energy target is subdivided into **sectoral targets** for electricity (45%), transport (7%), and heating and cooling (41.4%). Trajectories for each sectoral target are provided, but there is a lack of clear annual breakdowns, which makes monitoring the progress challenging.

IRENA's study “Renewable Energy Prospects for Central and South-Eastern Europe Energy Connectivity (CESEC)”¹⁸, indicates that Serbia possesses twice the potential to cost-efficiently harness solar PV for **electricity** generation by 2030 compared to what is proposed in the draft plan (3.58 GW compared to the proposed 1.73 GW). There is no explanation in the draft NECP regarding the solar PV potential, which could provide justification for such a significant level of difference. The suggested capacities for harnessing onshore wind align with the findings of the study (1.77 GW). A less conservative assessment of the potential in the draft plan could lead to a trajectory that is closer to the 2030 renewable energy target binding on Serbia.

The **target for RES share in the heating and cooling sector** in 2030 is set at a level of 41.4%, which is below the figure (46.68%) that results from the calculation using the methodology in Article 23 of the Renewables Directive. There is no justification for this ambition gap in the draft plan. The recommendation is to increase the level of ambition for the increase of renewables in heating and cooling, including district heating and use the potential of other renewable sources.

Following Article 26 of the Renewables Directive, Serbia has adjusted its minimum target for renewable energy in **transport** to 7% by 2030, reducing it by 7% due to the fact that the share of biofuels, bioliquids, and biomass fuels consumed in transport sector was below 1% in 2022.

¹⁷ Integrated National Energy and Climate Plan of the Republic of Serbia for the period 2030 with the projections up to 2050 (iii. Key objectives and priorities of the plan p. 4)

¹⁸ Available at: https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2020/Oct/IRENA_REmap_CESEC_2020.pdf?rev=1d65ed29a9cf40d5849b7524d5a395b5 – last accessed 18.10.2023.

Based on Article 15 of the Renewables Directive, a policy or measure promoting the uptake of **renewable power purchase agreements (PPAs)** should be introduced in the final NECP.

Under Article 6 of the Renewables Directive, Serbia is also required to establish an extensive, forward-looking schedule that foresees the allocation of support schemes over an upcoming period of *at least five years*. This schedule should include estimated timing and anticipated capacities.

One of the planned measures in the draft NECP foresees the introduction of **renewable energy auctions** starting in 2025, however it is not indicated anywhere that the first auctions were in fact already conducted in 2023. Additionally, the description of the measure does not outline how it is meant to contribute to meeting both the overall target and the sector-specific electricity target. There is also no explanation of how other relevant Energy Union dimension(s) have been affected by the said measure, such as security of supply or the internal energy market.

There are no tangible targets established for the policies and measures regarding **self-consumption and energy communities**.

Key policies and measures for the **increase of renewable energy share in the heating and cooling sector** are defined within the energy efficiency dimension. Regulatory frameworks for the integration of renewables in buildings and fiscal and economic incentives for renewables in line with articles 71 and 74 of the Law on the Use of Renewable Energy Sources (in particular, 476 ktoe of biomass, 4 ktoe of geothermal energy, 25 ktoe of solar thermal energy and 145 ktoe of ambient heat) are envisaged. The draft plan predicts that natural gas will remain the dominant fuel for district heating throughout the examined period (2020-2050). Serbia should introduce the mandatory quota for renewable energy in district heating to achieve an annual increase of renewable energy by 1 percentage point.

Suitable areas intended to expedite the permitting and deployment of renewable projects (“Renewables Acceleration Areas”) should be designated by considering parameters such as resource potential, proximity to existing infrastructure and grid capacity, while minimizing conflicts with nature and social and cultural values. Locations such as industrial brownfields and other degraded land should be prioritized if possible. This helps to reduce the investment risk of developers and to facilitate community acceptance of RES projects, which will accelerate the roll-out of renewable energy.

3.3. Energy efficiency

The achievement of the **2030 target** in energy efficiency is legally binding upon Serbia under Ministerial Council Decision No 2022/02/MC-EnC. This requires that Serbia pursues the same level of ambition – i.e. maximum 9.54 Mtoe instead of 9.7 Mtoe¹⁹ – in the planned total maximum level of final energy consumption by 2030.

¹⁹ Similarly to the GHG reduction targets, the final energy consumption target by 2030 is also not presented consistently across the draft plan, referring to not more than 9.6 and in some place to 9.7 Mtoe in the text.

An additional energy-saving target has been specified as required by Article 7 of Energy Efficiency Directive. However, an increase in the ambition of utilisation of energy efficiency potential in buildings should be considered. The draft NECP does not establish an energy efficiency obligation scheme but expects the energy savings to be achieved by alternative measures.

The draft plan takes into account the renovation rates estimated in the recently adopted Long-term Strategy for Encouraging Investments in the Renovation of the National Building Stock of the Republic of Serbia, equalling to 1% on an annual basis for residential buildings, 3% for public buildings and 2.3% for other non-residential buildings.

A target on the integration of 7.7 GW of new capacity of heat pumps is envisaged for 2030, along with 23 MW of high-efficiency cogeneration and district heating.

The energy-efficiency first principle is explicitly mentioned in several **policies and measures**, concretely with respect to the improvement of the efficiency of energy infrastructure, as well as strengthening the technical and administrative capacity of the involved policymakers. The draft plan does not envisage **reduction of losses** in the district heating network, nor measures for the implementation of **consumption metering and billing** which is an obligation under the Energy Efficiency Directive.

The draft plan does not reflect the obligation to carry out a **comprehensive assessment** of the potential for the application of efficient heating and cooling.

The draft plan includes several PaMs to exploit the energy efficiency potential in **buildings, industry, agriculture, energy infrastructure, and the water sector**, and to address **cross-cutting issues** (energy audits, energy management system, energy labelling, accreditation and certifications, building capacities, creating financing schemes, promoting efficiency in public procurement, promoting smart cities, etc). The policies and measures comprehensively cover issues for delivering energy savings. An overview provides a breakdown of measures that should achieve a specific amount of energy savings. For each of these measures, investment needs are indicated.

Planned investments in the **building sector** are based on existing programmes in place for several years. The draft plan envisages the **renovation** of 131 thousand residential buildings, through which the estimated savings are likely to be achieved. On the other hand, measures for the **industrial sector** that should deliver half of the total energy savings are not sufficiently developed and detailed. Among others, the following are missing: the implementing body, legislation, support schemes, monitoring mechanisms, deadlines for adoption of the rules. Any delay in implementing these measures could endanger the achievement of the energy savings target and a realistic assessment of the budget.

There are several policies and measures that address energy efficiency in the **heating and cooling** sector, all of them closely linked to the renewable energy dimension, such as the installation of 2 GW new capacity of heat pumps in the residential sector and 5.7 GW in the non-residential sector. These measures should deliver around 84 ktoe of savings.

Serbia should assess the possibility of introducing an obligation to install specific technologies (such as **heat pumps, solar thermal system**) in new buildings and those undergoing major renovation. An added incentive would be to complement this with subsidies for introducing renewable-based heat technologies in all buildings. Introducing a limitation on the use of fossil fuels, especially coal and oil fuels in households for domestic heating would yield significant improvements in lowering pollution and greenhouse gas emissions. The replacement of coal and oil-based heating appliances should be a priority to efficiently tackle the problem of air pollution.

Concerning the development of **highly efficient cogeneration and district heating (“CHP”)**, the financial programmes for installing new and modernizing existing highly efficient CHP units and district heating/cooling networks is reflected in the draft NECP. The assessment of efficient heating and cooling in the draft NECP should serve as guidance for municipalities to further develop long-term local heat plans to be linked to urban planning. The draft plan falls short in assessing the potential for integrating **waste heat** into district heating networks. It rather mentions it in a vague manner, without enough details for implementation. Waste heat utilisation should be further analysed in the comprehensive assessment for efficient heating and cooling, and its potential be assessed for achieving the renewable energy targets from Article 23 of the Renewables Directive.

3.4. Energy security

The draft plan does not define quantified **targets** for energy security, which will make the assessment of progress towards achieving the objectives in this dimension challenging. Diversification, stabilization of the energy dependency rate and ensuring electricity system adequacy are identified as **objectives**.

The listed **policies and measures** represent a mix among domestic actions for diversification via the increase of new import capacities and self-sufficiency targeting storage projects, emergency stocks and new generation capacities. The majority of planned activities (9 out of 13) in this dimension focus on fossil fuels (coal for electricity production, oil for implementing oil stocks obligations and natural gas for storage and diversification). The draft NECP, however, falls short of indicating the full potential of clean domestic energy sources for this dimension.

Synergies for boosting energy security stemming from **regional cooperation** – such as the CESEC initiative covering both electricity and natural gas, or the natural gas related coordination activities are entirely missing. Serbia could take advantage of the development of cross-border renewable projects, sharing of balancing reserves, the integration of markets and coordinated cross-border capacity calculations with neighbouring transmission system operators, which would be beneficial in both sectors.

The draft NECP lists a substantial number of new **transmission projects** in electricity and gas. It is to be noted, however, that there are different restrictions on the usage of capacities on existing

interconnections in both sectors, which prevents the full optimisation of transmission capacities (and for electricity also production capacities) on a regional level for maximising social welfare and the integration of renewables. In **electricity**, Article 16 of Regulation (EU) 2019/943, as adapted and adopted by the Ministerial Council Decision D/2022/03/MC-EnC, obliges the Serbian electricity TSO, EMS, to fulfil the so-called **70% target** until 31 December 2023. This provision requires TSOs to remove barriers for cross-zonal trade of electricity and provide at least 70% of interconnection capacities to market participants. At least one policy and measure in the energy security or internal electricity market dimension should address this issue. Regarding the details of planned electricity transmission projects, the draft NECP is coherent with the **Ten-Year Network Development Plan** prepared by EMS, but it underestimates the level of possible integration of variable renewable energy in comparison to the information in the latest draft TYNDP 2023-2032²⁰. The draft plan also does not take into account the possibilities for regional cooperation regarding balancing. The TYNDP for the gas TSO is still awaiting approval by the national regulatory authority. **Flexibility** of the national electricity system is recognised as an important element in the draft NECP with respect to the integration of renewable energy sources, but it seems to underestimate the potential of existing flexibility resources in Serbia, compared to the TYNDP which analyses the issue of system adequacy including balancing potential in more details.

The continued operation of existing coal-fired power plants appears as a backbone for **electricity generation adequacy** in the next 10 years. This poses serious concerns, from a legal compliance (Large Combustion Plants Directive) as well as an economic (CBAM and cost-based prices) perspective.

There are no policies or measures related to increasing the level of **cybersecurity**.

In the area of **(natural) gas**, policies and measures related to the transposition of the security of supply rules are included. However, implementation is overdue and should have been achieved already in 2022. In this context, the [Gas Storage Regulation](#)²¹ should have been transposed and the storage system operator be certified. One of the PaMs is the expansion of the Banatski Dvor underground gas storage facility, based on a Memorandum of Understanding signed between JP Srbijagas and Gazprom in early 2019. Serbia yet needs to certify its storage system operator, which is controlled by Gazprom, in line with the Storage Regulation. Such proposed measure must

²⁰ The last draft TYNDP prepared by EMS, defines a limit for vRES (wind, solar) integration to 5800 MW, restricted by limiting balancing reserves within the power system. This is still based just on the existing balancing and flexibility resources available at the moment. The Serbian Law on Renewable Energy allows further integration of vRES beyond this limit, by posing additional requirements on renewable investors (facilities should be capable to balance 20% of their installed capacity).

²¹ Ministerial Council Decision No. 2022/01/MC-EnC adapting and implementing Regulation (EU) 2022/1032 of the European Parliament and of the Council amending Regulation (EU) 2017/1938 as adapted and adopted in the Energy Community by Ministerial Council Decision 2021/15/MC-EnC, and Regulation (EC) No 715/2009 as adapted and adopted by Ministerial Council Decision 2011/02/MC-EnC, with regard to gas storage

be reconsidered as it could adversely affect both Serbian and the Energy Community security of supply.

Another PaM concerns the commissioning of the Serbia-Bulgaria gas interconnector in 2023. The related measure should provide additional clarity how this infrastructure will be operated in order to ensure there will be equal access for all users and that the capacity will be meaningfully utilised, under market conditions. Opening the gas market and closer cooperation with neighbouring countries and the European Network of Transmission System Operators for Gas (“ENTSO”) could substitute a number of policies and measures for gas in this dimension. Serbia should also step up efforts in investigating possibilities for decarbonising the gas sector, with potentially focusing on **smart gas grids and hydrogen** as well as tackling **methane emissions**. The plan to have almost 1 TWh of biomethane by 2030 will provide Serbia of sustainable and domestic source of supply.

Regarding **oil stocks**, PaMs part of security of supply are included. Serbia is fully aligned with the EU acquis on emergency oil stocks in the framework of security of supply. The current crude oil equivalent corresponds to 41 days of net imports and Serbia must comply with the emergency oil stocks obligation of 90 days of net imports or 61 days of inland consumption, whichever is the highest. One of the PaMs listed in the draft NECP to reach the stockholding obligations is the increase of storage capacities for crude oil (75,000 metric tonnes) and petroleum products (435,000 metric tonnes – where 216,000 metric tonnes will be privately owned). This is crucial and is estimated to have such extra spaces by the end of 2026. In addition, Serbia should diversify the crude oil supply from third countries. The PaM covering a project related to building an **oil product pipeline** from Pancevo refinery to Novi Sad, Sombor, Belgrade and Nis, through Smederevo and Jagodina is explained in the draft plan with considerations for more efficient, cheaper, safer and more environmentally friendly supply of motor fuels to the market. Apart from the very ambitious planning (realization to take place under 5 years) investments to fossil fuel infrastructure should be strictly reviewed regarding useful asset life and costs in order to avoid a carbon lock-in. An excerpt of the cost-benefit assessment of that project, in particular including a reference to its impact to the decarbonization ambitions in the final NECP would provide added-value.

3.5. Internal energy market

In the internal market dimension, the draft plan defines a quantified **target** only for the alleviation of energy poverty. The other policies and measures have one general objective which is not adequately translated into quantified objective(s) and into quantifiable and relevant progress indicators. This dimension lists *inter alia* the **objectives** of market integration and the establishment of competitive energy markets and strengthening the role of electricity market consumers. Furthermore, the dimension is not sufficiently integrated with other chapters such as energy security, as measures in the internal energy dimension are not recognized in energy security.

The target to reduce **energy poverty** is 75% in 2030 compared to 2020. However, the baseline value for 2020 is not given, nor what a 75% reduction would entail in terms of policy measures, funding and the significant number of households in energy poverty²². The plan does not include any analysis on energy poverty or its reduction.

The **policies and measures** in the Internal Energy Market Dimension are presented in a long and elaborated list of actions. Unfortunately, the proposed actions do not address the needed further **increase in competition** on the wholesale and retail markets both in electricity and in gas. It is important that energy subsidies are clearly identified and reported, especially for coal, and that measures are taken to phase those subsidies out. Such measures should opt for retail electricity prices properly reflecting the prices at the wholesale market. A number of households and smaller commercial consumers supplied under public service obligation (“PSO”) with tariffs determined by the regulatory authority should be decreased gradually to zero.

Similarly to the energy security dimension, several **transmission (interconnection) projects** are listed, while regulatory measures and increased regional cooperation²³ would yield a higher level of capacity use without additional investments. Given the already advanced level of interconnection capacities with its neighbours, it is difficult to comprehend why the development of numerous new transmission corridors is necessary for Serbia. The enhanced use of existing gas and electricity infrastructure should be promoted, in particular the 70% target for cross-zonal capacity to be provided to the market.

In **electricity**, the draft plan only touches upon on a very limited number of measures implementable under the Electricity Integration Package. The new legal and regulatory framework is not sufficiently reflected. Partially, the policies and measures refer to acts which are outdated or will be outdated at the end of 2023. Some of the PaMs are even contradictory to the legal provisions of the Electricity Integration Package, for instance the continuation of the net metering scheme. The main objective of the package, increased regional and European cooperation, is not reflected for instance with respect to the exchange of balancing resources necessary to increase flexibility needed to integrate renewable energy sources. In addition, the link between the **CBAM Regulation and electricity market coupling** as well as CBAM’s impact on the electricity sector is not reflected.

In the **gas** sector, a number of policies and measures represent either overdue market reforms or actions that are either completed or expected to be completed in 2024, or more investments in infrastructure. Compared to the magnitude of reforms needed to create a competitive gas market and a market for hydrogen and renewable gases, the number of policies and measures addressing those issues is too low.

²² A dedicated assessment of a number of households in energy poverty has not been conducted as required by the Governance Regulation. Instead, the EUROSTAT data on percentage of households unable to keep home adequately warm in 2019 is provided (10%).

²³ Such as coordinated capacity calculation, system operation regions, regional coordination centres, joint capacity allocation.

The six policies and measures on **energy poverty** present a comprehensive combination of immediate help and measures targeted at the long-term reduction of energy poverty. However, all policies and measures lack detailed information on the implementation timeline, measurable outcomes, and indicators to deliver the objectives, as well as an impact assessment and information on the sources of funding. There is no direct energy poverty financing tool, such as an Energy Poverty Fund, even though dedicated support is needed for the energy poor, which should focus on renovation, energy efficiency improvements, heating system improvements and installation of renewable energy installations. Such support could, for example, be included in the Budget Fund for Energy Efficiency of Serbia. Residential renovation could be used as an opportunity to increase the stock of affordable residential and social housing. Women, children and minorities and most vulnerable to energy poverty should be protected by timely and coordinated measures. The draft NECP outlines well the linkage between energy poverty and other work streams, and particularly energy efficiency, renovation of residential buildings, RES dissimulation including self-consumption and net metering schemes.

3.6. Research, innovation and competitiveness

Objectives and funding schemes are defined in this dimension (even though further elaboration of the envisaged funding sources would be needed). The objectives set are mostly descriptive. The only measurable target is the aspiration that expenditure for further support for research and technological development is doubled in 2030 compared to 2020. Further quantification of the objectives would contribute to a more measurable vision.

This dimension has a vast number of PaMs envisaged. Even though 2050 projections are provided, all policies and measures within this dimension are related to the 2023-2030 period.

The PaMs include: renewables for electricity, heating/cooling production, hydrogen, CSUS technologies, digitization, smart grids, transport, micro-mobility, innovative energy storage applications, circular economy. It should be explained how the **implementation costs** were calculated for each policy and measure. Given the high number of PaMs, it would enhance the clarity if several measures could be merged into one broader initiative coordinated by the same body.

The **national strategic framework** in the area of research and innovation is good. The strategy and regulatory framework, with the planned policies and measures, appear to be sufficient to reach objectives of this dimension.

In terms of **regional cooperation**, integration of Serbia into the European Research Area and enhanced participation in EU's funded Energy R&I Programs are included.

4. Internal coherence, consistency, policy interactions and alignment with other strategic documents

The draft plan includes an **extensive overview of the current main policy directions and the legal framework** in the five Energy Union dimensions. It should be explained **how the NECP fits into the overall policy framework** – which strategies and action plans fed into it, and which sectoral policy documents may be updated on the basis of it.

The draft plan is **aligned with the long-term building renovation strategy** adopted in February 2022.

The draft NECP however does not take into account the **Global Methane Pledge** which Serbia signed. It mentions the submission of the second NDC under the UNFCCC.

Serbia is not part of the **Powering Past Coal Alliance**.

The listing of PaMs **indicating links to other dimensions** at the end of each dimension is useful and represents a good attempt to create links across dimensions and identify dependencies. That said, there is no explanation concerning the dependencies, and more importantly how these affect the relations between the respective dimensions. From the list of PaMs it is visible that there is a clear **controversy between the decarbonisation and the energy security dimensions**. It would help the understanding of the chosen PaMs if the NECP included an explanation what was considered, measured and how a decision was made in those cases where a conflict among different dimensions exists and when different Contracting Parties are concerned or impacted.

The use of EU terms from the Union version of the Governance Regulation in the headings may confuse the reader with the references to “Member States” or to the “SET Plan” which are not part of the legally binding Energy Community Governance Regulation.

The **coding of PaMs** in the decarbonisation dimension is not always consistent, and the same codes are assigned to more than one PaMs in some cases, which leads to confusion when referring to that PaM.

5. Investment needs

The draft plan includes a figure for investment needs for several policies and measures, which helps to identify the magnitude of the needed financial resources for implementing PaMs (a total of EUR 27.5 bln). These investments should also be compatible with coal phase out and decarbonisation by 2050 and ensure that new infrastructure is future proof, for example new gas infrastructure can be converted to hydrogen and biogas in the future. The indicated figure should however be considered only as illustrative, because most likely not all indicated infrastructure projects will be built, which would take out significant investment costs. Some PaMs are missing a quantified investment-need figure. Nevertheless, the level of quantification is satisfactory, while

a more detailed indication of the expected share of public and private funds would help to better understand the structure of investment needs. As the indicated sum for PaMs is not always self-explanatory (e.g. some PaMs with seemingly limited impact have significant investment needs while some other more complex PaMs appear with a modest investment need), a more detailed explanation on the methodology used for the quantification would be welcome.

The energy **efficiency dimension accounts for most of the implementation costs** (cca. 68.97%).

6. Robustness of the analytical basis of the draft plan

The analytical part of the draft plan including chapters 4 and 5 is elaborated in detail. The draft plan distinguishes **three scenarios** – one business as usual (WEM) and two policy scenarios (WAM – S and S-N). A more detailed description of the differences among the three scenarios would help a better understanding.

The **modelling** is based on three main pillars:

- Serbian Energy Modelling System (SEMS) using TIMES;
- macroeconomic analysis tool;
- high RES penetration market tool.

All assumptions and projections appear reasonable, however a tabular format with absolute values in addition to the graphs would significantly help the understanding of the data (for instance data regarding the annual installed capacity and the yearly increase in the share of renewables is difficult to find).

Projections carried out exclusively for the draft NECP do not appear comprehensive with regards to sectors – projections on LULUCF and waste originate from the scenario M2 of the Climate Strategy and Action Plan, elaborated by the Ministry of Environmental Protection.

In the agriculture sector, it is unclear whether only energy-related or all emissions are included. Some of the sectoral break-downs also indicate end use sectors such as transport and residential, while the IPCC methodology would instead require the sectoral break-down to reflect: energy, IPPU, AFOLU and waste. This creates the impression, that **non-energy energy related emissions were not modelled in an integral manner with the energy-related emissions in the draft plan.**

The **projections assessing the impacts of WEM and the WAM scenarios** describe the trends visible on the graphs, but provide no explanation why the anticipated changes take place, what PaMs are the drivers (e.g. what policy causes the sharp increase in solar PV and, to a lesser extent, wind installation between 2045 and 2050, or why the share of RES-HC declines in the long-term). Such an explanation would be essential to understand why **seemingly no change takes**

place even in the policy scenarios until 2030 which is then followed by substantial improvements between 2030 and 2050 (e.g. refurbishment of buildings stable at a very low level up to 2030 and then increase significantly or low increase in the share of electric vehicles up to 2030 and then significant increase).

Improved consistency between the **format and design of those graphs** that show in part or fully the same data series (e.g. share of RES in GFEC in Figures 4.14 and 5.9), would contribute to the clarity of the information, whereas some graphs (e.g. Figure 5.6 Total CO₂ emissions per sector) are entirely non-readable in the current format.

The draft plan provides an **impact assessment** of the policies and measures in terms of trends and a comparison of the expected indicators in the business as usual scenario to the two policy scenarios, as well as on macroeconomic (GDP) and employment projections. It would be useful to see **projections for the energy/ electricity retail prices** for the next 10-20 years (assuming that these would need to increase to re-finance some of the investment).

There is no assessment on the policy interactions (between existing and planned PaMs within and across the NECP dimensions) or on the impact of **implementing the Large Combustion Plants Directive with regards to limited lifetime derogation**, in particular on the development of the energy system.

There is **no carbon price assumption** in the WEM scenario, even though the implementation of the CBAM Regulation is expected to function as a quasi carbon price on the goods produced in the relevant CBAM sectors and exported to the European Union.

In general, as the current data only relate to 2019, it is recommended to take into account the changes in the energy sector of more recent years (e.g. energy crisis and Clean Energy Package).

7. Best practices

As **regards general approach and methodology**, the draft NECP is structured in a clear manner, includes all main elements as prescribed by the Governance Regulation and provides an extensive overview of the legal framework, policy documents and the overall policy context of each dimension on national level. Policies and measures are listed and presented in a clear format. The use of WEM and WAM scenarios and projections until 2050 facilitates the understanding of the expected trends.

In the **energy efficiency** dimension, Serbia is currently the only Contracting Party that adopted the Long-Term Buildings Renovation Strategy and used it as an input for PaMs in the draft plan. The cumulative energy saving target was calculated according to Article 7 of Directive 2012/27/EU, and relevant measures to achieve that target were selected and elaborated.

In **gas**, the draft NECP acknowledges the need to have gas smart meters in place and equipped DSOs to operate the grid in an open market environment. It envisages the need to have regulation for the biomethane market.

Regarding **electricity**, the draft plan recognises the future important role of energy storage by defining one PaM related to this topic and by planning new pumped storage hydro power plant Bistrica. With a capacity of 600 MW this facility may have an important role in the integration of renewable energy sources not only in Serbia but in the region. The importance of flexibility the integration of renewables is also recognized and attempts are made to address these issues through policies and measures. Furthermore, the draft NECP acknowledges the need to further develop consumer-related measures for instance to introduce and facilitate Renewable Energy Communities, Citizen Energy Communities, and aggregators.

The **research and innovation** sector includes an ambitious set of measures. Those measures could be used as a guidance for other NECPs.