



RECOMMENDATIONS 2/2024

by the Energy Community Secretariat

on the draft integrated National Energy and Climate Plan of Ukraine



Energy Community Secretariat

Recommendations

on the draft integrated National Energy and Climate Plan of Ukraine 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 Ukraine to the Secretariat on 2 May 2024 in Ukrainian language².
- (3) Pursuant to Article 9 of the Governance Regulation the Secretariat is required to assess the draft NECPs and may issue recommendations. The Secretariat made a comprehensive assessment of the draft NECP of Ukraine, taking into consideration the relevant elements of the Governance Regulation, and taking into account extraordinary circumstances under which the draft has been prepared.
- (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

¹ Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action as adapted and adopted by Ministerial Council Decision 2021/14/MC-EnC

² On 7 May 2024, an informal English translation was submitted to the Secretariat, which contained substantially different modelling results and descriptive elements in its Chapter 5 compared to the original submission in particular related to the evolution of primary and final energy consumption, the share of various energy technologies therein, including the share of renewables in the latter and the projected level of GHG emissions in the energy, industrial processes and product use sectors.

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.

- (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 provide 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 shall 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 Ukraine are based on the assessment of Ukraine's draft NECP, which is published by the Secretariat together with the present Recommendation.
- (10) The ongoing full-scale military aggression of the Russian Federation against Ukraine poses several challenges to the development and to the assessment of the NECP but also turn it into a blueprint for economic recovery in line with the objectives of the Energy Union and the Green Deal. These extraordinary circumstances were recognized in the Memorandum of Understanding between the Energy Community Secretariat and the Government of Ukraine on Cooperation in the Reconstruction of the Energy Sector of Ukraine, signed in Kyiv on 14 March 2023. Based on the Memorandum, the Secretariat has established a dedicated framework for support and advice in the drafting process, particularly through the establishment of the High-Level Advisory Group with its role of involving international donors in the process.
- (11) Uncertainties related to economic and demographic data and further development as well as the significant disruptive changes to energy production assets and consumption across the entire value chain, residential housing, forests and agricultural sites and general

infrastructure especially for transport, render projections highly indicative with the need to be updated regularly.

- (12) The continuous destruction caused by the Russian military in Ukraine warrants a regular revision of the completeness and appropriateness of policies and measures (“PaMs”), which – if necessary – should be accompanied by the introduction of new PaMs and the removal of those which are no longer relevant.
- (13) Given those particularities, the present Recommendations focus on the appropriateness of the draft NECP for providing a clear vision and priorities regarding the green rebuilding of Ukraine, fully aligning with the “Build Back Better” and “Do No Significant Harm” principles.
- (14) Considering that the projections and modelling results reflect the current state of play, which keeps being substantially affected as a result of the ongoing attacks, only the trends and the visible priorities stemming from the modelling results will be assessed, without elaborating on the details.
- (15) The drafting of the present NECP – in spite of the challenges – is an important step in providing clarity for the future path Ukraine intends to take in its energy and climate policy informing the green reconstruction and recovery of Ukraine. The associated services and experts of Ukraine are highly commended for their achievement to develop and submit the draft NECP to the Secretariat.

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

On procedural aspects:

- (1) Include a detailed description of all consultation(s) carried out both on the draft NECP and the Strategic Environmental Assessment (“SEA”) report targeting the authorities and the general public as well as a summary of the feedback received and how it was taken into account. Also, describe which neighbouring countries were consulted on the draft NECP, including a summary of the feedback received from them, and how that was taken into account in the final NECP. Identify in the SEA report quantified and qualified impacts for each PaM individually to make a clear connection to the PaMs in the draft NECP and include more elements from the NECP that could have transboundary impacts.
- (2) Provide a description of actions aimed to foster regional cooperation and integration with the European Union, in particular in the areas of internal energy market and energy security in the gas and electricity sectors in addition to the existing description of cross-border projects.

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- (3) Establish an effective framework for the implementation and coordination of necessary updates linked to the function of the NECP as the blueprint for the green reconstruction of Ukraine, encompassing the roles of national authorities, the Energy Community Secretariat, other international stakeholders, and the expert community. This framework should:
- a. set up a robust mechanism enabling the continuous monitoring and assessment of PaMs within the Ukrainian government and in coordination with the Energy Community Secretariat, focusing on capacity building for reporting entities and continued sharing of information with the EU institutions and international stakeholders;
 - b. institutionalise the dialogue with the Energy Community Secretariat, EU institutions and international stakeholders providing a platform to discuss and address the strategic dilemmas and policy questions outlined in the Annex of the present Recommendations;
 - c. prioritize policies and measures by identifying the most urgent reform measures and projects to be supported and implemented by donors and private investors;
 - d. assist Ukrainian authorities in continuously designing and implementing necessary updates, as identified in these Recommendations, including considerations resulting from the constantly changing circumstances that determine the quantitative and qualitative assessments underpinning the NECP;
 - e. establish capabilities to ensure that a revision and an update of the modelling scenarios and projections can take place for the energy; IPPU; agriculture; forestry, land use (“AFOLU”) and waste sectors at least once every calendar year.

On substance:

- (4) **Regarding the general methodology and approach**, provide a description of the modelling methodology and the categorisation of sectors, which is currently not in line with the IPCC categories. Clarify to what extent the presented technological costs and lifetime (Table 4.4) were used in the modelling calculations.
- (5) Provide the assumptions used in the modelling for housing structure (and related assumptions such as number of households, household size) and for transport use (passenger km, freight km, remarks on the modal split of transport).
- (6) Add the projections for the greenhouse gas (“GHG”) emission trajectories for the land use and land use change (“LULUCF”) sector in Chapter 5.
- (7) Use the headings and terminology in line with the Governance Regulation as adapted in Energy Community and applicable to Contracting Parties.
- (8) Formulate PaMs in a standardised manner across all dimensions, including more concrete information with detailed descriptions, precise and impactful actions, and clear milestones. This is especially important in the dimensions addressing the reduction of GHG emissions, renewable energy, energy efficiency, energy security and the internal energy market.

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- Indicate the type of policy or action, the investment needs (and sources, where available) and the anticipated impact in the form of GHG emissions reduction for all PaMs.
- (9) Include more detailed quantified information (GVA broken down by sub-sectors) to illustrate how the various industrial sectors are expected to develop in the examined timeframe and thus provide a strategic perspective for these sub-sectors.
 - (10) Related to **decarbonisation and GHG emission reduction**, strongly reconsider the plans for maintaining the proposed share of natural gas and coal in the primary and final energy consumption up till 2030 and beyond. Projections indicate a failure to achieve net-zero GHG emissions by 2050, and the success of the planned 2035 coal phase-out in electricity generation cannot be confirmed based on the information provided in Chapter 5 of the draft NECP. Add concrete PaMs describing the actions to be taken until 2030 to facilitate the successful completion of the coal phase-out in the electricity sector by 2035. Take account of the dramatic reduction of GHG emissions by the attacks against the large emitting sectors and prioritize the introduction of low-carbon or carbon neutral technologies both in electricity generation and in the industry sectors for their replacement and further evolution using low- and carbon-free technologies.
 - (11) Reflect the investment needs related to the planned coal phase-out in electricity by 2035, as the current values show minimal investments until 2035 in both scenarios especially compared to other sectors such as transport, buildings or industry.
 - (12) Integrate the just transition dimension deeper into the NECP, going beyond providing a reference in only one PaM. Consider extending the just transition concept – currently limited only to coal regions – to regions using additional criteria, such as the existence of GHG emission- and energy intensive industry and/or regions that are expected to face challenges and require managed change as a result of war-inflicted damage and the green transition. Provide more information in the PaM on just transition regarding the concrete measures to be taken and how their impacts will be monitored, with a participation of local and regional authorities.
 - (13) Add PaMs related to all economic sectors, including AFOLU and waste in Chapter 2 of the NECP, with a detailed description of the planned activities.
 - (14) Clarify the planned design and the implementation details of the introduction of an Emissions Trading Scheme (“ETS”) and a carbon tax, including any complementarities between these PaMs. In the PaM related to ETS, take advantage of regional cooperation within the Energy Community, in particular with Moldova, in view of the European Union’s [Carbon Border Adjustment Mechanism](#)³ (“CBAM”).
 - (15) Include a PaM addressing the need to carry out a critical review of post-war restoration needs of GHG-emission intensive electricity generation – in particular those falling in the opt-out category – and industrial facilities including a cost-benefit analysis of the restoration options including both internal and external costs of carbon emissions.

³ Regulation (EU) 2023/956 on establishing a carbon border adjustment mechanism

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- (16) In the area of **decarbonisation and renewable energy**, consider a substantially more ambitious rollout of decentralised renewable technologies such as rooftop solar in combination with creating an enabling framework to promote and facilitate the development of renewable energy communities in accordance with Article 22 of the [Energy Community Renewable Energy Directive](#)⁴ (“Renewables Directive”) to facilitate the achievement of climate neutrality by 2050 and increasing energy security amid war via a robust decentralised system of generation assets.
 - (17) Establish a robust and reliable schedule on the allocation of support to renewable energy through auctions for market-based support – including estimated timing and anticipated capacities – over an upcoming period of at least five years in line with Article 6 of the Renewables Directive.
 - (18) Consider institutionalising the multi-stakeholder post-mediation framework operated by the Energy Community Secretariat as a platform to develop solutions for all administrative, regulatory and financial obstacles to creating an investment-friendly environment for existing and new renewable energy projects and link it to electricity market reforms.
 - (19) Include a PaM aiming to develop a framework to address sustainability and greenhouse gas emissions saving criteria for biofuels, bioliquids and biomass fuels.
 - (20) Add more PaMs for increasing the share of renewables in heating and cooling in order to achieve the respective target in this area.
 - (21) Elaborate more on the details of the structure and funding of the green electricity buyback programme executed via a Guaranteed Buyer.
 - (22) Integrate the updated content of the National Renewable Action Plan and National Energy Efficiency Action Plan, enabling Ukraine to achieve its 2030 renewable energy and energy efficiency targets defined by the Energy Community Ministerial Council Decision no. 2022/02/MC-EnC in the updated NECP.
 - (23) In **energy efficiency**, provide more detailed information required by Annex III of the Governance Regulation related to the methodology for the operation of the energy efficiency obligation schemes and alternative policy measures referred to in Articles 7, 7a, 7b and 20(6) of the Energy Efficiency Directive.
 - (24) Prioritize the accelerated development and adoption of a comprehensive assessment of the potential for efficient heating and cooling and outline the main milestones for delivering this assessment in the NECP.
 - (25) Clarify how the overall stable level of thermal energy (heat) production relates to the stagnant share of heat in final energy consumption and to the overall impact (temperature improvement in buildings and input of heat for industrial processes), as it is not clear from

⁴ Directive (EU) 2018/2001 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.

- the provided information how the increase in demand relates to the improvements in efficiency (including the reduction of losses).
- (26) Define the ambition with regard to green reconstruction of the building stock based on the latest developments and high energy efficiency standards. Explain why the final energy consumption of the residential sector shows only a limited reduction until 2050 even in the policy scenario, despite the significant share of destruction of the building stock.
 - (27) Introduce PaMs for the creation of the independent regulatory framework for district heating tariffs that ensures cost-reflectiveness, incentivise the investments in energy efficiency measures and renewable energy sources, and ensures the proper monitoring.
 - (28) Clarify how the deployment of small-scale cogeneration plants is planned to be incentivised. Provide progress indicators and implementation details related to the modernisation of district heating plants.
 - (29) Concerning **energy security**, establish consistency and a stronger integration of PaMs in this dimension with those in the Internal Energy Market dimension both for electricity and gas.
 - (30) Aim to fully implement the emergency oil stocks obligations in line with Ukraine's obligations under the Energy Community Treaty and ahead of the indicated schedule of 2032/2033.
 - (31) Update the projections and targets related to available capacities to reflect the latest state of the Ukrainian power system after the Russian attacks on energy infrastructure.
 - (32) Support increased system flexibility via the introduction of flexibility services for DSOs and carry out an assessment of the link between the development of distributed generation and active customers and the flexibility services on distribution level.
 - (33) Prioritize the adoption and implementation of the Energy Community energy security and infrastructure legislation in all relevant sectors.
 - (34) Assess the potential for using biogas in electricity generation and the implications of this use on the availability of biomethane. Provide incentives and complete the establishment of the register of renewable gases production in compliance with the sustainability criteria of the Renewables Directive.
 - (35) Elaborate on how the hydrogen production potential will be developed in the coming years including the areas, not affected by the ongoing military aggression of Russia. Specify what are investment costs and timelines and locations of the hydrogen production and infrastructure projects, especially those that are supposed to be completed by 2035 as indicated in the draft NECP.
 - (36) Clarify how the PaMs related to energy security have been consulted with relevant neighbouring countries.
 - (37) Elaborate on the plans for building new conventional nuclear power plants, including an assessment of sourcing spare parts, maintenance services, ensuring qualified human

resources as well as long-term storage and disposal solutions for spent nuclear fuel and radioactive waste. Provide more information related to the deployment of small modular reactors and using nuclear energy for hydrogen production⁵.

- (38) Regarding the **internal energy market**, outline a vision of how the issue of debts and low financial liquidity in the electricity and gas markets are going to be solved, including retail price reform.
- (39) Add PaMs indicating how Ukraine is planning to transpose and implement in full the [Electricity Integration Package](#)⁶ enabling the achievement of market coupling and balancing market integration in line with Ukraine's obligations under the Energy Community Treaty. In particular, define PaMs targeted at establishing competitive and well-functioning wholesale and retail electricity markets with exact timelines and at operationalising market coupling with the EU.
- (40) Ensure that no cross-subsidisation takes place by reviewing all relevant PaMs, such as "PM_IME_WAM_06 Tenders for the construction of generating capacity and implementation of demand response measures".
- (41) Prioritize a more efficient use of already existing electricity infrastructure and include measures to increase available cross-zonal capacity for existing interconnectors up to the legally binding 70% target as stipulated in [Regulation on the internal market for electricity](#)⁷ ("Electricity Regulation") and review investments in new cross-border incremental capacity in light of the remaining needs after the 70% has been met.
- (42) Elaborate how compliance with the rules related to the use of congestion income in electricity will be ensured.
- (43) Carry out and publish a detailed assessment of the investment needs for attaining self-sufficiency and developing export potential via increased domestic natural gas production and existing gas transmission infrastructure. Factor in the anticipated demand in targeted export markets and the achievable revenue in light of the increasing costs for importers stemming from carbon pricing. Consider that investments in fossil fuel infrastructure and production capacities are likely to be subject to a shorter timeframe for return on investments due to measures taken to reach climate neutrality by 2050.

⁵ This Recommendation is based on guidance from the European Commission, as the EU's nuclear policy acquis is not encompassed by the Energy Community Treaty.

⁶ 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

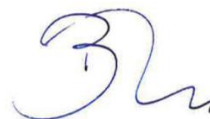
⁷ Regulation (EU) 2019/943 on the internal market for electricity as adapted and adopted by Ministerial Council Decision 2022/03/MC-EnC

- (44) Assess the decommissioning and maintenance needs and identify critical and non-critical elements (as well as those needed for repurposing) of the entire natural gas infrastructure, in light of Ukraine's transformation from a dominant transit country for Russian gas to a target market with cross-border flows triggered by arbitrage opportunities in the integrated European market.
- (45) Add a PaM on the development of a roadmap addressing the gradual liberalisation of the gas market and the implementation of related legislation, including short-term steps such as the development of necessary spot products on a gas trading platform(s) and mid-term steps such as developing medium and long-term products at the trading platforms, increasing the release programme share and increasing electricity and heat tariffs.
- (46) Envisage a methodology for assessing the number of households in energy poverty and set a national target for its reduction.
- (47) Update PaMs addressing the internal energy market dimension with the correct and relevant legal base as well as all the relevant implementing entities. Reconsider and adjust PaMs dated from the time before martial law.
- (48) Include a PaM related to the accelerated harmonization of the Ukrainian tax legislation in order to enable cross-border trade of energy.
- (49) Add a clear timeline and an investment plan to ensure that the necessary financial resources are available to Energoatom for a timely decommissioning of nuclear power plants.
- (50) Better reflect the need for coordination with Moldova in areas regarding inter alia electricity and gas market integration, activities of system operators and on carbon pricing.
- (51) In the area of **research, innovation and competitiveness**, set measurable targets such as inclusion of research, innovation and competitiveness in the state budget. Include industry-related PaMs in this dimension.

Vienna, 5 June 2024



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ANNEX




To the Energy Community Secretariat

Recommendations

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

Detailed assessment of the draft integrated National Energy and Climate Plan of Ukraine

Overview of the key objectives and targets

Target/objective		Energy Community 2030 target for Ukraine	Value in the draft NECP of Ukraine
	GHG emissions reduction of total emissions in the policy scenario compared to 1990 levels	- 65% (309 MtCO _{2eq} of total emissions) compared to 1990 levels	- 65% (309 MtCO _{2eq} of total emissions) compared to 1990 levels
	Share of renewable energy in gross final energy consumption	27.0%	27.0% ⁸
	Energy efficiency	Primary energy consumption: 91.47 Mtoe	Primary energy consumption: 72.22 Mtoe ⁹
		Final energy consumption: 50.45 Mtoe	Final energy consumption: 42.17 Mtoe ¹⁰

⁸ Even though the 27% target is referred to as part of the draft NREAP in Chapter 2, it is indicated that the NREAP was drafted before the Russian aggression, and that it is planned to be revised by the Ministry of Energy. In Chapter 4 and 5 the 27% target is already considered as “extremely ambitious” and the projections on Figure 5.5 indicate the share of renewable in gross final energy consumption would amount to cca. 21% by 2030 in the WAM scenario.

⁹ The projections in Chapter 5, Figure 5.7 show primary energy consumption falling even below 70 Mtoe.

¹⁰ The projections in Chapter 5, Figure 5.8 show final energy consumption falling even below 40 Mtoe.

Strategic dilemmas and policy questions to be addressed in the implementation and update of the NECP of Ukraine

The drafting of the Ukrainian NECP has been taking place under extraordinary circumstances with ongoing daily attacks by the Russian aggressor targeting the energy system. Such conditions significantly change the basic assumptions and starting point for the projections in the draft NECP, and they also substantially alter the policy situation compared to the baseline which was included in the draft Plan. The speed and the nature of the changes in Ukraine's energy sector and in the wider economy influencing all other areas of the NECP – such as climate, transport, AFOLU, waste, industry and research, innovation and competitiveness – warrant that, as soon as circumstances allow, the Ukrainian government pursues gradually defining answers to the following strategic questions in the next phase, i.e. in the implementation and review and update of the NECP:

1. How can the dual challenge of ensuring short-term restoration and business continuity in the energy and industrial sectors be consolidated with the mid- and long-term plan of decarbonisation and the introduction of the latest low-carbon technologies? How can more realistic carbon price assumptions facilitate the green rebuilding?
2. How can the share of zero- and low-carbon capacities be maximised when replacing destroyed electricity generation capacities and thus creating a highly decentralised energy system while keeping system flexibility?
3. Given the legacy and current issues pertaining to renewable sector governance, how can an investment climate be created (by means of domestic reforms and international support) which allows the de-risking of large-scale renewable energy sector already under the circumstances of war and thereafter?
4. What is the foreseen role of natural gas and the natural gas infrastructure in the primary energy and electricity generation mix, considering climate mitigation and energy security aspects and the anticipated period for realising the return on new investments?
5. Is the capability of producing biomethane realistic to maintain the current level of natural gas infrastructure even if repurposing takes place?
6. What role should domestic energy and GHG emission intensive industries have in the green rebuilding of Ukraine? How and using which technology should the destroyed production capacities be recovered? What is the impact of carbon pricing and in particular CBAM on the recovery of these sectors?
7. What infrastructure and policy decisions are necessary to create a low-carbon transport network and solutions considering the indicated massive scale of investment needs outlined in the draft NECP?
8. How does the environmental damage influence Ukraine's GHG sink capacities and what is the realistic development trajectory of sink capacities?
9. How can the demolished building stock be rebuilt using the best available technologies in order to create zero- or near zero-emission buildings?
10. How to ensure that when implementing PaMs in the strategic sectors – such as hydrogen or green steel – the discussion is closely linked with the development of the regulatory framework and incentives?