Territorial and Distributional Aspects of Just Transition in the preliminary version of the 2030 National Energy and Climate Plan

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I. Introduction and purpose of the document

The National Energy and Climate Plan (NECP) is a key document for both the Polish energy sector and other sectors of the economy. This is a document required to be published in accordance with Regulation (EU) 2018/1999 of the European Parliament and of the Council of December 11, 2018 on Energy Union Governance and Climate Measure.

Poland, like other member states, has updated its NECP to align with more ambitious climate targets under European climate law and the "Fit for 55" package. However, it was not without complications. Draft updates were to be submitted to the European Commission (EC) by the end of June 2023. Poland submitted the plan with a significant delay only on March 1, 2024¹. The released version does not include an appendix with a WAM (with additional measures) scenario, which is supposed to take into account all "Fit for 55" objectives and commitments. However, the publication of the plan even in an incomplete version was necessary to avoid penalties resulting from violation procedures that were initiated due to the delays. Moreover, consultations for the NECP are still in the planning stages.

The final updated versions of the NECP should be made available by the end of June 2024. By then, the documents should include amendments made by national governments based on the feedback and recommendations provided by the EC, and take into account the results of an extensive dialog conducted with the stakeholders and broader public. National climate and energy plans are a key tool for integrating national efforts into a broader European context, supporting sustainable development and ensuring a coordinated approach to the challenges of climate change and the transition towards a climate-neutral economy. The plans also provide opportunities to include measures that encourage innovation with regard to clean energy technologies and practices, supporting socioeconomic development and competitiveness.

The purpose of this paper is to provide an assessment of the just transition aspects contained in the draft updated NECP developed by Poland. As a country with a very significant dependence on coal, Poland faces many transition challenges and may face numerous and often more acute problems than other countries less dependent on fossil fuels.

The assessment focuses on both the territorial and distributional aspects of just transition, which has been defined as a process that maximizes the opportunities arising from the transition to climate neutrality, while mitigating the challenges and minimizing the negative impacts on the most affected regional and local communities and the most vulnerable – vulnerable consumers.

This document summarizes the extent to which Poland has implemented the principles of a just transition in its draft updated National Energy and Climate Plan (uNECP) and identifies recommendations to be implemented in the final version of the NECP.

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II. Methodology and development of evaluation criteria

The study follows a comprehensive evaluation methodology developed by the project team². It includes a checklist of criteria that the updated national measure plans should meet if they are to be effective in addressing the challenges of a just transition.

The methodology takes into account two fundamental dimensions of a just transition: territorial and distributional, which are further divided into sets of criteria and research questions covering their most important aspects.

2 HTTPS://IREFORM.EU/
NASZE-PROJEKTY/TERYTORIALNEI-DYSTRYBUCYJNE-ASPEKTYSPRAWIEDLIWEJ-TRANSFORMACJIW-ZAKTUALIZOWANYCHKRAJOWYCH-PLANACH-NA-RZECZENERGIII-KLIMATU/

Territorial aspects	1. Ambitions and objectives					
	2. Supporting local economies and communities					
	3. Local sources of clean energy and decarbonized industry branches					
	4. Inclusivity of regional transition					
	5. Regional just transition governance					
Distributional aspects	6. General assessment of distributional impacts					
	7. Energy poverty					
	8. Transport poverty					
	9. Financial needs and sources of funding					
	10. Tax, insurance and social security policies					
	11. Working conditions and acquisition of new professional qualifications					
	12. Stakeholder involvement and public consultations					

Each of these criteria can be evaluated on the following scale:



Each aspect has its own more detailed description, which specifies the requirements that must be met in order to obtain a certain number of points. They are described in more detail in the following chapters.

In the following sections, we present an assessment of each aspect, along with the justification and source (e.g., page number of the document where specific information can be found). In addition, it highlighted recommendations for potential improvements in the final version of the updated National Energy and Climate Plan.

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III. Territorial aspects

Territorial aspects of a just transition focus on the impact of the transition on regions, communities and local economies, taking into account those who are particularly vulnerable to possible negative impacts resulting from the EU's new energy and climate policy. In this section, we focus primarily on evaluating elements of the NECP that support local communities in the green transition process, provide incentives for local decarbonization, integrated regional transition, and governance frameworks and tools that foster just transition. The evaluation also examined the extent to which NECP projects are consistent with the Territorial Just Transition Plans (TJTP) and guide measures at the regional level. Territorial aspects are considered only for the territories that have been identified by national governments as most affected by the decarbonization process.

In Poland, 5 Territorial Just Transition Plans have been adopted³ for the following regions:

- Eastern Greater Poland,
- Wałbrzych subregion,
- Upper Silesia,
- Western Lesser Poland,
- Bełchatów region.

Unfortunately, they were not highlighted in the uNECP, which is worth correcting in the final version of the plan. Currently, they are generally included in the uNECP as "coal regions".

Aspect 1. Ambitions and objectives

Specific objectives are the basis of climate policies and a condition that must be met for other components of a policy to play their roles. The ambition level of objectives naturally influences what measures shall be included to meet them, and thus whether the policy shall actually respond to the problems it seeks to solve. It is also crucial that ambitious objectives (and timetables for achieving them) are set in all key subcategories such as departure from coal, crude oil, and natural gas, for example, so that a full-scale evaluation can be made of the progress that a given policy shall bring. These aspects are the focus of the first category from this study. It examines the overall level of ambitions reflected in the uNECP, including their consistency with the TJTP and the framework for transitioning away from fossil fuels, including coal (separately for the power sector and the overall economy, as in practice measures in these areas are often developed separately by governments), crude oil and gas. Time frames are also evaluated in terms of the level of ambition.

Before proceeding with the assessment, however, it is worth briefly discussing the challenges faced by the regions identified. They affect the ambitions and objectives adopted.

Eastern Greater Poland is a region very much associated with the mining of lignite and the generation of energy from it. It covers the city of Konin and the counties of Konin, Kolsk,

3 HTTPS://POLAND.
REPRESENTATION.EC.EUROPA.EU/
NEWS/385-MLD-EURO-DLA-PIECIUPOLSKICH-REGIONOW-2022-12-05 PL

Słupca, and Turek. This part of Greater Poland shows the greatest socioeconomic dependence on fossil fuel exploitation and high-emission processes, but according to the TJTP, coal exploitation and its use in electricity and heating are planned to cease by 2030. The climate policy objective for Eastern Greater Poland (EGP) is its climate neutrality in 2040 – a decade earlier than the EU target. Eastern Greater Poland is characterized by one of the largest areas of devastated land in the country, at nearly 7,000 hectares.

The Wałbrzych subregion is a part of the Lower Silesian Voivodeship that includes the counties of Wałbrzych with the city of Walbrzych, Świdnice, Dzierżoniów, Ząbkowice and Kłodzko with the city of Nowa Ruda. The TJTP also covers the county of Kamienna Góra, which has been affected by coal activities in the neighboring subregion. The territory of the Wałbrzych subregion includes the Lower Silesian Coal Basin, where mines were closed down at the turn of the 20th century due to difficult mining conditions. The process was carried out haphazardly and without proper financial support, the effects of which are evident in the socio-economic and spatial landscape of the area to date. The objective in the subregion is therefore to eliminate the negative effects of the past unfinished coal transition.

The Silesian Voivodeship is the largest mining region in the European Union, whose economy is largely based on fossil fuels and emission-intensive industries. The transition process in the territory of the Silesian Voivodeship covered 7 subregions: the Katowice, Sosnowiec, Tychy, Bytom, Gliwice, Rybnik and Bielsko-Biała subregions. In that region, the first phase of the coal mining sector decommissioning is planned by 2030. The closing of mines is planned by 2049, according to the Social Contract signed in 2021. One of the biggest challenges in the region shall be a reduction in jobs in the mining sector itself and in mining-related companies. The Silesian Voivodeship has the highest percentage of degraded and devastated areas in need of rehabilitation and revitalization in the country. Coal mining has also led to surface water pollution and disruptions in water management.

The Oświęcim subregion in the Lesser Poland Voivodeship, which consists of the counties of Chrzanów, Olkusz, Oświęcim and Wadowice, is customarily referred to as Western Lesser Poland. It is a coal region that is part of the Upper Silesian Coal Basin. Due to its close proximity, Silesian transition shall affect the commuting workers of the Lesser Poland and SMEs in supply chains dependent on Silesian coal mines. There is even talk of a "Silesian shadow effect" and a "ripple effect from Silesia".

Thirty-five municipalities in the Piotrków and Sieradz subregions were identified as those most affected by the negative effects of the transition in Łódź Voivodeship. The lignite-fired Bełchatów Power Plant is the largest emitter of $\mathrm{CO_2}$ in absolute values throughout the European Union. The coal mined for the power plant is obtained from the largest pit in Poland and one of the largest in Europe. However, the power plant is crucial to Poland's electricity production, so its phase-out poses a significant challenge to Poland's energy security. Mining in the Bełchatów Field is scheduled to be completed by 2028, and one of the power plant 380 MW units shall be reported for shutdown by 2030, marking a milestone in the area's transition. The Łódź plan is currently being renegotiated with greater consideration for RES development and power generation capacity replacement.

1. Ambitions and objectives

1.1 Raise the level of ambition and avoid limiting targets in Territorial Just Transition Plans

no mention of objectives set in the TJTP

uNECP refers to TJTP only once:

Support for the just transition of coal regions shall be provided through the application of territorial plans for just transition. (P. 92)

TJTPs mention mine closures and social contracts, which is consistent with the uNECP.

The individual TJTPs also contain the following mentions of consistency with the NECP:

■ Western Lesser Poland (P. 19 OF THE TJTP):

The operations planned in the TJTP WLP are fully in line with the objectives set forth in the following documents: 4) National Energy and Climate Plan for the years 2021–2030;

■ Łódź Voivodeship (P. 26 OF THE TJTP):

The measures envisaged under the Plan are consistent with the assumptions and objectives of Poland's energy and climate policy contained in the National Energy and Climate Plan 2021–2030;

■ Silesian Voivodeship (P. 5 OF THE TJTP):

The measures in the Silesian Voivodeship planned under the TJTP shall contribute to the objectives from the national documents;

 Lower Silesian Voivodeship – Wałbrzych subregion (P. 16 OF THE TITP):

As part of the just transition of the Wałbrzych subregion, measures shall be undertaken that relate to the implementation of the National Energy and Climate Plan 2021–2030;

■ Eastern Greater Poland (P. 3 OF THE TJTP):

The measures taken shall aim to achieve more ambitious objectives than those set out in the NECP and PEP 2040.

The WAM scenario, planned for publication, assumes an even greater acceleration of decarbonization and entry onto a climate-neutral pathway, taking into account the specific starting point and national circumstances. It is also to take into account all the objectives and commitments of "Fit for 55".

The TJTPs refer to the 2019 document, and the draft uNECP assumes a faster decline in coal demand. This is worth emphasizing in the final version of the NECP.

1.2 Transparent and sciencebased time schedule for the departure from coal in the power industry

A time schedule for the departure from coal in the power industry is available, however, there is no indication of the date when the transition shall take place completely.

The WEM scenario, which is attached as Appendix 1 to uNECP, is the baseline scenario for the market-technical transition. It assumes a reduction in the use of coal in the power industry in the coming years. Further acceleration of the departure from coal is declared to take place after 2030.

The largest number of permanent shutdowns refers to coalfired units. According to the schedule presented, more than 8 GW of coal-fired power plants and thermal power plants shall be shut down between 2022 and 2030 (further shutdowns shall occur after 2030). (P. 15)

The figures are also indicated in tables including a year-byvear breakdown:

- Table 3.8. Fuel input for electricity and heat generation [ktoe];
- Table 4.2. Domestic production by fuel type [ktoe] WEM scenario.

(...) the role of system units powered by coal fuels shall be significantly reduced – their share in the net installed capacity shall be reduced to about 70% in 2020 up to 30% in 2030. (P. 79 OF APPENDIX 1.)

However, the importance of energy security is emphasized.

At least until 2030, coal sources shall serve as a technology to ensure a stable energy supply, although the energy generated by these sources shall no longer be dominant. Maintaining coal capacity until sufficient development of other solutions to ensure stability of supply is essential for the development of RES, due to the real inability of alternatives to meet the needs of the NPS. (P. 80 OF APPENDIX 1)

The yet-to-be-published WAM Scenario (Appendix 2), or the "Fit for 55" scenario, which assumes the implementation of new energy and climate policy instruments to accelerate decarbonization and embark on a climate-neutral pathway with a specific starting point and national circumstances, is likely to include more ambitious objectives.

uNECP places a greater emphasis on the departure from coal than the 2019 NECP. However, it is not sufficient. Available analyses indicate that the proportion of coal in the Polish power sector after 2040 may already be marginal.

For example, the report POLAND NET-ZERO 2050: Transition of the energy sector of Poland and the EU until 2050⁴ indicates that (...) a very rapid shift away from coal fuels in electricity generation is evident in all scenarios considered. In the 2040 perspective, production from coal in the generation structure becomes marginal. Only in the BASE scenario do the results of the analyses indicate a slightly higher production of electricity from coal-fired units (about 8 TWh), as the lower cost of purchasing emission allowances in the EU ETS allows a small portion of production to remain on coal. However, also in this scenario coal is completely replaced by other energy carriers in the next decade.

Moreover, the fact that the EU is aiming for a 90–95% net reduction in emissions by 2040^5 automatically translates into abandoning the use of coal in power generation at that time or using CCS technology. This approach is not evident in the uNECP.

The final version of the NECP should be more ambitious in its approach to the departure from coal in the power industry, which would be in line with available scientific knowledge, and, above all, should include a definitive date for the departure from coal in the power industry.

1.3 Transparent and sciencebased time schedule for the departure from coal across the economy a time schedule for the departure from coal in heat engineering, the closure of the last mine, and a time schedule for the departure from coal in final energy consumption are indicated. However, there is no indication of a date for the final departure from coal across the economy

Poland has set a objective of phasing out coal from individual household heating by 2040, and in urban areas even by 2030. (P. 23)

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- 5 HTTPS://CLIMATE-ADVISORY-BOARD.EUROPA.EU/ REPORTS-AND-PUBLICATIONS/ SCIENTIFIC-ADVICE-FOR-THE-DETERMINATION-OF-AN-EU-WIDE-2040

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The WEM scenario, specifically *Table 3.3 – Final Energy Consumption by Fuel and Carrier* [ktoe] (P. 56 OF APPENDIX 1.) indicates a reduction in coal use in future years.

The yet-to-be-published WAM Scenario is likely to include more ambitious objectives.

The date for the end of mining is indicated in the uNECP. According to the social contract, the last mine shall cease production no later than 2049. (P. 91)

The social contract is an innovation compared to the 2019 version of the NECP. uNECP generally places a greater emphasis on the departure from coal than the 2019 NECP.

The final version of the NECP should include a time schedule for the departure from coal for the entire Polish economy.

1.4 A clear and sciencebased time schedule for the departure from crude oil

no mention of a time schedule for the departure from natural gas

The Plan includes a declaration that (...) The objective by 2030 is to keep domestic natural gas production stable at a constant level (P. 66), which shall require exploration and exploitation of new deposits and increased mining efficiency (IBID.). The presented scenario for the development of domestic production and diversification of natural gas supplies until 2030 does not include any plans for the further prospect of the departure from the raw material.

Natural gas accounts for a significant portion of the country's primary energy demand coverage, and demand for this raw material shall not decline earlier than in 2030 – that's when demand is expected to peak. (P. 64)

A reduction in gas use is planned after 2030, but no time schedule has been indicated to indicate this.

The WEM scenario mentions that (...) natural gas in Poland shall play a role as a transition fuel in the energy transition, but only in the initial 10–15 year period. Later, it shall be gradually replaced. (P. 75 OF APPENDIX 1.)

The WAM scenario has not yet been published, which may be more ambitious in this context.

The final version of the NECP should include a transparent and science-based time schedule for the departure from natural gas.

1.5 A transparent and sciencebased time schedule for the departure from crude oil

no mention of a time schedule for the departure from crude oil

Oil is a strategically important energy raw material for the national economy, and global demand for that raw material shall not decline before 2030 – that's when demand is expected to peak. (P. 69)

The Plan includes an objective for 2030 to further ensure the stability of crude oil supply by sea to domestic and foreign refineries, while expanding transmission and handling infrastructure (P. 69). Moreover, it was mentioned that after 2030, crude oil shall still play a key role in the transportation sector, and its role in the petrochemical sector shall also grow (IBID.). These objectives and projections go in the opposite direction of the departure from the crude oil use.

The WAM scenario has not yet been published, which may be more ambitious in this context.

The final version of the NECP should include a transparent and science-based time schedule for the departure from crude oil.

1.6 A transparent and sciencebased time schedule for industry transition to net-zero emissions (transformation or closure of industrial plants that emit greenhouse gases due to fossil fuel use or industrial processes) no mention of a time schedule for the industry transition to net-zero emissions

The plan mentions the need to reduce industrial emissions and emphasizes the key role of improving energy efficiency and increasing the share of renewables in the process. However, it contains neither a time schedule nor even a general objective for the industry transition to net-zero emissions.

Moreover, the uNECP includes the following forecast: in 2030, Poland can achieve a 9% reduction in emissions in the industrial sector compared to 1990 level (P. 36), which deviates significantly, for example, from the EU's "Fit for 55" objective, which calls for economy-wide emission reductions of at least 55% by 2030.

However, it is worth mentioning that the transition to a climate-neutral economy shall be considered in Poland. It is mentioned in:

- Measure 132. A gradual increase in budget expenditures for R&D (research and development), including in areas conducive to the transition to a climate-neutral economy.
- Measure 133. Implementation of strategic research and development programs with themes that foster the transition to a climate-neutral economy.
- Measure 134. National Science Policy Update.

The final version of the NECP must include a clear and science-based time schedule for the industry transition to net-zero emissions.

Aspect 2. Supporting local economies and communities

The energy transition most severely affects regions whose local economies are based on the fossil fuel sector (in the Polish context, particularly, on the coal industry). If the special situation of these regions is not included in the climate policy at the national level, they will become in danger of extremely negative socio-economic consequences. In addition to employment, these regions often rely on oil companies as a source of investment and funding for activities ranging from infrastructure to student scholarships, which have a significant impact on residents' standard of living. A just transition requires multifaceted support for these regions in the process of detaching from dependence on the fuel sector and finding new opportunities for economic development. This support should also take into account the aspect of preserving the region's traditional identity despite the transformation of local industry, as well as the aspect of redeveloping the environment affected by past mining.

All of the identified regions will require support from local economies and communities to implement the energy transition. Each region faces rising unemployment and the problem will grow as mines and power plants close. The TJTPs also indicate that women are more likely to be affected by the unemployment problem and the relatively high proportion of young people among the unemployed is pointed out as well. What is more, as highlighted in the TJTP for Silesia, mining damage, land degradation, and developments related to coal mining also translate into the perception of regions as problem areas. All regions therefore assume support for job creation and improvement of qualifications, as well as increase of attractiveness as places to live to prevent depopulation. Support offered to entrepreneurs is also to be prioritized.

The initiatives outlined in the following assessment are crucial to strengthening and supporting local economies in former mining regions. These are not specified in the updated

NECP, but the document refers to territorial plans for just transition. In the final version of the plan, it is worth showing more specific measures, which will facilitate the exchange of information both within the country and with other countries.

2.Supporting local economies and communities

2.1 Policies and measures to support local economies by stimulating their endogenous growth potential, including promoting entrepreneurship, supporting MSMEs, and social economy overview of several policies or measures in the area, but without providing some important details.

Updated NECP refers to TJTP.

Support for the just transition of coal regions will be provided through the application of Territorial Plans for Just Transition, with a special role for the Just Transition Fund. The measures will focus on providing social protection for workers and creating new regional specializations and sustainable workplaces, but above all, they will concentrate on creating new industrial sectors that jointly participate in the sector transformation. (P. 92)

In this regard, two measures are distinguished:

- Measure 130. Support for coal regions.
- Measure 144. Initial and continuing training of human resources for the economy in the field of climate and energy transition.

In addition, the TJTP mentions specific objectives such as:

- Western Lesser Poland (P. 22 OF THE TJTP):
 Specific objective 2. Stable and diversified low-carbon economy with minimized environmental pressure –
 2.1. Development of local businesses;
- Łódź Voivodeship (P. 9 OF THE TJTP):
 Objective 1. A competitive, innovative, and climate-neutral economy based on smart growth, diversified industry, modern technology, and attractive jobs;
- Silesian Voivodeship (P. 36 OF THE TJTP):
 Operational objective: Strong entrepreneurship in mining subregions;
- Lower Silesian Voivodeship Wałbrzych subregion (P. 13 OF THE TJTP):
 - Economic objective: economic activation and strengthening of competitiveness by utilizing the endogenous potential of the subregion in a manner ensuring that the goals of reduction and low emission, and decarbonization are achieved;
- Eastern Greater Poland (P. 10 OF THE TITP):
 Building a zero-emission and dynamic circular economy.

It would be useful to add information about the funds provided for the listed measures to the final version of the NECP and to refer more to the TJTP.

2.2 Policies and measures to preserve the mining/traditional identity of the industrial communities

overview of several policies or measures in the area, but without providing some important details.

Updated NECP refers to two concluded social contracts: The Social Contract of 2021 on the transformation of the hard coal mining sector and selected transformation processes of the Silesian Voivodeship and the Social Contract of 2022 on the transition of the power sector and the lignite mining industry are aimed, among others, at implementing the energy transition in a just manner – taking into account the impact on workers in the coal industry and entire regions

dependent on the coal economy (P. 63).

The contract of 2021 defines social protections for workers of decommissioned mines.

The objectives listed in the TJTP also address this aspect:

- Western Lesser Poland (PP. 21, 22 OF THE TJTP):
- Specific objective 1. Occupationally and socially active residents 1.3. Improvement of the life quality of residents as an element of counteracting depopulation –measures to preserve social ties and local cultural identity; Specific objective 3. High quality and attractiveness of environment 3.3. Brownfield redevelopment and adaptation of urbanized areas to climate change investments in post-industrial infrastructure to adapt it to new functions (e.g.: economic, social, cultural, tourism, and environmental ones);
- Łódź Voivodeship (P. 14 OF THE TJTP):

Types of complementary operations in the transformed area financed from outside the JTF – development and promotion of the tourism sector and leisure and creative industries, using the potential of mining and former mining areas and cultural heritage (including mining traditions);

■ Silesian Voivodeship (P. 50 OF THE TJTP):

under pillar II of the Just Transition Mechanism, obtaining support complementary to JTF for activities to preserve the identity and cultural heritage of the mining region, among others, for commercial development of unique industrial heritage resources, supporting diversification in the direction of creative industries is indicated;

- Lower Silesian Voivodeship Wałbrzych subregion (P. 19 OF THE TJTP):
 - 2. Environmental objective thematic tourist routes and tourism products referring to historical, cultural, and natural values and material and non-material heritage;
- Eastern Greater Poland (P. 17 OF THE TJTP): under the pillars II and III of the JTM in the following areas and sectors – development of sustainable tourism, culture, and cultural heritage.

It would be useful to add information on the cultural aspect to the final version of the NECP or to mention that it is addressed by individual TJTPs.

2.3 Policies and measures for environmental redevelopment, both for biodiversity restoration and recreational purposes consideration of some policies or measures in the area, but in a manner that is largely insufficient to be effective

Many activities are listed in the updated NECP (P. 95), but not in a regional context.

Policies and measures, however, appear in individual TJTPs

- Western Lesser Poland (P. 23 OF THE TJTP):
 - Specific objective 3. High quality and attractiveness of environment 3.3. Brownfield redevelopment and adaptation of urbanized areas to climate changes;
- Łódź Voivodeship (P. 11 OF THE TJTP):

Objective 3. Space with high quality environment and landscape, ensuring adaptation to climate changes and characterized by good transport accessibility;

■ Silesian Voivodeship (P. 41 OF THE TJTP):

Operational Objective C5: Improving environmental quality in brownfields in terms of, among others, reclamation and restoration of brownfields and post-industrial areas, improvement of environmental conditions;

Lower Silesian Voivodeship – Wałbrzych subregion (P. 19 OF THE TJTP):

2. Environmental objective – projects intended to redevelop degraded urban and rural areas, including former mining developments, historic urban layouts, and health resort assumptions, taking into account the energy and thermal retrofit of public buildings and residential buildings, including investments in intelligent electrical and thermal energy management systems and RES;

Eastern Greater Poland (P. 14, 17 OF THE TJTP): CS 2. Provision of high quality integrated space – under pillar III of the JTM in the following areas and sectors – sustainable urban and rural development, including brownfield redevelopment.

In the final version of the plan, it is worth referring to regional aspects. $% \label{eq:control}$

2.4 Special and region-specific policies and measures to promote smart and sustainable mobility (both in the most affected areas within the transition region and areas connecting it to other regions)

consideration of some policies or measures in the area, but in a manner that is largely insufficient to be effective

The updated NECP lists many activities related to green transport, but not in a regional context.

Policies and measures, however, appear in individual TJTPs:

- Western Lesser Poland (P. 23 OF THE TJTP):
 Specific objective 3. High quality and attractiveness of environment – 3.2. Creation of an integrated, modern, and zero-emission transport system;
- Łódź Voivodeship (P. 11 OF THE TJTP):
 Objective 3. Space with high quality environment and landscape, ensuring adaptation to climate changes and characterized by good transport accessibility
- Silesian Voivodeship (P. 37 OF THE TJTP):
 Operational objective: An effective system strengthening mobility in mining subregions;
- Lower Silesian Voivodeship Wałbrzych subregion (P. 19 OF THE TJTP):
- 2. Environmental objective investment in smart and sustainable local mobility, including the purchase of low- and zero-emission fleet for public transport (including rolling stock) and accompanying infrastructure, including charging points for public transport vehicles, bike routes, hubs, redevelopment of railroads to restore their use;
- Eastern Greater Poland (P. 14 OF THE 17 TJTP):
 - CS 2. Provision of high quality integrated space;
- under the pillars II and III of the JTM in the following areas and sectors – development of transport infrastructure, including rail infrastructure, green means of transport, or alternative fuel infrastructure.

In the final version of the plan, it is worth referring to regional aspects.

Aspect 3. Local clean energy sources and decarbonized industry branches

A well-designed just transition policy should include an assessment of the specific local needs of the most affected regions regarding affordable green energy and decarbonization of industrial processes. Based on these previously identified needs, it should introduce appropriate measures for each region.

As already mentioned, Eastern Greater Poland plans to achieve climate neutrality by 2040. To this end, it envisions taking measures to improve energy efficiency, use RES and hydrogen (with a focus on green hydrogen), circular economy, and clean mobility. As a result, $\rm CO_2$ emissions in the power sector are to be reduced by more than 90–95% by 2030, and in other sectors – by 80–90% by 2040 compared to 1990. The TJTP for Eastern Greater Poland also assumes the performance of measures that will result in a reduction in greenhouse gas emissions of more than 55% by 2030, an increase in the share of energy from RES in total energy consumption exceeding 32%, and a 32.5%. increase in energy efficiency.

The TJTP for the Wałbrzych subregion assumes a total reduction of the estimated annual balance of the subregion's total CO_2 emissions by 6.5 million tons by 2050, a reduction of CO_2 emissions by about 65% in the non-ETS sector and 55% in total emissions by 2030, an increase in the share of energy from renewable energy sources in final consumption to 35–40% by 2050, and a 40% increase in energy efficiency by 2050.

In the TJTP for the Silesian Voivodeship, it is noted that the region has one of the lowest percentages of energy production from renewable sources in the country, as well as the highest consumption of hard coal in households. The need to develop renewable energy sources and the support provided in this respect are also indicated. Silesia's plan, however, seems more pessimistic than the rest of TJTPs. It assumes that in 2030 the country's estimated energy mix will be based on coal (61.4%), RES (7.2%), and other sources, mainly gas (31.3%). At this point, it is worth noting that the share of coal in Poland's electricity generation in 2023 fell to 63% and was the lowest ever, the contribution of renewable energy sources rose to 27%, and the share of gas reached 10%.

In the Łódź Voivodeship, during the transition to clean energy a reduction in electricity production from lignite from 27.4 to 6.9 TWh at the Bełchatów Power Plant, as well as a reduction of ${\rm CO_2}$ emissions in the electricity generation process by about 80% have been assumed. The region's transition milestones assume that by 2026 building permits will be obtained for some of the RES projects with a capacity of about 130 MW and their implementation will begin. Renegotiations of the plan are also underway, taking into account the development of RES and power substitution.

Western Lesser Poland plans to meet EU targets for reducing GHG emissions (40%), increase energy efficiency (32.5%), and increase the use of RES (32%) by 2030. This means reducing GHG emissions by 1,555 kt eq. $\rm CO_2$, increasing the amount of energy generated from renewable sources by 14,565 TJ, which means that in 2030 final energy production from RES should be 14,743 TJ; reducing primary energy consumption by 381.9 ktoe 15,988 TJ, which means that in 2030 1,100 ktoe = 1.1 Mtoe of primary energy = 46,073 TJ should be consumed.

All regions intend to increase energy production from renewable sources and provide support for these purposes. Silesia is the most conservative region in this regard.

6 HTTPS://WYSOKIENAPIECIE. PL/96011-UDZIAL-WEGLA-I-OZE-W-POLSCE-2023/

3. Local sources of clean energy and decarbonized industry branches

3.1 Assessment of the needs for implementation of affordable clean energy (including district heating systems, where applicable), energy efficiency, or decarbonization of industrial processes

no assessment of the level of needs in this area

The sections of the updated NECP that can be considered an assessment of needs in this regard apply to the territory of the whole of Poland and individual regions are not mentioned.

In contrast, excerpts from individual TJTPs are presented in very general terms, and their quality is insufficient. The assessment is discussed in the context of monitoring the implementation of the TJTP.

However, it is worth noting that the appendix to the TPJP for the Silesian Voivodeship is the document entitled *Potential and Development Challenges of the Silesian Voivodeship in the Context of Just Transition* which is part of the aspect being assessed.

The final version of the updated NECP should include a section highlighting the scale of the problems faced by the regions during the transition period. A proper needs assessment is an important part of implementing measures to provide affordable clean energy, which why it should be included in the final version of the NECP.

3.2 Policies and measures to address the needs for affordable clean energy (including district heating systems, where applicable), energy efficiency or decarbonization of industrial processes overview of several policies or measures in the area, but without providing some important details

Updated NECP refers to TJTP.

Support for the just transition of coal regions will be provided through the application of territorial plans for just transition, with a special role for the Just Transition Fund. Activities will focus on (...) creating new industry sectors jointly participating in the sector transformation. In particular, they should influence the development of RES, the hydrogen economy and other alternative fuels, electromobility, energy storage, digitization, but also adaptation to climate changes, and air quality improvement. (P. 92)

The objectives listed in the TJTP also address this aspect:

- Western Lesser Poland (P. 22 OF THE TJTP):
 Specific objective 3. High quality and attractiveness of environment 3.1. Energy efficiency, combating energy poverty, and increase in the use of local RES potential;
- Łódź Voivodeship (P. 11 OF THE TJTP):
 Objective 3. Space with high quality environment and landscape, ensuring adaptation to climate changes and characterized by good transport accessibility;
- Silesian Voivodeship (P. 36 TJTP):
 Operational objective: Balanced distributed generation of mining subregions;
- Lower Silesian Voivodeship Wałbrzych subregion (P. 19 OF THE TJTP):
 - 2. Environmental objective
 - support for investment in alternative energy sources (including PV installations and heat pumps) and energy efficiency also in the prosumer range for individual RES installations and energy storage facilities,
 - development of energy cooperatives, renewable energy clusters, and other mechanisms for generating and balancing energy from RES (energy communities active in the field of RES);
- Eastern Greater Poland (P. 17 OF THE TJTP):

 CS 2. Provision of high quality integrated space.

In the final version of the NECP, it is worth pointing out specific examples of measures to expand access to affordable and clean energy, particularly in the most affected territories.

Aspect 4. Inclusivity of regional transition

For the energy transition to be truly socially just, it must take into account both existing social inequalities and the situation of social groups particularly vulnerable to exclusion in the context of the transition itself. Moreover, groups that experience broader socio-political

marginalization more often shall also be at risk of exclusion in the transition process if policy-makers do not pay special attention to them. For example, if women lack political representation in the region, their specific interests shall also not be considered in regional decision-making processes related to the energy transition. Identifying such groups and taking them and their interests into account in shaping transition policies is crucial to the success of the transition.

Many aspects of social exclusion are linked to employment and the labor market. The transition of coal regions can have a significant impact on rising unemployment, disproportionately affecting people in difficult situation who face greater challenges in adapting to change. In the context of social exclusion, the pandemic has also played a significant role. The problem of depopulation and negative migration has been observed in every region. In TJTPs, it is also mentioned that the problem of unemployment is more likely to affect women, in whose case increased access to care services can help them in vocational activation. Such services shall also be available to people with disabilities.

4. Inclusivity of regional transition

4.1 Promotion of gender equality to address the specific situation and role of women in the transition to the climate-neutral economy no mention of any policies or measures in this area in the uNECP, but some policies or measures have been included in other documents

There is no reference to gender equality in the uNECP and the issue of women is not addressed in any aspect.

The TJTPs for Western Lesser Poland and the Wałbrzych subregion do not focus on the situation of women.

The TJTP for the Silesian Voivodeship only indicates that women have a greater employment problem.

The other two TJTPs address the problem and provide the following measures:

- Łódź Voivodeship (P. 10 OF THE TJTP):
 - Objective 2. Qualified, informed, and actively integrated society with equal access to high-quality public services The goal shall be achieved by adapting the competencies and qualifications of transition area residents to the new model of the economy, development of the education and training base, consulting services, vocational activation of the unemployed, especially women. Measures related to vocational activation of the unemployed, including the professionally inactive, especially women, shall be financed by ESF+ FEŁ2027. (P. 13)
- Eastern Greater Poland (P. 14 OF THE TJTP):

SO 1. Building a zero-emission and dynamic circular economy – Education system supporting the transition: – counteracting the exclusion of women in the labor market by increasing access to childcare services for children up to the age of 3 and improving access to preschool education.

Promotion of gender equality to address the specific situation and role of women in the transition to the climate-neutral economy, especially on a regional basis, are issues to be addressed in the final version of the updated NECP.

4.2 Special consideration of vulnerable groups (including people with disabilities) who are disproportionately more affected by the negative effects of the transition

no mention of any policies or measures in this area in the uNECP, but some policies or measures have been included in other documents

Most TJTPs address the issues of vulnerable groups to some degree:

Silesian Voivodeship (P. 40 OF THE TJTP):

Strategic objective 4. Strengthening institutions, organizations, and other entities that implement tasks for the social inclusion of the region's residents and the effectiveness of activities in this area. Local community organization in the following areas: supporting vocational activity and counteracting unemployment, diagnosing the conditions and quality of life of people at risk of social exclusion and socially excluded, and creating support programs.

Lower Silesian Voivodeship – Wałbrzych subregion (P. 19 OF THE TJTP):

Social objective – support services for people excluded or at risk of exclusion, affected by the negative consequences of the transition: prevention of the exclusion from the labor market of people providing care for dependent persons through the development of services for the needs of people with disabilities and the elderly, including through the use of, among others, social economy entities.

Eastern Greater Poland (P. 11 OF THE TJTP):

Active society as the main driving force of the subregion's transition – aiming to eliminate significant elements that reduce the potential for socio-economic development of the Eastern Greater Poland, which include negative demographic changes, as well as existing social inequalities and possible negative effects of energy transition (increase in addictions, mental crises, etc.). The measures taken shall focus on activating the residents of the mining region by counteracting the social exclusion of families and people affected by energy transition or improving access to good quality, sustainable, and affordable social services

More consideration should be given to sensitive consumers in the final version of the NECP.

4.3 Policies and measures addressing the demographic impacts of population aging in regions affected by transition no mention of any policies or measures in this area in the uNECP, but some policies or measures have been included in other documents

In the TJTP, the problem of depopulation and population aging is noted, but measures in this regards are only mentioned for the Wałbrzych subregion:

Lower Silesian Voivodeship – Wałbrzych subregion (P. 19 OF THE TJTP):

Social objective – support services for people excluded or at risk of exclusion, affected by the negative consequences of the transition: prevention of the exclusion from the labor market of people providing care for dependent persons through

the development of services for the needs of people with disabilities and the elderly, including through the use of, among others, social economy entities.

The final version of the NECP should focus on this problem.

Aspect 5. Regional just transition governance

Proper governance of energy transition processes plays a key role in achieving its goals. Involving as wide a range of stakeholders and interested citizens as possible in these processes at the regional level is crucial both to achieve a just outcome of the decision-making processes and a public mandate for that result.

Effective governance should also include institutional coordination of regional and national processes so that they are part of a single coherent undertaking with complementary goals. Consistency with national documents is emphasized in all of the TJTPs, but the governance issues are more often discussed in a regional or voivodeship context. A just transition is particularly important for Poland because of its high dependence on coal. Its significance is very often emphasized at many levels.

5. Regional just transition governance

5.1 Consistency of regional and national transition planning process

consistency of the regional and national transition planning process is taken into account in many, but not all of the relevant cases

Support for the just transition of coal regions shall be provided through the application of territorial plans for just transition, with a special role for the Just Transition Fund. (P. 91)

In addition, each TJTP includes a chapter demonstrating the document's consistency with other strategies.

2.3. Consistency with other relevant national, regional or territorial strategies and plans.

It is worth considering further discussing this issue in the final version of the NECP.

5.2 Institutional coordination as regards just transition implementation between regional and national authorities

0

no mention of institutional coordination as regards just transition implementation and it is rarely considered in other documents

There is no mention of coordination in terms of a just transition in the uNECP.

In Poland, however, a Just Transition Council has been appointed, which operates as a Subcommittee on Mining Region Transition within the Committee for the Partnership Agreement 2021–2027. The Council's tasks include, among others, monitoring the programming and use of measures to support the just transition process from the three pillars of the Just Transition Mechanism (including the JTF) and sharing knowledge and good practices on just transition.

The TJTPs rather refer to coordinating activities at the voivodeship level. In the TJTP for the Silesian Voivodeship, there is a mention of the Council (P. 57) and in the TJTP for the Wałbrzych subregion (P. 23) – the cooperation on a national level

It is worth adding that during the 9th Term of the Sejm, the Standing Subcommittee on Just Transition (SUE02S)⁸ was also operating.

It is worth including this information in the final version of the NECP.

5.3 Involvement of stakeholders and citizens into regional transition governance

no mention of the involvement of stakeholders and citizens, but this issue is mentioned in other documents

uNECP does not address the issue of involving stakeholders and citizens in regional transition management. However, these aspects do appear in the individual TJTPs:

Western Lesser Poland

Communication plan relating to the Just Transition that includes information and communication measures relating to the JTF in the region to ensure that as many stakeholders

- 7 HTTPS://WWW.GOV.PL/ WEB/FUNDUSZE-REGIONY/ INAUGURACJA-DZIALALNOSCI-RADY-DS-SPRAWIEDLIWEJ-TRANSFORMACJI
- 8 WWW.SEJM.GOV.PL/SEJM9.NSF/ AGENT.XSP?SYMBOL=PRACEPOD KOMST&NRKADENCJI=9&KODPOD KOM=SUE02S

as possible submit project proposals and comments to implemented projects, and participate in evaluating the impact of implemented activities on improving the socio-economic and environmental situation in the region (P. 27)

Łódź Voivodeship

To ensure the participation of a wide range of stakeholders in the implementation, monitoring, and evaluation of the TJTP, a TJTP Forum for the Łódź Voivodeship shall be established (with an opinion-consulting and initiating function), where stakeholders shall be able to express opinions, make comments, and initiate the implementation of projects. (P. 15)

Silesian Voivodeship

The monitoring and assessment process, in accordance with the partnership principle, as described in the Commission Delegated Regulation (EU) No. 240/2014 of 7 January 2014 on the European code of conduct on partnership in the framework of the European Structural and Investment Funds, shall involve representatives of key stakeholders (including trade unions, local authorities, entities representing civil society, NGOs, and young people), among others, within the framework of the MC EF SL 2021–2027 and the MC EFLP 2021–2027. Development, research, and assessment reports of the TJTP shall be made public and available to stakeholders on the governing institution's website. (P.56)

Wałbrzych subregion

JTF Working Group – As part of the group's work, not only the next versions of the TJTP are consulted, but also cooperation with experts from PwC, Jaspers, and IETU has been undertaken for coordination of activities at the regional, national, and European levels. The preparation of the Plan in terms of the necessary directions of support was preceded by an open meeting organized by the Voivodeship Administrative Board for all interested parties. (P. 22)

Eastern Greater Poland

"Agreement on a Just Energy Transition of Eastern Greater Poland". Its signatories included nearly 70 entities representing the public sector, private sector, and NGOs. (P. 19)

In the final version of the NECP, it is worth including issues regarding citizen involvement in aspects of a just transition.

IV. Distributional aspects

The distributional aspects of the green transition are principally related to the differential impact of climate policies on the socio-economic environment, which involves the unequal distribution of income, opportunities, and challenges among the population. This is reflected in changes in the standard of living of the entire population and vulnerable groups, especially in terms of their access to essential public services, amenities, and rights, as well as the labor market. Therefore, the NECP should explicitly take into account the distribution of costs and benefits of the planned measures and focus especially on supporting the groups that are already in the most difficult situation or are most likely to be negatively affected by the transition.

Thus, the selected criteria chosen to assess the distributional dimension of just transition policies in the NECP concern the following aspects: energy and transport poverty prevention (following the inclusion of buildings and road transport into the ETS framework), financing mechanisms and public policy instruments (especially fiscal and social security instruments) introduced to support vulnerable groups, policies affecting the labor force, and the overall quality of public participation in the NECP revision process. The assessment of the distributional aspects is conducted at the national level (in contrast to the territorial aspects).

Aspect 6. General assessment of distributional impacts

Political policy-makers must be aware of the profound and multifaceted impact of just transition programs on the overall *distribution* of resources in society. To adequately assess this impact, it is necessary to identify certain key socio-economic groups (such as people in different income groups or households in rural areas) that may be exposed to particular consequences of the transition. Establishing clear goals and criteria for measuring progress in terms of socio-economic impact is also essential so as not to lose sight of the fundamental aspect of transition justice.

It is worth remembering that while the implementation of the measures envisaged in the NECP shall contribute to reducing emissions in various sectors, reducing fossil fuel consumption, and increasing the contribution of renewable energy sources, it shall also involve impacts that shall affect, in particular, sensitive consumers, including the poorest people. Unfortunately, the document does not pay enough attention to these aspects.

6. General assessment of distributional impacts

6.1 Assessment of the overall distributional impact of policies and measures covered by the NECP update – by income groups no mention of anticipated overall distributional impacts

The only distributional aspects included in the uNECP are the issues of reducing energy poverty and providing support to coal regions (p. 90). What is missing, therefore, is an assessment of the cross-sectional distributional impacts of planned policies on society as a whole, and the inclusion in this assessment of differences in the impacts on different income groups.

The WEM appendix only mentions that the economic effects of the proposed energy sector developments and their possible impact on investment needs and their costs shall be studied in detail at a later stage of the analysis. (P.76)

The final version of the NECP should include an assessment of the distributional impacts of the policies and measures included in the Plan by income groups and a plan to introduce

		additional measures to reduce the identified negative effects. There is a high probability that the lowest income groups shall experience additional negative effects of the transition, that is why it is necessary to study the issue and plan countermeasures.
6.2 Assessment of the overall distributional impact of the	0	no mention of overall distributional impacts
policies and measures covered by the NECP update – by other relevant groups (e.g., rural households, pensioners)		The current version of the Plan lacks an assessment of the overall distributional impacts of the policies and measures introduced by the NECP, including an impact assessment by specific groups that may be more affected by the changes (e.g., rural households, pensioners).
		The WEM appendix only mentions that the economic effects of the proposed energy sector developments and their possible impact on investment needs and their costs shall be studied in detail at a later stage of the analysis. (P. 76)
		The final version of the NECP should include an assessment of the distributional impacts of the policies and measures covered by the Plan by various potentially particularly affected social groups. The NECP should also include additional measures to reduce the negative impacts identified for these groups.
6.3 Consistency in terminology used and measurement of progress toward goals	1	the terms are standardized to some basic degree in various documents and the measurement of progress toward goals is mentioned, but no details have been provided
		The latest update of the NECP includes numerous forecasts that show the anticipated progress in various energy transition activities, e.g., "Forecasts indicate that Poland can achieve emission reductions in sectors covered by the EU ETS against the levels from 2005 by about 38% in 2030 (to about 130 million tons)" (P. 15). However, as discussed in Aspect 1. "Ambitions and goals", the NECP lacks key goals, e.g., an economy-wide schedule for departure from coal, making progress toward these goals unmeasured.
		The final version of the NECP should include both ambitious goals in key areas (more details on this issue are presented in Aspect 1 "Ambitions and goals") and a solid framework for measuring progress toward these goals.

Aspect 7. Energy poverty

Energy poverty is a situation in which households lack access to basic energy services and products. Addressing this phenomenon through climate policy is crucial from a social justice perspective, as it counteracts a situation in which the most economically disadvantaged members of society are disproportionately burdened with the costs of the energy transition. Energy poverty is an aspect where policies related to the objectives of climate neutrality and socio-economic well-being overlap, and addressing them both offers an opportunity to gain additional public support for the energy transition. Tackling energy poverty also improves the standard of living in communities in a number of key areas, such as access to education and public health.

Over the past few years, fueled by economic crises, pandemic challenges and rising energy costs, energy poverty has been gaining increasing attention from policymakers. However, the updated NECP does not seem to pay enough attention to this aspect. The reported indicators are not entirely consistent and do not directly assess the magnitude of this phenomenon.

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However, there are a number of measures underway in Poland that combat energy poverty. These include various subsidy programs, e.g. Clean Air, Warm Housing, etc. The rules of the programs are adjusted to the changing market situation in the country and consumer behavior.

It is worth mentioning that in order to combat the increase in energy poverty in 2023, Poles benefited from electricity prices frozen at 2022 levels. The price freeze is in effect until June 2024, after which support for the poorest households is to be activated. In 2023, Poles could also benefit from electricity and coal allowances. However, there is no mention of this in the updated NECP.

7. Energy poverty

7.1 Inclusion of indicative targets to reduce energy poverty

objectives included, but insufficiently detailed and/or not using appropriate indicators

There are some mentions in the updated NECP that can be considered objectives, however, they are not precise.

Poland will aim to achieve total cumulative energy enduse savings among those in energy poverty of 2,678 ktoe between 2024 and 2030. (P.55)

Projections indicate that Poland can stabilize the scale of energy poverty at no more than 11% in 2030 and no more than 7% in 2040 [estimates are not an objective in nature].

Conducting a comprehensive state policy aimed at addressing energy poverty. Monitoring of the number of energy-poor households is an important element, as well as the continuation and possible adaptation to the needs of energy-poor consumers of funded programs. (P. 91)

In the final version of the plan, it is worth addressing the topic of energy poverty more comprehensively and outlining more specifically the objectives and scale of its reduction.

7.2 Assessment of the level of energy poverty and the quality of the indicators used

overview of energy poverty presented to some extent, but the measures used are of insufficient quality

The updated NECP includes a Table – Energy Poverty Indicators referred to in Article 8 (3) of the EED (P. 55), which considers the following indicators in assessing energy poverty.

- Inability to maintain adequate room temperature;
- Arrears in energy bills;
- The total population living in a dwelling with a leaking roof, damp walls, floors and foundations, or rotten windows or flooring;
- Poverty risk index.

The average score obtained was 9.05%.

However, there is a passage later in the document: *Projections indicate that Poland can stabilize the scale of energy poverty at no more than 11% in 2030 and no more than 7% in 2040* (P. 91). However, it does not refer to any figures and it is not clear whether it can be linked to the indicated table, especially since it indicates an average lower result than the assumptions for 2030.

In the final version of the NECP, it is worth systematizing this aspect.

7.3 Direct support to reduce energy poverty

1

existing and planned policies or measures in the area are described and are expected to bring a significant change, but do not solve the problem comprehensively

Directly related to energy poverty support is Measure 131. Reducing energy poverty and protecting vulnerable consumers, which provides for measures related to modifying existing, or introducing new forms of support, in the area of social policy, increasing the energy efficiency of buildings, as well as in the sphere of educational measures aimed at supporting the most needy consumers and reducing the phenomenon of energy poverty (P. 121).

However, the timetable for phasing out direct support has not been described.

The updated NECP also provides for measures that directly relate to combating energy poverty:

- Measure 19. Financial Instrument Priority Program of the National Fund for Environmental Protection and Water Management – "Clean Air."
- Measure 20. Financial Instrument Priority Program of the National Fund for Environmental Protection and Water Management – "Stop Smog".

However, there is a lack of specific information, such as projected funding for these objectives. It is worth including them in the final version of the plan.

7.4 Measures to support investments that structurally reduce energy bills through investments in energy efficiency and zero-carbon energy sources

2

overview of several policies or measures in the area, but without providing some important details

The updated NECP provides for a number of measures that can indirectly reduce energy poverty in Poland. These include:

- Measure 9. Financial Instrument Priority Program of the National Fund for Environmental Protection and Water Management – "My Electricity."
- Measure 10. Financial Instrument Priority Program of the National Fund for Environmental Protection and Water Management – "Energy Plus."
- Measure 14. Financial instrument other programs of the National Fund for Environmental Protection and Water Management supporting the development of RES.
- Measure 18. Financial Instrument Priority Program of the National Fund for Environmental Protection and Water Management – "My Heat."
- Measure 21. Financial Instrument Priority Program of the National Fund for Environmental Protection and Water Management – "Warm Housing."
- Measure 90. Development of energy audits and energy management systems.
- Measure 91. Financial Instrument Thermo Program.
- Measure 92. Financial instrument Tax relief for expenditures incurred for thermal upgrading of singlefamily residential buildings.
- Measure 93. Improving the energy efficiency of residential buildings.

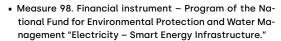
However, there is a lack of specific information, such as projected funding for these objectives. It is worth including them in the final version of the plan.

7.5 Addressing energy market inefficiencies that negatively affect vulnerable customers

,

overview of several policies or measures in the area, but without providing some important details

Many measures in this area have been highlighted in the updated NECP:



- Measure 113. Measures to ensure the flexibility of the power system to adapt to anticipated changes in the NPS.
- Measure 117. Measures to increase the flexibility of the energy system with regard to renewable energy generation
- Measure 118. Prevention and management of electricity supply constraints.
- Measure 120. Modernization and expansion of transmission lines inside the NPS to enable increased cross-border flows.
- Measure 127. Measures to integrate and improve the functioning of the electricity market.
- Measure 128. Development and retrofit of transmission networks.

However, there is a lack of specific information, such as projected funding for these objectives. It is worth including them in the final version of the plan.

Aspect 8. Transport poverty

Transport poverty refers to the challenges faced by people with limited access to affordable public or private transportation. It usually results in further serious difficulties such as limited access to health care, education or employment. Part of a just transition should be measures that reduce emissions in the transportation sector, while prioritizing ensuring that all members of society have access to reliable public transport.

Transport poverty appears in the updated NECP and TJTP under the term "communication exclusion" or "transport exclusion", but the documents do not focus on it. Most transportation-related policies focus on reducing emissions from the sector, rather than tackling transport poverty. This approach is justified, given that the transport sector is highly carbon-intensive. Moreover, this is the sector where, according to the updated NECP, it will be most difficult to meet RES objectives (17.7%). Reducing emissions from transport is crucial, especially since the sector is soon to be included in the Emissions Trading System – ETS 2.

However, transport poverty is a very important aspect of the transition. This is a problem that affects people living outside cities, particularly in poorly connected villages where low-emission public transport is not available. According to the International Transportation Economics Association, about 20 percent of towns and cities in Poland are not reached by any public transport? Combating transport poverty is a multifaceted challenge that requires a combination of measures, including investment in public transport and the implementation of social policies to ensure equal access for all.

9 HTTPS://WWW.TRANSPORT-PUBLICZNY.PL/WIADOMOSCI/TAK-WYGLADA-WYKLUCZENIE-75903. HTMI

8.1 Inclusion of indicative targets to reduce transport poverty Transport issues focus exclusively on its decarbonization, overlooking the reduction of transport poverty. However, the problem of transport poverty has been addressed in other documents. Useful examples can be found in the Territorial Just Transformation Plans, among others. The need to reduce transportation exclusion is mentioned, for example, in the TJTP for Łódź Voivodeship – Objective 3.

	Space with high quality environment and landscape, ensuring adaptation to climate changes and characterized by good communication accessibility. (P. 11)
	The Plan for the Silesian Voivodeship notes that improving the quality and accessibility of local and supra-local transportation is intended to support transformation processes toward generating better transportation links from places where jobs will be eliminated (including, for example, rural municipalities where urban transportation does not reach) to places where new jobs will be created. (P. 34)
	The TJTP for the Wałbrzych subregion mentions that the priority, on the one hand, eliminating the transportation exclusion of residents, and on the other transforming transportation in the non-emission direction, is the development of electric local and subregional agglomeration rail transportation through the creation of a network of agglomeration rail connections and the electrification of some rail lines, as well as the purchase of non-emission rolling stock. (P. 15)
	The following mention appears in the Plan for Eastern Greater Poland: This necessitates changes in infrastructure development, in which priority should be given to the development of zero-emission public transport, including in terms of reducing transport exclusion of residents. (P. 9)
	Transport issues addressed in the final version of the NECP should also include the aspect of transport poverty. The above excerpts from TJTP can be used as examples of implementation.
0	no assessment of the level of transport poverty
	Transport issues focus exclusively on its decarbonization, overlooking the issue of transport poverty.
	Issues of transport poverty should be addressed in the final version of the NECP.
1	some existing and planned policies or measures in the area are included, but are not sufficient to effectively address the problem
	The updated NECP mentions one measure that directly supports the reduction of transport poverty:
	An important support for bus public transport is the Bus Service Development Fund, which has been in operation since mid-2019. The Fund's resources are allocated to subsidize the implementation of own tasks of local government units in the field of public bus transport, excluding urban transport. The Fund's resources can contribute to eliminating transport exclusion and increasing access to public transport, primarily where such transport did not function or functions in a dimension that does not fully meet the needs of a given area residents. (P. 30)
	In the final updated Plan, it is advisable to include policies and measures, or at least a general framework, that will provide a basis in the area related to combating poverty in transport.
	overview of several policies or measures in the area,
2	but without providing some important details

- Measure 24. Intelligent Transportation Systems (ITS).
- Measure 25. Improving the coherence of national roads.
- Measure 26. Financial instrument Public Bus Service Development Fund.
- Measure 27. Development of urban transport networks.
- Measure 28. Plans for sustainable development of public mass transport.
- Measure 29. Development of zero-emission public transport in cities.
- Measure 32. Financial support instruments for electromobility.
- Measure 33. Non-financial support instruments for electromobility
- Measure 34. Development of electric vehicle charging infrastructure.
- Measure 38. Building awareness shaping pro-environmental attitudes of drivers.
- Measure 43. Integration of rail transport with other modes of transport.
- Measure 46. Development of inland waterways of transport importance.

In the final version of the NECP, it is worth combining the highlighted measures also with the context of combating transport poverty.

Aspect 9. Financial needs and sources of funding

Financial needs and sources of funding are a key component of the national energy and climate plans. Including information on financial needs and available sources of funding is important for several reasons. First, it enables a realistic assessment of the scale of the challenge of achieving the set climate and energy objectives. Understanding financial needs helps determine whether available resources are sufficient to meet these challenges, or whether additional investments are needed. Second, funding transparency facilitates more effective engagement with various stakeholders, including the private sector, financial institutions and other partners. Information about financial needs and sources of funding is crucial for attracting investment and mobilizing social support. In addition, mentioning funding is key to effectively monitoring progress in implementing the objectives of the energy and climate plans. The availability of funds and their effective use have a direct impact on the achievement of the set objectives, so detailed information in this regard is essential.

In an ideal scenario, for each measure identified in the NECP, the funds and source of funding should be specified, for example, in the form of a table. The updated NECP only signals the measures that are planned and mentions some of the funds that will be used. This is an element that needs to be improved in the final version of the NECP, especially since Poland will benefit from a lot of funding and is one of the largest beneficiaries of the EU.

9. Financial needs and sources of funding

9.1 Description of financial needs for each proposed policy and measure including distributional impacts no mention of the financial needs of the proposed policies and measures $% \left(\mathbf{n}\right) =\left(\mathbf{n}\right)$

The updated NECP includes only a brief description of measures without addressing needs and funding methods. NECP 2019 described the use of funds to a much better degree. An example is the table – I. Support measures in the field of energy, including grants – domestic and non-domestic measures (P. 197 OF THE NECP 2019).

		A description of financial needs should appear in the final version of the NECP for each proposed policy and measure.
9.2 Description of the sources of funding for each proposed policy and measure including distributional impacts	1	Sources of funding for some proposed policies and measures have been described, but detailed information is lacking
		Some funding sources are described in Appendix 1 describing the WEM scenario. E.g. European Funds for Infrastructure, Climate, and Environment 2021–2027 (FENIKS) (P. 120), Norwegian and EEA Funds – Environment, Energy and Climate Change Program (P. 121).
		It is worth including a description for all sources of funding in the final version of the NECP.

Aspect 10. Tax, insurance and social security policies

Tax, insurance and social security policies are key instruments for shaping behavior toward more sustainable and environmentally friendly development. Properly designed and implemented, they are the key to the successful implementation of national energy and climate plans.

Through appropriate policies, governments can encourage investment in renewable energy, energy efficiency and environmental projects. Tax or other similar incentives can stimulate businesses and citizens to adopt more sustainable practices. Social policy can be a tool to support citizens participating in projects related to the aforementioned aspects.

Promoting investment in energy efficiency technologies and solutions can help reduce emissions and redirect investment in more sustainable directions. Community support can be crucial to the success of projects and gaining public acceptance for energy and climate-related measures.

However, the transfer of responsibility for transition to social groups must be accompanied by the allocation of financial resources for these purposes. It is beneficial if funds for "good investments" come, for example, from revenues generated by climate-related taxes, fees and charges, indirectly applying the "polluter pays" principle. Using revenue from climate-related costs to mitigate these expenses in the future seems an obvious solution.

Poland intends to use the Modernization Fund fueled by funds from emission allowances, but unfortunately, in doing so it does not focus on vulnerable consumers who are most affected by the transition. There is also a lack of information about the Social Climate Fund, and the application of the "polluter pays" principle does not resonate sufficiently.

10. Tax, insurance and social security policies 10.1 Use of revenues from climate-This principle is reflected in some proposed policies and measures where it would be reasonable to apply it, but in related taxes, fees and charges (or similar instruments, such most cases it is ignored. as EU ETS revenues) to support vulnerable groups The Modernization Fund will be credited with the proceeds from the sale by the emission allowances. Poland intends to use the fund. This is stated in Measure 73. Financial Instrument - Modernization Fund. Under the Modernization Fund, it is possible to subsidize the implementation of a wide range of investments aimed at modernizing the national energy system and improving energy efficiency within the priority and non-priority areas

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indicated in the ETS Directive. The MF will operate until 2030, and within its framework, further priority programs will be created offering support for investments that fit into the above-mentioned areas. Other measures (e.g., 18, 32, 34, 63, 67, 85, 90, 94, 95) have been presented as relevant from the perspective of the National Plan for measures financed by the Modernization Fund. (P. 110)

The aforementioned measures relate to the "My Heat" program, support for electromobility, development of electric vehicle charging infrastructure, agricultural and forestry land management, energy-intensive industry, countering forest dieback, development of energy audits and energy management systems, an energy-efficient public sector, and increasing requirements for technical and building codes and requirements setting building design standards.

However, none of these measures directly target vulnerable customers. These aspects should be taken into account in the final version of the plan.

10.2 Accounting for and preparing a framework for the use of the Social Climate Fund

no mention of the use of the SCF

The Social Climate Fund provides billions of Polish zlotys to fight energy and transport poverty. It should be included in the final version of the NECP.

10.3 Consideration and consistent application of the "polluter pays" principle throughout the economy

The NECP does not mention the use of the principle, but it is used in some proposed policies and measures, in the case of which it would be reasonable to apply it

The "polluter pays" principle is not mentioned in the updated NECP. However, the programs have been mentioned that are implemented by the National Fund for Environmental Protection and Water Management, which puts into practice the "polluter pays" principle, as it is mainly powered by proceeds from: fees and penalties for the use of the environment, operating and concession fees, fees under the Energy Law and the Act on the Recycling of End-of-Life Vehicles, revenues from the sale of units of allocated greenhouse gas emissions and other sources¹⁰. This is worth mentioning in the final version of the NECP.

Other documents also provide examples of the **"polluter pays"** principle being taken into consideration. The principle is mentioned, for example, by two TJTPs:

Łódź Voivodeship:

Reducing coal mining and transitioning to a climate-neutral economy will force acceleration of reclamation of post-mining areas and neighboring areas, restoring ecological balance through remediation and reclamation (including reforestation,

restoration of proper water relations and natural values in the transition areas). These measures will be carried out in accordance with the "polluter pays" principle by the entity designated in the license, in accordance with national law.

Eastern Greater Poland:

CS 2. Provision of high quality integrated space Restoring degraded and devastated areas to their previous functions or developing them rationally in new ways, and restoring and increasing water resources (taking into account the "polluter pays" principle).

In the final version of the NECP, it is worth referring to the "polluter pays" principle and mentioning at which measures and policies it is applied. The referenced excerpts from the TJTP can serve as an example.

10 HTTPS://WWW.GOV.PL/ ATTACHMENT/1E872C55-FE53-430A-8A39-1BEE2D47763A

10.4 4 Integrated protection of vulnerable groups under tax instruments and cross-cutting support programs related to the green transition protection is available under some of the proposed policies and measures, in the case of which it would be reasonable to apply it

Under some financial programs, e.g. Clean Air, Warm Housing, people with lower incomes can count on greater financial support. However, the updated NECP does not mention this. A negative example for this aspect is the tax credit for expenses incurred for thermal upgrading, which consists in deducting expenses incurred for thermal upgrading from income/revenue (Measure 92) and does not depend on income. The poorest people who fall within the tax-free amount automatically cannot benefit from it and are excluded.

It is worth highlighting Measure 60. – Agro-environmental and climatic measures under the CAP. A group of interventions under Pillar II of the CAP, which involve the application of payments to compensate for the additional costs

incurred and income lost to farmers who voluntarily use production methods that favor the preservation of biodiversity, landscape and environmental resources, primarily soil and water. (P. 108) The agriculture sector can be considered a vulnerable group.

In the final version of the NECP, it is worth strengthening the message regarding vulnerable customers.

Aspect 11. Working conditions and acquisition of new professional qualifications

Working conditions and retraining are key aspects of the decarbonization process, especially in coal regions. Upskilling and retraining of employees must be adapted to changes in labor market demand and go hand in hand with the creation of green, decent jobs. Special attention should be paid to supporting the employment of social groups that face additional barriers, such as women or people with disabilities.

Both the NECP and TJTP pay a lot of attention to employment aspects. Creating new jobs and making regions more attractive is an important part of the documents. However, the NECP does not mention occupational health and safety in the context of the transition or gender equality among employees. The document also mentions that a lack of qualified personnel may be a problem, but does not mention the skills that would be desirable in this aspect.

11. Working conditions and acquisition of new professional qualifications

11.1 Consideration of upskilling, retraining and acquisition of new competencies by transitionaffected employees provision of an adequate set of measures to support the upskilling, retraining and acquisition of new transition-related competencies by economically active people

The updated NECP mentions that support for the just transition of coal regions will be provided through the application of territorial just transition plans, with a special role for the Just Transition Fund. (P. 92)

All Polish TJTPs address retraining issues:

- Western Lesser Poland (P. 21 OF THE TJTP):
 Priority 1.1 A labor market that supports transition;
- Łódź Voivodeship (P. 10 OF THE TJTP):
 Objective 2. A qualified, informed and actively inclusive society with equal access to quality public services;

 Silesian Voivodeship (P. 37 OF THE TJTP): 						
Operational objective: Attractive and effective educa						
tion and upskilling in mining subregions;						

- Lower Silesian Voivodeship Wałbrzych subregion (P. 19 OF THE TJTP):
 - 2. Social objective

Raising the competencies necessary to meet the changing demands of the labor market resulting from the ongoing transition;

■ Eastern Greater Poland (P. 17 OF THE TJTP):

CS 1. Building a zero-emission and dynamic circular economy;

CS 3. Active society.

Two measures are also highlighted in the NECP:

Measure 130. Support for coal regions.

The measures include support through training and retraining programs, local development programs, partnerships and collaborations, among others.

Measure 144. Initial and continuing training of human resources for the economy in the field of climate and energy transition.

The measure consists of adjusting sectoral qualification frameworks to include competencies related to achieving the objectives of the European Green Deal (green skills). Sectoral qualification frameworks that take into account the specifics of a given industry or sector and are a development of the Polish Qualification Framework (PRK) may be included in the Integrated Qualification System.

In the final version of the NECP, it is worth addressing the scale of the problem and the measures needed for these purposes.

11.2 Tailored measures to support employment, job creation and transition, particularly for women or people with disabilities, and in the most affected greas

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little or no support for transition-related job creation

The updated NECP mentions that support for the just transition of coal regions will be provided through the application of territorial just transition plans, with a special role for the Just Transition Fund. (P. 92)

All Polish TJTPs aim to create new jobs. In doing so, some mention the role of women and the disabled, as discussed in aspects 4.1 and 4.2. However, no specific measures were mentioned.

It is also unclear whether the two measures highlighted in the NECP itself:

- Measure 130. Support for coal regions,
- Measure 144. Initial and continuing training of human resources for the economy in the field of climate and energy transition,

take into account the role of women and the disabled.

The TJTP mentions the development of care services, which can help activate women in the labor market.

These are issues that need to be completed in the final version of the NECP.

11.3 Analysis of the impact of the green transition on occupational health and safety, and the preparation or continuation of measures to counter the risks

no consideration of the impact of the green transition on occupational health and safety

These are issues that need to be completed in the final version of the NECP.

Aspect 12. Stakeholder involvement and public consultations

The obligation to implement consultations in the form of a multi-level climate and energy dialog platform stems directly from the regulation introducing the NECP¹¹. According to the regulation, local governments, civil society organizations, entrepreneurs and investors, as well as other stakeholders and the general public should participate in the process. Public participation in decision-making processes is also one of the pillars of the Aarhus Convention.

11 HTTPS://EUR-LEX.EUROPA.EU/ LEGAL-CONTENT/EN/TXT/?URI= URISERV%3AOJ.L_.2018.328.01.0001 .01.ENG

Conducting wide-ranging consultations is crucial to developing a robust update of the NECP and the subsequent effective implementation of the plan. In Poland, however, the development of the document has faced many difficulties.

12 HTTPS://WWW.
GOV.PL/WEB/KLIMAT/
PREKONSULTACJE-W-ZKRESIEAKTUALIZACJI-DOKUMENTOWSTRATEGICZNYCH-KPEIKPEP2040

The previous government implemented only the pre-consultations of the NECP¹². They were held in June 2023 and lasted two and a half weeks. Stakeholders were able to share their opinions through a form available on the website of the Ministry of Climate and Environment. Important limitations, however, were the short period for submitting comments, as well as the lack of an available draft version of the plan for comment (only the forecast scenario for the electricity generation sector was available at the time¹³). The just transition aspect was mentioned in the scenario, but only to a minor extent. What is more, the scenario focused on the electricity sector, not the overall economy. However, the pre-consultation comment form included aspects of a just transition. The Reform Institute also submitted its comments.

13 HTTPS://WWW.GOV.PL/ ATTACHMENT/37F0218E-DA89-4E15-9CD0-0992549F6627

The results of the pre-consultation works were not widely communicated, and the development of the updated NECP submitted to the European Commission itself was not preceded by consultations, moreover, the publication of the document came as a surprise. The lack of consultations was explained by the need to develop a new NECP quickly to avoid sanctions for delays. The document was sent to the European Commission in a preliminary version significantly after the deadline, and proper consultations are yet to take place.

12. Stakeholder involvement and public consultations

12.1 Involvement of social partners, civil society actors and the general public in the discussion of issues related to a just transition during the public consultation of the plan

although public consultations for the NECP document itself were not organized, pre-consultations on the basis of the Scenario for the update took into account the involvement of social partners and aspects of a just transition

The updated NECP mentions the consultation only once, that it is yet to be conducted:

The draft update – currently in effect – of the national plan, should be submitted to the European Commission by June 30, 2023. Due to the delay in works on the document, the European Commission has launched a violation procedure against Poland. The submission of the following draft is therefore necessary to complete the procedure with respect to Poland. A target document containing two scenarios: WEM and WAM, will be submitted for full public consultation and sector consultations and then finalized in late Q2 / early Q3 2024. (P.5)

During the consultations on the next version, social partners, civil society players and the general public should be involved, particularly in the discussion of issues related to a just transition.

12.2 Establishment of a permanent body for stakeholder consultations covering issues related to a just transition public consultations have not been organized, and there is no mention of the bodies that are to conduct the consultations

The updated NECP mentions the consultations only once, that it is yet to be conducted:

,				
		The draft update – currently in effect – of the national plan, should be submitted to the European Commission by June 30, 2023. Due to the delay in work on the document, the European Commission has launched a violation procedure against Poland. The submission of the following draft is therefore necessary to complete the procedure with respect to Poland. A target document containing two scenarios: WEM and WAM, will be submitted for full public consultation and sector consultations and then finalized in late Q2 / early Q3 2024. (P. 5)		
		The establishment of a permanent stakeholder consulta- tion body should be considered during consultations in the development of the next version of the NECP.		
12.3 Organization of early dialog with local authorities on issues related to a just transition		no mention of dialog with local authorities on issues related to the just transition		
,		A Just Transition Council has been established in Poland. Its tasks include the exchange of knowledge and good practices in the field of just transition. It is worth mentioning this, as well as other measures related to a just transition, in the final version of the NECP.		
12.4 Identification of opportunities for cross-border dialog in addressing issues related to		no mention of cross-border dialog on issues related to a just transition		
a just transition		The updated NECP noted that the just transition is an essential element of the European Union's internal energy market. Measures to improve this market are also mentioned (Dimension 4. The intra-EU energy market and the social aspect of the transition p. 80). In this context, however, there is no mention of dialog in resolving issues related to a just transition. This is worth changing in the final version of the NECP.		

V. Summary

In many ways, Poland is on track to develop a better national energy and climate plan than the one published in 2019. Especially since the published document is a preliminary version of the plan for now, and the announced publication of the WAM scenario will show a higher level of ambition. There are several areas that require special refinement before the final version of the plan is issued. These include the following aspects:

- Stakeholder involvement and public consultations;
- General assessment of distributional impacts;
- Financial needs and sources of funding;
- Ambitions and objectives.

With regard to these aspects, in most cases the relevant issues have been completely ignored. The description of financial needs and related sources of funding, as well as stakeholder involvement and public consultations, needs the greatest improvement. Although the document contains information on the measures that are planned to be taken in the context of the transition, among which are financial support programs, the issue of the amounts that will have to be borne for these purposes has been practically completely ignored. The issue of funds from which Poland will be able to benefit was also marginally treated. In particular, the text lacks any details about the intended Social Climate Fund

or the guiding principles for the Social Climate Plan. Issues of public consultations also need to be developed, with a particular focus on issues related to the just transition.

Average scores for just transition aspects of Italy's draft updated NECP

Territorial	1. Ambitions and objectives	0.33				
Aspects	2. Supporting local economies and communities					
	3. Local sources of clean energy and decarbonized industry branches					
	4. Inclusivity of regional transition	1				
	5. Regional just transition governance	1				
Distributional	6. General assessment of distributional impacts					
Aspects	7. Energy poverty					
	8. Transport poverty	0.75				
	9. Financial needs and sources of funding 10. Tax, insurance and social security policies					
	11. Working conditions and acquisition of new professional qualifications					
	12. Stakeholder involvement and public consultations	0.25				

Notes: 0 - no mention of the issue, 1 - issue raised to a limited extent, 2 - issue raised to a significant extent, 3 - good practices

Although the energy transition process is underway, Poland is still a country with a very significant dependence on coal. Its complete dismantling at too fast a pace relative to the construction of suitable alternatives would pose a threat to energy security. However, this is an inevitable process. The NECP assumes a reduction in the use of coal in the power sector and the extinction of power plants. However, it would be worthwhile for the final version of the NECP to include dates for a complete shift away from the use of coal in power generation, industry and the overall economy.

The plan also includes the increased use of gas and oil by 2030 and makes no mention of abandoning them. This is worth changing in the final version of the NECP.

No aspect in the study was rated as "good practice." The highest rating was given to the aspect of energy poverty because of the many measures and countermeasures to combat it. However, the "energy poverty" aspect itself was not sufficiently well evaluated, which requires improvement in the final version of the plan.

Aspect 2 was rated second. Supporting local economies and communities. The relatively high rating, however, is due to the content of the Territorial Just Transition Plans cited by the NECP. In the final version of the plan, it is worth focusing more attention on supporting local communities in specific regions.

Below are our key recommendations for the final version of Poland's updated National Energy and Climate Plan.

- Expanding and strengthening objectives related to shifting away from fossil fuels and transitioning to clean technologies to provide a solid basis for transition planning.
- Adding detailed information on financial needs and sources of funding in the form of a table, for example.
- Adding information on the funds to be used in the transition process, in particular the Social Climate Fund with the guiding principles for the Social Climate Plan.

- Policies and measures should address distributional issues in more detail, including, in particular, an overall assessment of distributional effects and their impact on different socio-economic groups.
- The territorial plans cite the 2019 NECP, so once the final version of the document is published, **the territorial plans will also need to be updated.** In particular, the objectives regarding renewable energy sources included in the TJTP for Silesia should be updated.
- Conducting genuine public consultations with special attention to the issue of the
 just transition.
- Paying more attention to the issues of vulnerable customers and the measures they
 will be able to benefit from, not only in the context of energy poverty.
- Adding a section on the importance of women in the ongoing transition process, as well as the elderly and the disabled.

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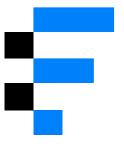
VI. Appendix. Table summarizing the aspects included in the methodology

	1	1 Ambitions and objectives							
	1.1	Raising the level of ambition and avoiding limitation of objectives in Territorial Just Transition Plans	0	No mention of objectives set in TJTP.					
	1.2	Transparent and science-based time schedule for the departure from coal in the power industry	1	A time schedule for the departure from coal in the power industry is available, however, there is no indication of the date when the transition will take place completely					
	1.3	Transparent and science-based time schedule for the departure from coal across the economy	1	A time schedule for the departure from coal in heat engineering, the closure of the last mine, and a time schedule for the gradual departure from coal in final energy consumption are indicated. However, there is no indication of a date for the final departure from coal across the economy.					
v	1.4	Transparent and science-based time schedule for the departure from crude oil	0	No mention of a time schedule for the departure from natural gas.					
ASPECTS	1.5	Transparent and science-based time schedule for the departure from crude oil	0	No mention of a time schedule for the departure from crude oil.					
ERRITORIAL	1.6	Transparent and science-based time schedule for industry transition to net-zero emissions (transformation or closure of industrial plants that emit greenhouse gases due to fossil fuel use or industrial processes)	0	No mention of a time schedule for the industry transition to net-zero emissions.					
Ħ	2	Supporting local economies and communities							
	2.1	Policies and measures to support local economies by stimulating their endogenous growth potential, including promoting entrepreneurship, supporting MSMEs, and social economy	2	Overview of several policies or measures in the area, but without providing some important details.					
	2.2	Policies and measures to preserve the mining/traditional identity of the industrial communities	2	Overview of several policies or measures in the area, but without providing some important details.					
	2.3	Policies and measures for environmental redevelopment, both for biodiversity restoration and recreational purposes	1	Consideration of some policies or measures in the area, but in a manner that is largely insufficient to be effective.					
	2.4	Special and region-specific policies and measures to promote smart and sustainable mobility (both in the most affected areas within the transition region and areas connecting it to other regions)	1	Consideration of some policies or measures in the area, but in a manner that is largely insufficient to be effective.					

	3	3 Local sources of clean energy and decarbonized industry branches								
	3.1	Assessment of the needs for implementation of affordable clean energy (including district heating systems, where applicable), energy efficiency, or decarbonization of industrial processes	0	No assessment of the level of needs in this area.						
	3.2	Policies and measures to address the needs for affordable clean energy (including district heating systems, where applicable), energy efficiency or decarbonization of industrial processes	2	Overview of several policies or measures in the area, but without providing some important details.						
	4	Inclusivity of regional transition								
PECTS	4.1	Promotion of gender equality to address the specific situation and role of women in the transition to the climate-neutral economy	1	No mention of any policies or measures in this area in the updated NECP, but some policies or measures have been included in other documents.						
TERRITORIAL ASPECTS	4.2	Special consideration of vulnerable groups (including people with disabilities) who are disproportionately more affected by the negative effects of the transition	1	No mention of any policies or measures in this area in the updated NECP, but some policies or measures have been included in other documents.						
TERRITO	4.3	Policies and measures addressing the demographic impacts of population aging in regions affected by transition	1	No mention of any policies or measures in this area in the updated NECP, but some policies or measures have been included in other documents.						
	5	Regional just transition governance								
	5.1	Consistency of regional and national transition planning process	2	Consistency of the regional and national transition planning process is taken into account in many, but not all of the relevant cases.						
	5.2	Institutional coordination as regards just transition implementation between regional and national authorities	0	No mention of institutional coordination as regards just transition implementation and it is rarely considered in other documents.						
	5.3	Involvement of stakeholders and citizens into regional transition governance	1	No mention of the involvement of stakeholders and citizens, but this issue is mentioned in other documents.						
STS	6	6 General assessment of distributional impacts								
DISTRIBUTIONAL ASPECTS	6.1	Assessment of the overall distributional impacts of policies and measures covered by the NECP update – by income groups	0	No mention of anticipated overall distributional impacts.						
BUTION	6.2	Assessment of the overall distributional impacts of the policies and measures covered by the NECP update – by other relevant groups (e.g., rural households, pensioners)	0	No mention of overall distributional impacts.						
DISTR	6.3	Consistency in terminology used and measurement of progress toward objectives	1	The terms are standardized to some basic degree in various documents and the measurement of progress toward objectives is mentioned, but no details have been provided.						

	7	Energy poverty							
	7.1	Inclusion of indicative objectives to reduce energy poverty	1	Objectives included, but insufficiently detailed and/or not using appropriate indicators.					
	7.2	Assessment of the level of energy poverty and the quality of the indicators used	1	Overview of energy poverty presented to some extent, but the measures used are of insufficient quality.					
	7.3	Direct support to reduce energy poverty	2	Existing and planned policies or measures in the area are described and are expected to bring a significant change, but do not solve the problem comprehensively.					
	7.4	Measures to support investments that structurally reduce energy bills through investments in energy efficiency and zero-carbon energy sources	2	Overview of several policies or measures in the area, but without providing some important details.					
	7.5	Addressing energy market inefficiencies that negatively affect vulnerable customers	2	Overview of several policies or measures in the area, but without providing some important details.					
	8	Transport poverty							
CTS	8.1	Inclusion of indicative objectives to reduce transport poverty	0	No mention of objectives to reduce transport poverty.					
ASPECTS	8.2	Assessment of the level of transport poverty and the quality of the indicator used	0	No assessment of the level of transport poverty.					
DISTRIBUTIONAL	8.3	Direct support to reduce transport poverty	1	Some existing and planned policies or measures in the area are included, but are not sufficient to effectively address the problem.					
STRIBU.	8.4	Measures to structurally reduce transport poverty by investing in sustainable and zero-carbon mobility options	2	Overview of several policies or measures in the area, but without providing some important details.					
<u> </u>	9	9 Financial needs and sources of funding							
	9.1	Description of financial needs for each proposed policy and measure including distributional impacts	0	No mention of the financial needs of the proposed policies and measures.					
	9.2	Description of the source of funding for each proposed policy and measure including distributional impacts	1	Sources of funding for some proposed policies and measures have been described, but detailed information is lacking.					
	10	Tax, insurance and social security policies							
	10.1	Use of revenues from climate-related taxes, fees and charges (or similar instruments, such as EU ETS revenues) to support vulnerable groups	1	This principle is reflected in some proposed policies and measures where it would be reasonable to apply it, but in most cases it is ignored.					
	10.2	Accounting for and preparing a framework for the use of the Social Climate Fund	0	No mention of the use of the SCF.					
	10.3	Consideration and consistent application of the "polluter pays" principle throughout the economy	0	The NECP does not mention the use of the principle, but it is used in some proposed policies and measures, in the case of which it would be reasonable to apply it.					

	10.4	Integrated protection of vulnerable groups under tax instruments and cross-cutting support programs related to the green transition	1	Protection is available under some of the proposed policies and measures, in the case of which it would be reasonable to apply it.		
	11	Working conditions and acquisition of new professional qualifications				
	11.1	Consideration of upskilling, retraining and acquisition of new competencies by transition-affected employees	2	Provision of an adequate set of resources to support the upskilling, retraining and acquisition of new transition-related competencies by economically active people.		
PECTS	11.2	Tailored measures to support employment, job creation and transition, particularly for women or people with disabilities, and in the most affected areas	0	Little or no support for transition-related job creation.		
NAL ASP	11.3	Analysis of the impact of the green transition on occupational health and safety, and the preparation or continuation of measures to counter the risks	0	No consideration of the impact of the green transition on occupational health and safety.		
2	12	Stakeholder involvement and public consultations				
DISTRIBUT	12.1	Involvement of social partners, civil society players and the general public in the discussion of issues related to a just transition during the public consultation of the plan	1	Although public consultations for the NECP document itself were not organized, pre-consultations on the basis of the <i>Scenario for the update</i> took into account the involvement of social partners and aspects of the just transition.		
	12.2	Establishment of a permanent body for stakeholder consultations covering issues related to the just transition	0	Public consultations have not been organized, and there is no mention of the bodies that are to conduct the consultations.		
	12.3	Organization of early dialog with local authorities on issues related to the just transition	0	No mention of dialog with local authorities on issues related to the just transition.		
	12.4	Identification of opportunities for cross-border dialog in addressing issues related to the just transition	0	No mention of cross-border dialog on issues related to the just transition.		



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