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ENERGY POLICY
OF POLAND

UNTIL 2040



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| **Summary of public consultation conducted as part of the strategic environmental impact assessment**  |
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1. INTRODUCTION

The legal basis for the strategic environmental impact assessment is the Act of 3 October 2008 on the provision of information on the environment and its protection, public participation in environmental protection and environmental impact assessments[[1]](#footnote-1) (hereinafter: the EIA Act), which transposes Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment (SEA Directive)[[2]](#footnote-2).

In accordance with Art. 55, Sec. 3 of the EIA Act, the adopted document is accompanied by a written summary of the consultation, including justification for the choice of the adopted document in relation to considered alternative solutions, as well as information on how they were taken into account and to what extent they were considered:

* findings contained in the environmental impact forecast,
* opinions of competent authorities for environmental impact assessments,
* comments and requests made,
* the results of the cross-border environmental impact study, if any,
* suggestions concerning the methods and frequency of monitoring the effects of the implementation of the provisions of the document.

The subject of the strategic environmental impact assessment was the draft Energy Policy of Poland until 2040 (hereinafter: Policy, PEP2040), which has been subject to extensive public and inter-ministerial consultation, as well as to opinions from authorities competent for environmental impact assessments. The conclusions from the consultation and the resulting recommendations were used and implemented to the maximum extent possible in PEP2040.

1. FRAMEWORK FOR STRATEGIC ENVIRONMENTAL IMPACT ASSESSMENT

The need to carry out a strategic environmental impact assessment for the Energy Policy of Poland until 2040 stems from Art. 46 of the EIA Act. Pursuant to this provision, a strategic environmental impact assessment is required for policies, strategies, plans or programmes in the field of industry, power, transport, telecommunication, water management, waste management, forestry, agriculture, fisheries, tourism and land use, developed or adopted by administration authorities, setting the framework for the subsequent implementation of undertakings that might have a significant impact on the environment.

Pursuant to Art. 3 Item 14 of the EIA Act, the proceedings on the strategic environmental impact assessment were conducted in four stages:

* agreeing on the level of detail of information contained in the environmental impact forecast,
* preparation of an environmental impact forecast,
* obtaining the required decisions,
* ensuring public participation in the proceedings.
	1. Agreeing on the level of detail of information contained in the environmental impact forecast

Pursuant to Art. 53 and 57 of the EIA Act, the scope and level of detail of the information required in the environmental impact assessment of the Energy Policy of Poland until 2040 (hereinafter: the EIA Forecast) was agreed with:

* General Director for Environmental Protection (letter of 1 February 2019, ref. No.: DOOŚ.TSOOŚ.411.1.2019.TW);
* Chief Sanitary Inspector (letter of 19 July 2018, ref. No.: GIS-HŚ-NS-4311-00039/MO/18.);
* Director of the Maritime Office in Szczecin (letter dated 1 October 2019, ref. No.: PO.III.070.55.2.19);
* Director of the Maritime Office in Słupsk (letter of 24 September 2019, ref. No.: 0W-B 5-074/48/19/ds.);
* Director of the Maritime Office in Gdynia (letter of 25 September 2019, ref. No.: INZ1.1.8103.109.2019.ASW).
	1. Preparation of an environmental impact forecast

When preparing the EIA Forecast, the requirements regarding the scope and level of detail of the presented information were taken into account, as specified in the EIA Act and in the positions of the above mentioned institutions. The aim of preparing the EIA Forecast, in accordance with the provisions and agreements in force, such as: a comprehensive analysis of possible impacts on individual components of the environment which may occur in relation to the implementation of actions provided in PEP2040, assessment of the occurrence of cumulative impacts, analysis of the possibility of applying alternative solutions and the need for compensatory measures. The EIA Forecast is included in Appendix 3 to PEP2040.

* 1. Obtaining the required decisions

In accordance with Art. 54 Sec. 1 of the EIA Act, the draft Energy Policy of Poland until 2040 together with an EIA Forecast were subject to an opinion of competent bodies within the meaning of the EIA Act. The Chief Sanitary Inspector and the Director of the Maritime Office in Słupsk informed that they had no comments. Whereas, the General Director for Environmental Protection made 14 comments. All these comments have been fully taken into account. These included: improving the consistency of the assessments, editorial correction - clarifying and expanding unclear wording, and expanding the human impact assessment.

* 1. Ensuring public participation in the proceedings

In accordance with the provisions of the EIA Act, the draft Policy together with the EIA Forecast was subject to public consultation, which took place from 8 to 29 November 2019, i.e. taking into account the statutory 21-day period.

The draft PEP2040 agreed as mentioned above, took into account the previously implemented conclusions of the preliminary consultation held from 23 November 2018 to 15 January 2019 (pursuant to the provisions of the Act of 6 December 2006 on the principles of development policy[[3]](#footnote-3)). The initial 2018/2019 consultation only covered the strategic part of the draft PEP2040 and forecasts for the electricity generation sector. The shape of the draft PEP2040 was also indirectly influenced by the conclusions of the consultation of the draft *National Energy and Climate Plan 2021-2030* (KPEiK) of 4 January 2019 and the results of the analysis carried out after receiving the recommendations of the European Commission to the draft KPEiK.

As part of the public consultation carried out in November 2019, the draft PEP2040 and the EIA Forecast, together with information on the possibility of submitting comments and applications, including how and where to submit them and the body competent to consider the comments and applications, were posted on the website, which is the Public Information Bulletin of the Ministry responsible for energy [- https://www.gov.pl/web/energia/polityka-energetyczna-polski[[4]](#footnote-4)](https://www.gov.pl/web/energia/polityka-energetyczna-polski). The documents were publicly available and anyone could comment on them. The non-specialist summary of the EIA Forecast was also published in English and German.

Public disclosure of information on the commencement of public consultation as part of the strategic environmental impact assessment of the draft PEP2040 was also made by sending a cablegram to the state information agency, i.e. the Polish Press Agency, which is quoted by national and international media. In order to disseminate knowledge about the commencement of consultation, information about the publication of the draft PEP2040 and the EIA Forecast was sent to the largest national media (press, radio, television, internet portals, social media).

Thus, it was possible to get familiar with the documentation and to submit comments and applications, thus ensuring public participation in the development of the Policy in accordance with the provisions of the EIA Act.

The Minister responsible for energy also communicated in writing the commencement of public consultation of the draft Policy together with the EIA Forecast to 51 entities and non-governmental organisations, the list of which is presented below:

1. Trade Union Forum

2. Chamber of Industrial Energy and Energy Consumers

3. Polish Heating Sector Chamber of Commerce

4. Chamber of Commerce for Energy and Environmental Protection

5. Chamber of Commerce for Gas Industry

6. National Commission of NSZZ "Solidarność"

7. Confederation Lewiatan

8. National Chamber of Biofuels

9. National Chamber of Commerce

10. National Centre for Balancing and Emission Management

11. Independent Self-Governing Trade Union "Solidarność"

12. All-Poland Alliance of Trade Unions

13. Polish Geothermal Association named after prof. Julian Sokołowski

14. Polish Chamber of Biomass

15. Polish Economic Chamber of Electrotechnics

16. Polish Economic Chamber of Renewable and Distributed Energy

17. Polish Energy Storage Association and Electromobility – PIME

18. Polish Chamber of Liquid Fuels

19. Polish LPG Association

20. Polish Oil Industry and Trade Organisation

21. Polish Organisation for the Development of Heat Pump Technology

22. Polish Electricity Association

23. Polish Wind Energy Association

24. Polish Hydrogen and Fuel Cell Association

25. Polish Association of Professional Combined Heat and Power Plants

26. Polish Association of Solar Energy – ISES

27. Polish Power Transmission and Distribution Association

28. Employers of the Republic of Poland

29. Association of Polish Electrical Engineers

30. Renewable Energy Association

31. Polish Association of Petroleum and Gas Industry Engineers and Technicians

32. Energy Efficiency Association – ETA

33. Scientific and Technical Association of Engineers and Technicians

34. Association of Independent Combined Heat and Power Producers

35. Association of Polish Power Engineers

36. Polish Power Exchange

37. Polish Hydropower Association

38. Polish Power Plants Association

39. Association of Energy Trading

40. Renewable Energy Forum Employers' Union

41. CO2 FORUM

42. Electricity and Gas Consumers Forum

43. Mining Chamber of Industry and Commerce

44. Polish Steel Association

45. Economic Chamber of Non-Ferrous Metals and Recycling

46. Polish Economic Chamber of Wood Industry

47. Polish Chamber of Chemical Industry

48. Association of Polish Papermakers

49. Wood Based Panels Producers Association of Poland

50. Polish Lime Association

51. Polish Cement Association

At the same time, the draft Policy was submitted to ministries, provincial governors and marshals of 16 voivodeships and to the Joint Commission of the Government and the Local Government, as well as to the Prime Minister's Plenipotentiary for the "Czyste Powietrze" Programme, the Government Plenipotentiary for Strategic Energy Infrastructure, the President of the Office of Competition and Consumer Protection and the President of the Energy Regulatory Office. Including non-governmental institutions, a letter of public consultation was sent to approximately 110 entities.

The following entities and 7 individuals made comments under the public consultation:

1. Industrial Development Agency – ARP
2. ENEA
3. Energa
4. energiazatomu
5. Equinor
6. Forum Energii
7. INSTRAT Foundation
8. Gaz System
9. Polish Steel Association – HIPH
10. Polish Heating Sector Chamber of Commerce – IGCP
11. Polish Climate Coalition
12. Gas and Energy Committee of the German-Polish Chamber of Industry and Commerce
13. National Section of Power Plants and Heating Plants NSZZ "Solidarność"
14. Lewiatan
15. Storage System Operator – Gas Storage Poland S.A.
16. PERN
17. PGE S.A.
18. PGNiG S.A.
19. PKN Orlen S.A.
20. Polish Economic Chamber of Renewable and Distributed Energy – PIGEOR
21. Polish Electricity Association – PKEE
22. Polskie Sieci Elektroenergetyczne S.A.
23. Polish Wind Energy Association – PSEW
24. Polish Photovoltaics Association
25. Polish Association of Professional Combined Heat and Power Plants – PTEZ
26. Polish Nucleonic Society
27. Polish Power Transmission and Distribution Association – PTPiREE
28. Polish Offshore Wind Energy Society – PTMEW
29. Polish Oil Industry and Trade Organisation – POPiHN
30. Association of Renewable Energy Friendly Communes – SGPEO
31. Synthos S.A.
32. Silesian Union of Communes and Poviats
33. Tauron Polska Energia S.A.
34. Polish Power Plants Association – TGPE
35. Association of Energy Trading – TOE
36. WWF Poland

In addition, the following government/public/governmental institutions also submitted comments:

1. Office of Spatial Planning in Białystok
2. Office of Spatial Planning in Łódź
3. Mazovian Voivodeship Office
4. Ministry of Finance
5. Ministry of Development Funds and Regional Policy
6. Ministry of Maritime Affairs and Inland Navigation
7. Ministry of Defence
8. Ministry of Family and Social Policy
9. Ministry of Agriculture and Rural Development
10. Ministry of Development
11. National Fund for Environmental Protection and Water Management – NFOŚiGW
12. Marshal's Office of Podlaskie Voivodeship
13. Marshal's Office of Pomeranian Voivodeship
14. Office of Competition and Consumer Protection – UOKiK
15. Energy Regulatory Office – URE

The vast majority of comments were submitted to the public consultation on a dedicated form, by email to – polityka.energetyczna@me.gov.pl. Only a small number of comments were sent in the traditional way, on paper.

In addition, a consultation meeting was organized on 3 December 2019 with representatives of ministries related to the implementation of PEP2040, the General Directorate for Environmental Protection, the Chief Sanitary Inspectorate, NFOŚiGW and UOKiK. The meeting was attended by 38 people. During the meeting, the draft Energy Policy of Poland until 2040 and the environmental impact forecast were discussed, as well as preliminary conclusions from the consultation and evaluation. During the meeting, among other things, the method of the preparation of the forecasts of air pollutant and greenhouse gas emissions in the EIA documentation was explained. Comments made during the meeting, e.g. concerning inclusion of positive aspects of biogas development in the EIA Forecast, have been implemented.

* 1. Opinions, comments and conclusions to the environmental impact forecast submitted during the national public consultation

As a result of the consultation, over 30 opinions and comments to the EIA Forecast were received, most of which were taken into account in the final version of the forecast. They concerned mainly the correction of names of strategic documents and noticed errors in acronyms, completion and update of data based on new sources, clarification and completion of information on environmental impacts and corrections in the formatting of the document. Only 2 comments to the EIA were not taken into account. Suggestions concerning supplementing the content of the EIA Forecast with data in the context of the development of solar, wind, biomass, geothermal and nuclear energy (including e.g. description of the current level of RES use and geographical conditions) were not implemented, as assumptions concerning these directions are included in PEP2040 and Appendix 2 thereto. Instead, the EIA concentrated on the analysis of the state of the environment and the impact of the individual measures of the Policy on all components of the environment. The comment concerning the divergence of terms related to nature used in Tables 16 and 17 of the Forecast was also rejected, as the terms in these tables were used for different purposes, i.e. Table 16, in accordance with the adopted methodology, served for preliminary analysis and determination of undertakings possible to be implemented under PEP2040, which were further analysed in detail in terms of an impact on the particular components of the environment. Therefore, Table 16 only indicates impacts in general, e.g. regarding nature resources, while in the further part and in subsequent tables (Table 17), impacts on individual elements of nature were already considered.

It should be acknowledged that all comments and feedback received have contributed to improving and refining the EIA Forecast.

* 1. Opinions, comments and conclusions to the draft PEP2040 and other appendices submitted during national public consultation

During the consultation, approximately 1,200 comments were submitted on the content of PEP2040 (strategic part) and the forecasting and analytical appendices. The comments were cross-cutting in nature and also expressed varied opinions. Some of the comments indicated that the low-emission energy transition of PEP2040 is too fast, which will cause major financial, organisational and technical challenges, leading to a significant burden on the national economy and potential negative socio-economic effects especially in mining regions. Other comments encouraged more ambitious or radical solutions to accelerate the move towards low-emission economy. The issues raised in the public consultation are summarised below, as well as their implications for changes to the draft PEP2040.

* In order to provide a clear, structured and focused message on priorities and challenges, it was decided to base PEP2040 on three pillars - (I) just transition, (II) low-emission energy system, (III) good air quality. In this way, it has been shown that PEP2040 not only achieves the statutory core objective of the national energy policy, but also how it responds to current critical energy and economic challenges. In addition, in accordance with the formal requirements for strategic documents set out in the *Act of 6 December 2006 on the principles of development policy*, the "directions" of PEP2040 were transformed into "specific objectives". In a few cases, the timing of measures was changed as a result of the ongoing assessment of the situation and the impact of the COVID-19 pandemic – this concerned measures in the short term; the timing of measures and long-term objectives were not adjusted. Moreover, it was decided to draw up an additional forecast scenario for the power sector, forming an extension of Appendix 2 to the Policy. It assumed an increase in GHG reduction targets at the EU level, which was reflected in forecasts of higher CO2 emission allowance prices. Moreover, in response to the postulate to include external costs accompanying energy generation, the so-called total cost methodology was used. It assigns external costs directly to the source of their production. These include: system costs (such as reserve capacity, grids, balancing), environmental costs (such as health, ecosystem) and macroeconomic costs (such as security, import-export balance, employment).
* The key change resulting from the public consultation process is the abandonment of the "range" target of 21-23% share of renewable energy sources in gross final energy consumption in 2030 – a higher range value, i.e. at least 23%, has been adopted as the target. The target for the share of coal in electricity generation in 2030 was also changed – from 56-60% to no more than 56%, while it should be pointed out that forecasts made for the scenario of high CO2 emission allowance prices indicate the possibility of reducing the share of coal in electricity generation to approx. 37% in 2030. Taking into consideration the starting point of the Polish energy mix and the capabilities of the Polish economy compared to the EU member states, achieving these targets in the coming decade is an ambitious challenge. By diversifying the energy mix and using a wide range of energy technologies, PEP2040 aims to prepare for any situation that may occur in the power system, with a view to ensuring reliable and stable energy supplies.
* In addition, in response to comments from the consultation, PEP2040 emphasises the vision of energy transition, which will lead to the implementation of the following directions of change – placing the energy consumer at the centre of the market, increasing consumer protection and increasing their share in the energy market; building a low-emission energy system and using energy transition to develop new industries and stimulate economic growth.
* The submitted comments recognise the need to align the projections presented in PEP2040 with those in the *National Energy and Climate Plan 2021-2030*. The request coincided with simultaneous work by the Ministry to make the forecasts more consistent, and was therefore taken into account as requested in the consultation. Currently, Appendix 2 to PEP2040 (i.e., the scenario of sustainable CO2 emission allowance price increases) contains forecasts consistent with the final version of KPEiK submitted to the European Commission on 30 December 2019.
* The comments also pointed to the need to support not only mining regions, but also energy regions dependent on coal, as part of a just transition. The context of just transition was complemented in the draft Policy. It is important to note that just transition is understood even more broadly in PEP2040 than requested by commentators. It encompasses all activities and measures focused on moving the Polish energy sector and the entire economy in a low-emission direction. Just transition will mean providing new development opportunities for the regions and communities most negatively affected by the low-emission energy transition, while creating new jobs and building new branches of industry that participate in the energy sector transition. In addition to the regional approach, the transition will involve individual energy consumers, who on the one hand will be shielded from the increase in energy prices and on the other hand will be encouraged to actively participate in the energy market. This will ensure that the energy transition is conducted in a just manner and that everyone can participate.
* The entities taking part in the consultation indicated that the energy efficiency target is very ambitious and will be a major challenge for the economy and in particular for businesses. It should be made clear that while the target may seem overambitious, it is tailored to current conditions and needs in terms of rising CO2 emission allowance prices, growing energy demand and increasing pressure of the energy industry on the environment. Energy efficiency projects are encouraged by the potential savings, while financial resources are a barrier. PEP2040 takes these limitations into account by identifying various investment financing options. In addition, energy efficiency is a priority in EU policy, which will also translate into an increased base of programmes and instruments financially supporting better energy management. Some of the proposals for editorial changes were implemented, if they did not concern very detailed solutions for the improvement of energy efficiency for individual types of undertakings (including, for example, specific technical solutions for thermal modernisation of buildings or energy management), which goes beyond the horizontal nature of PEP2040.
* A number of comments encouraged more ambitious targets for reducing the use of coal – primarily in households for heating. Comments received from both energy companies and industry stakeholders have encouraged enhanced actions resulting in phasing out coal in individual consumption. However, it should be stressed that the scale of investment needs is very large, and the risk of aggravating energy poverty is also very significant. In view of the great benefits for the improvement of air quality and people's living comfort, more ambitious measures have been set after the analysis of the comments, i.e. phasing out the use of coal in household heating by 2040 at the latest (in urban areas by 2030, in rural areas by 2040, with smokeless fuel also possible in urban areas by 2040).
* A significant number of comments concerned problems generated by RES in the national power system. Many stakeholders made detailed technical comments on the need for the expansion of the distribution grid (parameters and bi-directionality), as well as on the development of long-duration energy storage to increase flexibility and reliability of energy supply. A number of comments also addressed the need to better describe the development of ancillary services and the associated development of balancing at the local level. These issues have been addressed according to the direction provided in the comments.
* Some of the demands concerned greater attention to the internal electricity market, the role of cross-border interconnections and the position of energy consumers on the market. These issues have been adequately clarified in the Policy through a broader diagnostic description and expansion of the direction of intervention concerning the development of the power grid, responding to the needs arising from market changes.
* In addition, there were comments on the forecasts of the use of offshore wind energy (OffWE). The consultees expressed concern arising from the fact that the forecasts accompanying the draft PEP2040 dated 08.11.2019 indicate an installed capacity in OffWE of 8 GW in 2040, whereas the previous version of the draft, i.e. dated 23.11.2018, indicated 10 GW. It is necessary to clarify here that the draft Policy and the attached forecasts indicate the direction of development and not the exact capacity, which will depend on the investments made over the next 2 decades. Such a significant increase in the capacity of OffWE that is not yet operating in the NPS – in both forecasts – proves that the Government recognises the huge role of offshore energy for economic development. This is also evidenced by the fact that OffWE was given the status of a strategic project in PEP2040 and by legislative work related to operational support and facilitating the development of this technology. Having the above in mind and taking into account new investment projects, the postulates regarding OffWE were accepted and PEP2040 indicates the aspiration to reach approx. 11 GW of offshore wind capacity by 2040.

The catalogue of comments also included postulates to abolish the "10H" rule or to introduce more lenient rules for the location of onshore wind farms. This regulation was introduced to safeguard the quality of life of local communities near which wind turbines are located. Auctions for electricity generated from RES in such power plants show continuous interest of investors in this technology. In order to show the possibilities of using the potential of onshore wind power plants, the draft PEP2040 indicates perspective areas for its implementation, such as: the possibility of making the 10H rule more flexible, the use of PPAs, implementation of brownfield investments, i.e. in already existing locations, for which the acceptance of the local community seems to be already established.

* It was also requested that PEP2040 include detailed provisions on specific forms of support for RES in the future. This issue is described as broadly as possible in the document, however, some of the information is clarified at the level of generality appropriate for a strategic document such as PEP2040 and it is indicated that the time horizon of support will be adjusted to market needs. PEP2040 also includes an updated table titled "List of possible financing sources for PEP2040 – national and international funds".
* The comments on nuclear power were mostly detailed, technical or editorial in nature. It is worth noting that they took divergent positions – e.g. on the one hand they called for acceleration of the schedule for construction of the first unit and on the other hand they pointed to the need to reconsider the rationale for implementing this type of technology. Due to the need to ensure a stable supply of zero-emission energy, PEP2040 maintains measures towards the construction of such projects, taking into account their characteristics. Comments were also made advocating the abandonment of the use of "large" nuclear units in favour of small high-temperature reactors or the complementary use of both. PEP2040 does not exclude the use of SMRs (small modular reactors), as in the long term there may be an opportunity to use small nuclear reactors in district heating and industry (process heat). Therefore, the relevance of following the development of this concept and other new nuclear technologies was been emphasised. Moreover, PEP2040, with respect to nuclear power development, is consistent with the update of the *Polish Nuclear Power Programme* adopted by the Council of Ministers on 2 October 2020.
* Many comments underlined how important the development of hydrogen will be, and advocated emphasising its role in PEP2040. Following the significant advantages and versatility of the use of hydrogen as a fuel in electric power, transport and industry, as well as the growing interest of both the fuel and energy sector, the world of science and the EU institutions and forums, the Policy highlights the potential of hydrogen as a fuel and energy carrier.
* A number of comments also noted the potential for biomethane and other decarbonised gases resulting from the future development of the ability to introduce these gases into the gas grid. This issue was already recognised in the draft Policy, however, it was decided to set an additional objective to stimulate the development of this area, i.e. to ensure the possibility of transporting approx. 10% of the decarbonised gas mixture through the gas networks by 2030.
* Many of the comments requested emphasising the importance of using natural gas to reduce the environmental impact of the energy sector. The advantages of its use in electric power generation and for the development of district heating were listed, while the advantages of and need for expansion of cogeneration sources, especially those based on natural gas, were particularly noted. The comments also pointed to the need to make visible future constraints related to gas investment financing, which will be an impediment on the transition path. These notes have been implemented, with care taken to avoid repeating the same issues in the document and by using references to the relevant chapters.
* With regard to district heating, in addition to the comments indicated above on the advantages of using gas in combined heat and power (CHP) and on incentives for radical action to reduce the inefficient use of coal in domestic heating, comments were also made on waste heat (i.e. from technical processes of companies). Contributors highlighted the advantages of its use, including from an energy efficiency perspective. As a result, the provisions of PEP2040 on this issue have been expanded. Some comments confused waste heat from industrial processes with heat from waste incineration. It should be noted that the use of waste for energy generation purposes must follow the waste hierarchy and this is set out in the Policy.
* Comments concerning the fuel sub-sector mainly referred to the provisions concerning the responsibility for the implementation of certain activities or called for additional regulations concerning e.g. methods of fuel activity control at airports and airstrips or details of the investment process of liquid fuel micro-stations. The comments were analysed and eventually led to more precise provisions, e.g. on the construction of caverns or increased market transparency. Some of the comments were an extensive description of the current state of the fuel market or regarded technical solutions in relation to the described areas of fuel sector intervention, too detailed for the strategic level of PEP2040.
* Among the recurring comments, there were also reservations concerning the possibility of rapid development of electromobility in Poland in the short term. The objectives set out in the Policy are directional in nature, with a view to giving impetus to a growing industry such as electromobility. Nevertheless, in order to meet those comments, PEP2040 introduces two variants of the electromobility development target, i.e. it also includes the variant of less dynamic development of this type of transport, which will lead to approx. 600 thousand electric and hybrid vehicles registered in 2030.
* The comments also draw attention to the specific situation of energy-intensive customers and the possibility of their participation in the provision of ancillary services. These aspects were more broadly addressed, pointing to the need for industry to better engage in building the energy value chain and developing the national economy.

In summary, the comments made fall into several categories. A large part of the comments were of an editorial nature – they were implemented if they did not result in an excessive increase in the volume of the document. Many comments referred to very detailed technical or legal solutions – a significant part of these comments related to issues discussed in PEP2040 or did not contradict them, however, it was postulated that the provisions were too detailed compared to the strategic nature of PEP2040. In some cases, they have been used to supplement the existing content of PEP2040, but most importantly they can form the basis for further work implementing the Policy. Another group of comments expressed an opinion on the insufficient description of particular solutions or categories of technologies – some of the comments were taken into account. However, the vast majority of opinions were based on fragmented analyses, ignoring system-wide considerations, without taking into account the operational security of the NPS, the insufficient state of technological development and other technical conditions and cost aspects. A number of comments indicated no solutions to the problem but only its diagnosis. The last type of comments indicated a lack of description of specific issues in the draft PEP2040 – some of these comments were implemented, some were assessed as too detailed. However, a significant part of the comments referred to areas / issues that appear in PEP2040 but in a different chapter than the one referred to by the commenter.

The number of entities submitting comments indicates great interest in the issues of national energy policy. It should be stressed that the overwhelming number of comments were of a clarifying and strengthening nature, and not negating the indicated solutions and priority directions of the development of PEP2040. Although some of the comments have not been implemented directly into the document due to their excessive detail, they have allowed us to build a broader analytical base of individual issues and constitute an area for further work. The comments submitted to PEP2040 during the public consultation and opinion poll were an important voice in the discussion on the directions of development of the fuel and energy sector and the planned energy transition.

* 1. Opinions, comments and recommendations submitted during the cross-border consultation with the Austrian Party

As part of the strategic environmental impact assessment for the draft PEP2040, the potential for significant cross-border environmental impacts was analysed. It was assumed for the analyses that the potential impact depends primarily on the location of the infrastructure projects of PEP2040, the nature of the investments, and the extent of the impact of the proposed projects at the stage of implementation, operation, and in the event of possible failures. Detailed assumptions for the analyses and conclusions in the cross-border context are described in the EIA Forecast (Appendix 3 to PEP2040). The EIA Forecast indicates that no cross-border proceedings are necessary for PEP2040 given the factors such as:

* cross-border environmental impact assessment proceedings have been carried out or have already been initiated for the planned projects indicated by name in PEP2040. As the forecasts for the aforementioned projects are characterised by a much higher level of detail, there was no justification to repeat this process at the stage of PEP2040 assessment;
* PEP2040 is characterized by a high degree of generality, making it impossible to identify the nature and scale of potential cross-border impacts for other projects.

However, the cross-border consultation was carried out at the request of the Republic of Austria based on Art. 7 of Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of certain plans and programmes on the environment and Art. 10 of the Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context, drawn up in Kiev on 21 May 2003. Accordingly, on 3 January 2020, the Republic of Poland provided the Republic of Austria with an official notification together with PEP2040 and an extract from the EIA Forecast – a complete set translated to German. Subsequently, the Austrian Party, by letter of 21 February 2020, submitted its position on the draft PEP2040 and the Environmental Impact Forecast, including comments and proposals from Austrian public administration bodies and Austrian society. Following comments and requests, the Polish Party submitted additional clarifications to the Austrian Party regarding the issues raised in the position of the affected Party. Subsequently, the Republic of Austria sent its final position on 25 May 2020. The proceedings were conducted with the active participation of the Austrian Party, which presented its final position in an expert report of the Federal Environment Agency (Umweltbundesamt). The Agency provided a total of approximately 40 comments and recommendations throughout the proceedings.

Additionally, as a result of public consultation, the Austrian Party provided the Polish Party with over 60 comments and opinions of the following non-governmental entities:

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| 1. Wiener Plattform Atomkraftfrei
2. Atomstopp
3. Begegnungszentrum für aktive Gewaltlosigkeit
4. Mütter gegen Atomgefahr
 | 1. SENECA
2. Wiener Umweltanwaltschaft
3. AMT DER NIEDERÖSTERREICHISCHEN LANDESREGIERUNG
4. Salzburger Plattform gegen Atomgefahren (PLAGE)
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The expert opinion of the Federal Environmental Agency mainly addressed the issues of nuclear power development in Poland, including environmental impact assessment of the entire fuel chain and the viability of a nuclear power plant, conducting cross-border SEA consultations for the update of the *Polish Nuclear Power Programme* (PPEJ) and for the first nuclear power plant, measures taken since the EIA Forecast for the PPEJ to increase the safety level of the nuclear power plant, an update of the *National Plan for Radioactive Waste and Spent Fuel Management*, the implementation of recommendations of the IAEA's Integrated Regulatory Review Service (IRRS) verification mission, nuclear power plant technology suppliers and types, the status of HTR development in Poland and the implementation of the Allegro project for a Generation IV Demonstration Reactor, criteria for the selection of nuclear power plant sites, the conduct of an earthquake hazard analysis for the location of a nuclear power plant, requirements for planned nuclear power plants with regard to the design for a commercial aircraft crash and with regard to the risk of cyber attacks, etc. All questions and recommendations were answered or responded to by Poland. Recommendations to present the summary of the EIA Forecast in a non-specialist language and to make it more visible were accepted. With regard to the recommendation concerning to present an alternative assessment which enables a comparison of the environmental impact of nuclear energy and renewable energy, it was reported that PEP2040 sets directions for diversification of the structure of the energy mix, involving actions such as the parallel development of both renewable and nuclear energy. Both directions are complementary to each other. Therefore, there was no need to compare the two technologies in terms of alternatives in PEP2040. However, it should be pointed out that the update of the Polish Nuclear Power Programme (PPEJ), approved by the Council of Ministers on 2 October 2020, includes an analysis of four forecast scenarios, including scenarios without nuclear power development. PEP2040 is consistent with the PPEJ strategic scenario where the total cost is the lowest. With regard to the Austrian Party's set of recommendations on the safety of nuclear power plants, it was reported that the national regulatory framework places high safety requirements on this technology. The recommendation to regularly review and update the regulations related to the safety of nuclear power plants is already being implemented. National regulations have been developed on the basis of, among others, the current state of European and global legislation, including IAEA requirements and guidelines or WENRA safety objectives. National regulations are constantly amended in line with international requirements, regulations and conditions. Issues concerning the environmental impact of a specific nuclear project will be assessed in detail in the environmental impact report for the first (and next) nuclear power plants. The report is under development, in accordance with the scoping order of the General Directorate for Environmental Protection. Once the EIA Forecast has been prepared, it will be possible to conduct cross-border consultation for the specific nuclear project. Under the Polish conditions, the implementation of nuclear energy with the consideration of current safety standards, for the protection and welfare of citizens, environment and national and EU economy, is considered a priority and absolutely indisputable.

The comments of the Austrian social side were for the most part consistent with the issues raised by the Federal Environmental Agency and referred to the plans for nuclear power development in Poland. In addition, the comments concerned: deliberations whether nuclear power may be described as zero-emission, as well as the possibility of potential delays in the performance of nuclear investment projects, the implementation of a comprehensive nuclear power development process, and Poland's experience in terms of the commercial application of nuclear power. There were also voices expressing outright opposition to the construction of nuclear power plants in Poland. Other comments concerned the lack of information on the decision concerning the supplier and type of nuclear technology chosen for the first and subsequent nuclear power plants. The postulates were also related to the increased ambition to reduce the share of coal in electricity generation and to increase the share of RES – the postulates regarding the aforementioned goals were directionally taken into account, taking into account the new economic and regulatory environment. It should be noted that the objectives regarding the structure of the national mix, as well as the resulting CO2 emission reduction target, are a resultant of the national conditions, energy technology development potentials, energy security conditions and cost optimisation.

1. CONCLUSIONS FROM THE COURSE OF PROCEEDINGS ON THE STRATEGIC ENVIRONMENTAL IMPACT ASSESSMENT
	1. Findings included in the Environmental Impact Forecast

As part of the process of the strategic environmental impact assessment for the draft PEP2040, a comprehensive Environmental Impact Forecast was prepared assessing the possible impacts of all directions covered by the policy on various components of the environment, including: biodiversity, integrity of protected areas, people, animals, plants, water, air, land surface, landscape, climate, natural resources, historical monuments and material assets. Within the framework of the aforementioned environmental impact forecast, potential negative impacts under each of the eight priority directions (objectives) and measures minimising them were also analysed. The EIA Forecast was prepared and subsequently subjected to public consultation in order to comprehensively cover environmental aspects and ensure public participation in the process of developing PEP2040. The conclusions from the public consultation were taken into account in the process of creating the final version of PEP2040.

The EIA Forecast presents the information on the contents of the Policy, the environmental protection conditions arising from the legal regulations, as well as the analysis of the current state of the environment, identifying the most important environmental protection challenges to which PEP2040 should contribute. Moreover, on the basis of the analyses, it was found that the Policy is consistent with the objectives and directions of basic global, EU and Polish strategic documents. The result of the analysis and assessment of the existing condition of the environment was the identification of the existing environmental problems significant from the point of view of sustainable development.

It was indicated that the abandonment of the implementation of the Policy would mean weakening of the completion of the strategic objectives of environmental protection in the context of a broader perspective on these issues. Failure to implement PEP2040 will contribute to the perpetuation and occurrence of negative trends in the environment resulting from the impact of the energy sector.

The analyses indicated that the comprehensive implementation of PEP2040, securing the country's energy needs, will contribute to the reduction of the negative environmental impact and greenhouse gas emissions from the energy sector, and thus will have a positive impact on, among others, air quality, human health and sustainable socio-economic development. However, some of the actions planned for implementation may have a negative impact. These impacts will vary and depend on the technology and energy carrier used. According to the analyses, from the point of view of the environment, the least negative impacts will be associated with the development of renewable and nuclear energy, and the most significant will be those involving the use of coal, if there is no technological breakthrough in clean coal technologies. In cases of negative impacts, measures to limit them were identified.

All activities of PEP2040 in the direction of increasing energy efficiency (in the whole energy chain), construction of low-emission and modernised sources of electricity and heat, increasing the role of renewable energy sources (in the power sector, heating and transport), the expansion of smart grids and the development of low-emission transport will be beneficial for the environment. According to the analyses performed, the implementation of PEP2040 will result in a 45% reduction in greenhouse gas emissions (relative to 1990) by 2040 and a significant reduction in air pollutant emissions. In particular, it was stated that the implementation of PEP2040 will contribute to the implementation of the obligations arising from the so-called ceiling directive (NEC Directive). Systemic actions envisaged in PEP2040 will influence the improvement of the quality of the environment, including air, resulting in the improvement of the quality of life and health of the citizens.

Detailed assessments and conclusions in this respect are presented in the relevant chapters of the EIA Forecast forming Appendix 3 to PEP2040.

* 1. Suggestions concerning the methods and frequency of monitoring the effects of document implementation

When implementing the Policy it will be important to control the process and to assess the effects of the achievement of the objectives and the impact of PEP2040 on the environment, so that it will be possible to react quickly to any negative changes and to take appropriate measures to minimise, eliminate and possibly compensate them. Implementation of the Energy Policy of Poland until 2040 will be monitored at the level of the main objective, specific objectives and strategic projects, as well as indicators described in Chapter 8 of PEP2040, concerning, among others, the reduction of the share of coal in electricity generation, the rate of RES development in electricity and heat generation and in transport, and the development of distributed energy (number of energy sustainable areas, number of prosumers), increase in energy efficiency, reduction of CO2 emissions, etc. In the EIA Forecast, it was proposed to base the monitoring of the environmental effects of the Policy implementation also on the State Environmental Monitoring system.

Moreover, the strategic projects included in PEP2040 will be subject to ongoing operational monitoring conducted by the Government Project Monitoring Office in the Chancellery of the Prime Minister and cyclical operational monitoring conducted by the Ministry of Funds and Regional Policy.

The first general assessment of the impact of PEP2040 implementation will be carried out as part of the evaluation preceding the Policy update, which is scheduled for 2023.

* 1. Justification of the choice of the adopted document with respect to alternatives considered

PEP2040 is a strategic document which responds horizontally to the most important challenges that the Polish fuel and energy sector will face in the short and medium term. The existing document defining the national energy policy was adopted in 2009 and therefore did not respond to current regulatory and economic challenges, as well as challenges at the global level, including ensuring the competitiveness of the Polish economy.

Implementation of PEP2040 will lead to low-emission transition, modernisation and upgrading of the domestic energy sector in a cost-efficient manner and at a pace that ensures energy security, economic development and reduced pressure on the environment. National circumstances mean that transition must be carried out in an evolutionary, equitable and socially acceptable way - with support for the regions, sectors and social groups bearing the greatest burden of the change. Transition paths alternative to PEP2040 would lead to significantly higher costs, which would negatively affect the condition of the national economy and the affluence of society.

As part of the diversification of the energy mix, PEP2040 provides for a significant reduction in the share of coal in the electricity generation balance, i.e. to no more than 56% by 2030, and in the scenario of high CO2 emission allowance prices, even to a level of approximately 37%. In 2021-2040, approximately 16 GW of hard coal and lignite-fired generation capacity will be withdrawn from the national power system and replaced with low- or zero-emission units. There will be an increase in RES capacity to 30-40 GW by 2040. In practice, the transition shaped by PEP2040 will lead to the construction of an almost new energy system in Poland. Capital expenditures for zero-emission sources will account for about 80% of all expenditures in the electricity generation sector between 2021 and 2040.

For the first time a strategic document for the energy sector in Poland indicates such an unprecedented dynamic development of renewable energy sources, both in the sector of electricity generation, heat (and cold) and transport.

Nevertheless, with the significant growth of RES and the simultaneous withdraw of significant volumes of coal-based capacity, it is necessary to guarantee sources operating at the base of the energy system, ensuring stable and reliable energy supply for the economy, in particular for industrial users. In view with the above, PEP2040 provides for the development of gas-fired units (as transition sources on the low-emission pathway) and nuclear power plants (almost entirely emission-free sources in the entire fuel chain, with high availability of operation and relatively low costs of generating a unit of electricity).

Coherent, transparent, comprehensive and long-term planning included in PEP2040 will mobilise investments for low-emission transition that fit into the pillars and objectives of the Policy. The setting of a stable strategic framework is even more expected and desirable in the current situation of economic slowdown caused by the COVID-19 pandemic. PEP2040 will serve as a specific tool for the implementation of pro-growth projects leading to economic revival and strengthening.

1. Consolidated text: Journal of Laws of 2021, Item 247. [↑](#footnote-ref-1)
2. Official Journal of the European Communities L197/30 of 21.07.2001. [↑](#footnote-ref-2)
3. Consolidated text: Journal of Laws of 2019, Item 1295, as amended. [↑](#footnote-ref-3)
4. The link provided due to changes in government structure is currently inactive, the information is now available at: https://www.gov.pl/web/aktywa-panstwowe/zaktualizowany-projekt-polityki-energetycznej-polski-do-2040-r. [↑](#footnote-ref-4)