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The energy policy of Poland until 2040 and protection of the environment against low emissions – selected issues

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Abstract:
The article is an attempt at depicting the intertwining of energy policy with the fight against low emissions and answers the question of whether this document can have a real impact on air protection in Poland.

The author addresses the definitions of such terms as air protection and low emissions, and briefly outlines the key and most important – from the perspective of the topic of this article – objectives of the draft energy policy of Poland until 2040[1] (further: EPP2040). The article concludes with a discussion of the PEP2040

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[1] November 20, 2019 https://www.gov.pl/web/aktywa-panstwowe/polityka-energetyczna-polski-do-2040-r-zapraszamy-do-konsultacji1. The state's energy policy is defined by the Minister of Energy pursuant to Articles 12, 13-15 of the Energy Law of 10 April 1997 (uniform text JoL of 2019, item 755, as amended), and its implementation is the responsibility of a number of bodies, including in particular the Minister for Energy and the Council of Ministers. The Council of Ministers adopts the state's energy policy in the form of a resolu-

objectives in the context of the fight against low emissions and an attempt at evaluation of the adopted solutions.

Key words:
air, air protection, energy policy, low emissions

1. Introduction

The issues that comprise the framework of the topic of this article have recently assumed particular significance. Worryingly, the incoming information and data on broadly understood air protection is far from optimistic[2]

tion. The policy is not a universally binding law, as resolutions by the government cannot be grounds for the issuance of administrative decisions or court judgments concerning citizens or legal persons. Nevertheless, this policy, which is of an internal character, is binding only for those organizational entities that are subordinate to the authority issuing such acts (see Art. 93 of the Constitution of the Republic of Poland of 2 April 1997, JoL no. 79, item 483, as amended).

[2] By way of an example:
1) World Health Organisation ranking showing that the list of Europe's 50 most polluted cities, according to the WHO data, is topped by two Bulgarian cities (Vidin and Dimitrovgad), however as many as 36 out of 50 cities ranked are located in Poland (November 5, 2019 https://unearthed.greenpeace.org/2018/05/02/air-pollution-cities-worst-global-data-world-health-organisation/);
2) Report of the Intergovernmental Panel on Climate Change, Climate Change and Land, pp.74-75, showing the correlation between global temperature increases and decreasing air quality (November 20, 2019 https://www.ipcc.ch/2019/);
3) Judgment of the Court of Justice of the European Union (CJEU) of 22 February 2018 in case C 336/16, concerning air protection in Poland (ECLI:EU:C:2018:94) and declaring that Poland failed to fulfil its obligations as a member state;
4) Supreme Audit Office report "Air protection against pollution. Years 2014-2017 (First half)". Supreme Audit Office, Warsaw, September 2018, (November 6, 2019 https://www.nik.gov.pl/kontrole/P/17/078/). The report shows that a) the scale of air pollution is indicative of a lack of effectiveness in the fulfilment of duties of public authorities; b) public entities are not active enough in undertaking measures to ensure clean air;
5) Report by the National Health Fund "Analysis of causes for an increased number of deaths in Poland", which reveals that "One potential reason for an increase in the number of deaths in 2017 is a radical decrease in air quality, which may

and triggers the conclusion that measures undertaken by the Republic of Poland are, in fact, ineffective[3].

The article is intended to examine the energy policy of Poland until 2040[4] as an instrument shaping air protection. After all, the EPP2040 is supposed to detail a long-term model for the supply of energy. It should be observed at the outset that this document is strongly linked with the National Air Pollution Control Programme[5], which regretfully is another programmatic and internal air protection instrument that will not contribute to an effective and real fight for clean (or, perhaps more rightly put – cleaner) air.

2. Air protection definition

For the purpose of this article, it is legitimate to determine how air protection is construed in the law. Pursuant to Art. 85 of the Environmental Protection Law of 27 April 2001[6], air protection consists in ensuring best possible air quality, in particular through:

cause serious health consequences in particularly vulnerable persons, including cardiorespiratory problems" (November 20, 2019 https://www.nfz.gov.pl/o-nfz/publikacje).

[3] See in more detail the "Environmental Implementation Review 2019. Country Report – Poland": "there has been no progress on improving air quality. Limit values for particulate matter, benzo(a)pyrene and nitrogen oxides continue to be exceeded" (November 5, 2019 https://ec.europa.eu/environment/eir/pdf/report_pl_en.pdf).

[4] See p. 11 of the National Air Pollution Control Programme (NAPCP), where the EPP2040 (in its version from before 8 November 2019) was referred to as the key document taken into consideration for determination of lines of intervention in the area of reduction of air pollution.

[5] See Resolution No, 34 of the Council of Ministers of 29 April 2019, Official Journal of the Republic of Poland (Monitor Polski), item 572.

[6] Uniform text JoL of 2019, item 1396, as amended; further: EPL.

1) maintaining the levels of substances[7] in ambient air[8] below their limit values or at least at these levels;
2) reducing the levels of substances in ambient air at least to their limit values, where they are not complied with;
3) reducing and maintaining the levels of substances in ambient air below target levels or long-term goal levels or at least at these levels.

The ambient air quality is assessed in the following zones:

1) an agglomeration with a population of more than 250,000;
2) a city with a population of more than 100.000;
3) the remaining part of the voivodship, other than cities with a population of more than 100.000 and agglomerations (Art. 87(1u) EPL).

The changes in ambient air quality are monitored as part of the State Environmental Monitoring (SEM).

[7] Pursuant to Art. 3 point 28 EPL, the level of a substance in the air is the concentration of a substance in the air over a fixed period or the deposition of such a substance over a fixed time and surface area, where:

a) the acceptable level – is a level of a substance that is supposed to be achieved within a specified time limit and which should not be exceeded after this time; the acceptable level is the air quality standard,
b) the target level – is a level of a substance that is supposed to be achieved within a specified time limit using economically justified technical and technological measures; this level is determined to avoid, prevent, or reduce the negative impact of a substance on human health or on the environment as a whole,
c) the long-term goal level – is a level of s substance below which, according to the best available knowledge, direct harmful effect on human health or the environment as a whole is unlikely; This level is to be achieved over a long period of time, except when it cannot be achieved by using commercially reasonable technical and technological activities.

Also important is the exposure concentration top limit (Art. 3 point 31a EPL), which is the level of substances in the air designated on the basis of the value of the national indicator of average exposure, in order to reduce the harmful effects of the substance on human health, to be attained within a specified period; the exposure concentration limit is the air quality standard. Pursuant to Directive 2008/50EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe (OJ L 152, 11.6.2008, pp. 1-44), this level is a binding air quality standard.

[8] Levels of substances in the air were determined in the Regulation of the Minister of the Environment of 24 August 2012 on the concentration of some substances in the air (JoL of 2012, item 1031, as amended).

3. Low emissions definition

A starting point for further analyses should be the explanation of the concept of low emissions. As there is no legal definition available, extra-legal ones have been coined and are now generally used.

According to G. Dobrowolski[9], we may speak of low emissions:

a) in a broad sense of the word – here, emissions from activity carried out by organizational units excluded from the obligation to obtain a decision on emission limit values, as well as natural persons;
b) in a narrow sense of the word – emissions by natural persons, not subject to the requirements applicable to organizational units.

Another definition has been authored by M. Kaczmarczyk, according to whom low emissions mean "emissions of products of combustion of solid fuels, liquid fuels and gases into the atmosphere from emission sources (emitters) placed no higher than at 40 meters. Emissions can be divided into communication emissions, emissions resulting from production of heat for central heating and hot tap water, and industrial emissions. Combustion products that contribute to the production of low emissions can include gases: carbon dioxide (CO_2), carbon monoxide (CO), sulphur dioxide (SO_2), nitrogen oxides (NO_x), polycyclic aromatic hydrocarbons, e.g. benzo[a] pyrene and dioxins, as well as heavy metals (lead, arsenic, nickel, cadmium) and particulate matter PM10, PM2,5"[10].

In the light of yet another definition, by J. Ciechanowicz-McLean, low emissions are "predominantly communication emissions, but also emissions of dust and harmful gases from local coal-fired boiler rooms and household boilers. Low emissions are the prime cause of smog"[11].

Low emissions are also mentioned in the draft EPP2040, although the document does not define them, and instead merely mentions that low emissions are partly caused by "combustion of low-quality coal and waste in households, (often accompanied by improper service of installations and

[9] G. Dobrowolski, *Ochrona powietrza: zagadnienia administracyjnoprawne*, Krakow 2000, p. 81.

[10] M. Kaczmarczyk, *Niska emisja – od przyczyn występowania do sposobów eliminacji*, Krakow 2015, p. 144.

[11] J. Ciechanowicz-McLean, *Prawo ochrony klimatu*, Warsaw 2016, p. 46.

boilers); combustion of coal in small local low-efficiency heat-generating plants; transport emissions"[12].

4. Main objectives of the EEP2040

The current version of the draft EPP2014 (dated 8 November 2019) encompasses eight strategic directions:

a) optimal use of domestic energy resources;
b) development of the power capacity and transmission infrastructure;
c) diversification of natural gas and oil supply and network infrastructure development;
d) development of energy markets;
e) launch of nuclear energy;
f) development of renewable energy sources;
g) development of heating and cogeneration;
h) improving energy efficiency.

The objective of the Polish energy policy is to provide energy security, while ensuring competitiveness of the economy, energy efficiency and reduction of the environmental impact of the energy sector, and with optimum use of Poland's own energy resources[13].

The proposed transformation, as detailed in the EPP2040, has an evolutionary character. Its key elements are:

• transformation,
• security,
• development,
• investments,
• emission reduction[14].

The following indicators are to be used as the overall measure of the achievement of EPP2040[15]:

– 56-60% share of coal in the generation of electricity in 2030;

[12] EPP2040, p. 66.
[13] EPP2040, p. 10.
[14] EPP2040, p. 6.
[15] EPP2040, p. 10.

– 21-23% renewable energy sources (RES) in gross final energy consumption in 2030, which will ensure real diversification of the energy generation structure, reduce Poland's dependence on external supply of crude oil, and reduce the environmental impact of the energy sector thanks to minimum / zero emissions of air pollutants[16];
– introduction of nuclear energy in 2033 with a view to ensuring stable energy generation with zero emissions of air pollutants and reducing national emissions of greenhouse gases and air pollutants (both CO_2 and others, e.g. NO_x, SO_x, particulate matter) from the energy sector[17];
– reducing CO_2 emissions by 30% by 2030 (in relation to 1990);
– improvement in energy-efficiency by 23% by 2030 relative to the 2007 forecasts;

Implementation of the EPP2040 is furthermore intended to ensure:

a) reduction of CO_2 emissions by the electric power sector; this will be achieved in particular through: introduction of nuclear energy and increasing the share of renewable energy sources[18];
b) rational exploitation and use of existing deposits and opening of new deposits (e.g. through deepening of shafts, building or extension of mining horizons; carrying out further prospecting works and releasing new miming areas")[19];
c) increased use of energy from renewable sources, which is one of the instruments for reducing the environmental impact of the energy sector[20];
d) attempts at solving the problem of energy poverty, which largely contributes to low emissions, through the creation of new, effective ways of counteracting it[21].

16 EPP2040, p. 52.
17 EPP2040, p. 10 and 49.
18 EPP2040, p. 19.
19 EPP2040, p. 12.
20 EPP2040, p. 20.
21 PEP2040, p. 67.

5. Objectives of the PEP2040 and fight with low emissions

The current draft EPP2040 appears overly optimistic as regards at least three strategic directions (nuclear energy, RES, and electromobility).

As far as nuclear energy is concerned, it should be noted that the EPP2040 envisages that nuclear energy will be introduced in Poland in 2033 (the first nuclear unit, with the capacity of approx. 1-1.5 GW, will be launched in 2033, and by 2043, 6 units with the total capacity of around 6-9 GW will have been launched)[22]. These declarations should be juxtaposed against other governmental documents concerning the issue of nuclear energy. These are as follows:

a) Resolution no. 4 of the Council of Ministers of 13 January 2009 on measures undertaken for the development of nuclear energy (not published)[23] – the attached schedule shows that at least two nuclear power plants should be built in Poland, and one of them should be launched in the year 2020[24];
b) Polish Nuclear Power Programme (further: PNPP)[25], which provides that by 2024, the installed capacity in nuclear power plants will be 1.000 MWe, and in 2030 minimum 3000 MWe; it should be noted that appendix no. 1 to the PNPP (entitled "A construction schedule of the first Polish NPP, as proposed by the Investor") provides that by 2020 works will have commenced by reactor technology provider and the main contractor; EPC – Final Investment Decision, and the first NPP unit will have commenced operation by 2024.

The above pointedly shows that the government's measures undertaken in this regard lack coherence. It is also highly doubtful whether the plans laid down in the EPP2040 will actually be implemented within the next 13 years (between 2020 and 20033), given the failure to implement far less ambitious plans, as detailed in the aforementioned schedule, over a ten-year

[22] EPP2040, p. 70.

[23] See PNPP point 2.1. The foundations of PNPP and point 3.2. Decisions of crucial relevance to development of nuclear power.

[24] See PNPP point 3.2. Decisions of crucial relevance to development of nuclear power *in principio*.

[25] Resolution No. 15/2014 of the Council of Ministers of 28 January 2014 on multiannual programme entitled "Polish Nuclear Power Programme"; Official Journal of the Republic of Poland (Monitor Polski), item 502; further: programme.

period (i.e. between the Resolution of the Council of Ministers in 2009 and the end of 2019).

While it is beyond any doubt that the use of renewable energy sources contributes to the protection of air from pollutants, including low emissions, the presented EPP2040 appears overstated in this regard, too. According to this document, 21-23%[26] RES in final gross energy consumption is to be attained by 2030[27]. At this point, it should be noted that Poland was obliged to attain, by the year 2020, at least 15% RES in final gross energy consumption[28], including at least a 10% share of renewable energy used in transport[29]. In 2018, energy from renewable sources accounted for 10,9%[30] of final gross energy consumption, which triggers the conclusion that Poland has failed to fulfil its obligations within the specified time limit. Moreover, this means that in the years 2020-2030 the share of RES would need to increase by approx. 10-12% (from the current approx. 11% to 21-23%), accompanied by a simultaneous decrease in the use of on-shore wind farms and increase in the use of off-shore wind power[31]. Given the current legal situation, achieving these levels appears unrealistic if not altogether impossible. The reasons for this conclusion are as follows:

[26] This goal is more ambitious that the one laid down in the original version, which envisaged 21% (see November 5, 2019 https://www.gov.pl/web/aktywa-panstwowe/polityka-energetyczna-polski-do-2040-r-zapraszamy-do-konsultacji).

[27] It is striking that the attainment of this target was made directly contingent on "awarding Poland additional funds from the EU, including funds for just transition". EPP2040, p. 10.

[28] According to a Supreme Audit Office report: "Achieving the adopted target of 15% of renewable energy sources in total gross energy consumption in 2020 may be at risk. In 2016, the share only marginally exceeded 11% and was at its lowest since 2013". The Supreme Audit Office points out that the development of renewable energy industry in Poland has been adversely affected by e.g. absence of the state's consistent policy towards renewable energy sources, delays in the issuance of implementing acts and absence of a stable and friendly legal environment that would ensure safety and predictability of renewable energy investments, especially in the electric energy sector" (November 5, 2019 https://www.nik.gov.pl/najnowsze-informacje-o-wynikach-kontroli/zielona-energia-dostala-zadyszki.html).

[29] See Article 3 of the Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (OJ L 140, 5.6.2009, pp.16-62).

[30] EPP2040, p. 52.

[31] There are currently no such investments in Poland, although the EPP2040 provides that Poland's first off-shore wind farm will launch in 2025 (EPP2040, p. 55).

a) it is effectively impossible to produce energy from on-shore wind farms[32];
b) there are no regulations that ensure and facilitate the development of off-shore wind power[33];
c) making this development contingent also on civic power generation, which will mostly draw upon renewable sources (mainly photovoltaics, from 2022 onwards), where even the EPP2040 points out that "it will not replace systemic power generation due to an insufficient capacity of individual installations, and will not ensure reliable energy supplies"[34].

Another point worth discussing and referred to in the EPP2040 is energy poverty, as a factor contributing to low emissions. It involves combustion of waste materials, sludge, and flotation concentrates, usually in buildings with low energy performance[35]. The EPP2040 does not solve this problem; instead, it merely points out that measures carried out shall further concentrate on the replacement of heat sources and introduction of ones that will make it impossible to burn waste and poor quality solid fuels, and that new effective ways of fighting energy poverty are to be sought[36]. Can this postulate be effectively implemented? The government's flagship programme entitled "Clean Air"[37] appears to fall short of hopes, as evidenced by a low number of beneficiaries participating in it[38], problems

[32] See in more detail: E. Radecka, F. Nawrot, *The implementation of the Paris agreement in Poland. Theory and practice*, Review of European and Comparative Law 36(1), 27-42.

[33] This has been stressed in the EPP2040 (p. 55), which at the same time emphasises that relevant regulations will be implemented in 2020.

[34] EPP2040, p. 20.

[35] EPP2040, p. 12.

[36] EPP2040, p. 67.

[37] The objective of the Clean Air Programme is to reduce emissions of harmful substances into the atmosphere, caused by heating individual households using dated heating sources and poor quality fuels. The Programme offers subsidies for thermal modernization of single-family homes, as well as the replacement of old and ineffective heating sources using solid fuels with modern domestic boilers meeting the highest standards

[for] thermal modernisation of single-family homes, as well as replacement of old heating sources (November 21, 2019 http://www.nfosigw.gov.pl/czyste-powietrze/o-programie-czyste-powietrze-/).

[38] According to the Ministry of the Environment, 64 thousand applications were submitted by 28 June 2019, totalling 1.5 billion PLN. Likewise, approximately 26 thousand decisions granting subsidies were issued. The value of agreements signed totals 300 million PLN (November 21, 2019 https://www.gov.pl/web/klimat/minister-kowalczyk-o-

with obtaining loans for funding a project[39] and the European Commissions' remarks[40].

As low emission is more than just pollution from the municipal sector, it is also necessary to address an attempt at solving the problem of transport emissions (communication emissions). The EPP2040 places a strong emphasis on electromobility[41]. In this regard, too, are the goals very ambitious. They encompass reaching 1 million electric vehicles[42] in 2025, as well as installing charging points in open-access charging stations: 6 thousand charging normal capacity points and 400 high capacity points in 32 agglomerations in 2020[43]. However, the available calculations and data leave no doubt. The European electromobility leader is still Norway, which in 2018 had 72.689 electric cars registered[44]. Therefore, assuming that by the end of 2025 (5 years) the registration rate for Poland is as high as it is in Norway, Poland will reach approximately 364 thousand electric vehicles, which is not even half of the million planned. A similar comparison can also be made for a shorter time frame. For instance, in the first quarter of 2019 alone, as many as 18.655 entirely electric cars were registered

programie-czyste-powietrze). Initial forecasts were that approximately 400 thousand agreements would be signed per year.

[39] The money is only paid out after the works and replacements have been completed, based on invoices presented by the beneficiary. What follows is that it is necessary to secure funds from a source other than a bank, which will only grant a loan after relevant documents have been provided. Work are currently underway to streamline the loan-granting process under the Clean Air Programme (November 21, 2019 http://nfosigw.gov.pl/czyste-powietrze/aktualnosci/).

[40] The majority of the comments and reservations concerned financing coal-fuelled boilers or the distribution of funds through 16 branches of the Voivodship Fund for Environmental Protection and Water Management – a solution that was deemed inefficient and flawed (November 21, 2019 https://www.muratorplus.pl/biznes/wiesci-z-rynku/program-czyste-powietrze-dotacja-tania-pozyczka-i-ulga-podatkowa-kto-skorzysta-z-programu-czyste-powietrze-aa-4NYp-NyTp-tzdf.html).

[41] EPP2040, p. 25.

[42] As a side note, it should be added that in the light of the Act of 11 January 2018 on Electromobility and Alternative Fuels (uniform text JoL of 2019, item 1124, as amended), an electric vehicle is a motor vehicle, as defined in Art. 2 point 33 of the Act of 20 June 1997 – The Road Traffic Law, that is propelled using only electric energy accumulated by hooking up to an external fuel source.

[43] EPP2040, p. 46 *et seq*.

[44] November 21, 2019 http://pspa.com.pl/uruchomiono-polski-licznik-elektromobilnosci

in Norway[45], whereas in Poland within 8 months (January to August 2019) the corresponding figure was 2.416 cars[46]. According to data from the end of 2019, 6.672 passenger cars propelled by electric motors circulate on Polish roads (993.328 short of the million target), and of those 4.178 are entirely electric cars, and 2.494 are plug-in hybrid electric vehicles[47]. It is difficult to assess whether the Act of 11 January 2018 on Electromobility and Alternative Fuels[48], which has established legal framework for the functioning of the electromobility market and other alternative fuels in transport, will facilitate such an increase in the number of electric cars. It also appears rather unlikely for such a dramatic increase to occur after the entry into force of the Regulation of the Minister of Energy of 5 November 2019 on detailed conditions for offering subsidies for the purchase of new cars from funds of the Low-Emission Transport Fund to natural persons not conducting business activity and conditions for presenting accounts of this support. It is generally agreed that the regulation has several flaws, e.g. it is addressed only to natural persons, whereas the majority of electric cars are in fact purchased by persons conducting business activity. Another major shortcoming is the limited list of vehicles whose purchase can be subsidized. Although Poland has seen a major increase in the number of electric cars registered (89% more in comparison to a corresponding period in 2018)[49], reaching the 1 million target in the aforementioned five-year period is not feasible.

Another worrying thing, especially with clean air in mind, is that Poland's demand for primary energy is to be primarily satisfied by hard coal. It is also hard to be optimistic about the plans for the transformation of mining

[45] November 21, 2019 http://pspa.com.pl/polski-licznik-elektromobilnosci-kwiecien-2019

[46] November 21, 2019 http://pspa.com.pl/licznik-elektromobilnosci-wzrost-liczby-samochodow-elektrycznych-na-polskich-drogach-o-prawie-90-r-r-sierpien-2019

[47] November 21, 2019 http://pspa.com.pl/licznik-elektromobilnosci-wzrost-liczby-samochodow-elektrycznych-na-polskich-drogach-o-prawie-90-r-r-sierpien-2019

[48] The Act has already been amended three times (as of November 2019), if only due to short deadlines for the fulfilment of obligations imposed on local government authorities (see Art. 68(2) thereof, which initially stipulated that a local government unit shall ensure that starting from 1 January 2020 electric vehicles should account for at least 10% of all vehicles in use; in the current version of the Act the date has been changed to 1 January 2022).

[49] November 21, 2019 http://pspa.com.pl/licznik-elektromobilnosci-wzrost-liczby-samochodow-elektrycznych-na-polskich-drogach-o-prawie-90-r-r-sierpien-2019

regions, as set out in the EPP2040[50]. It appears highly likely that inefficient mines will be preserved and reliance on coal-based energy will continue in spite of the need to buy emission allowances[51]. This also indirectly hinders the development of alternative fuels – as long as fossil fuels are cheaper than alternative ones, they will continue to be seen as a more cost-effective option. In a broader context and beyond Poland, the International Energy Agency and the International Renewable Energy Agency as early as 2017 argued that "limiting the global mean temperature rise to below 2°C (…) would require an energy transition of exceptional scope, depth and speed (…) An ambitious set of policy measures, including the rapid phase out of fossil-fuel subsidies (…) would be needed to achieve this transition"[52].

As a side note, it should be stressed that while Poland is a signatory to the Paris Agreement[53], Poland's government plans to implement the Paris Agreement predominantly not by reducing carbon emissions but by boosting carbon absorption. This is to be achieved by increasing the forestation level of Poland, a task to be carried out by so-called Forest Carbon Farms[54]. Can the objectives in this regard be achieved, though? And can the hopes pinned on this instrument be realized? Available data leave no illusion. "According to Polish State Forests, they [the Forest Carbon Farms – annotation added by ER] would make it possible to accumulate in Polish forests additional 40 million tons of CO_2. However, given that Poland's yearly emission from the combustion of fossil fuels totals 300 million tons of CO_2, such a ten-year

[50] EPP2040, p. 12.

[51] It should be stressed that pursuant to the Act of 12 June 2015 on Greenhouse Gas Emission Trading System (uniform text JoL of 2018, item 1201, as amended) excluded from exchange for emission allowances are emission reduction units and certified emission reductions obtained through:

a) implementation of investments consisting in the construction of nuclear installations,

b) land use and changing use of land,

c) forest management activities.

[52] Perspectives for the energy transition: Investment needs for a low-carbon energy system, IRENA, OECD/IEA 2017, (November 25, 2019 https://www.irena.org/publications/2017/Mar/Perspectives-for-the-energy-transition-Investment-needs-for-a-low-carbon-energy-system).

[53] Act of 6 October 2016 on the ratification of the Paris Agreement to the United Nations Framework Convention on Climate Change drawn up in New York on 9 May 1992, adopted in Paris on 12 December 2015 (JoL of 2017, item 36).

[54] November 25, 2019 http://projekty-rozwojowe.lasy.gov.pl/projekty-rozwojowe/-/asset_publisher/7PcENrBXlBZJ/content/lesne-gospodarstwa-weglowe

tree-planting programme to grow forests would compensate 1.5 months of coal, oil and gas emissions (...)". Worse still, "previous estimates (…) show that afforestation or reforestation (…) cannot compensate for emissions from fossil fuels"[55].

6. Conclusions

The doubts and determinations presented herein lead to the overall conclusion that the EPP2040 will not contribute to reducing low emissions in Poland. The document must be viewed as a collection of many (overly) ambitious postulates that cannot and will not be realized due to numerous restrictions and general systemic shortcomings. However noble setting ambitious goals is, the ones presented in the draft appear to be completely disconnected from the realities in which the state is functioning and from the starting point for all measures.

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[55] M. Popkiewicz, A. Kardaś, Sz. Malinowski, *Nauka o klimacie*, Warsaw 2018, p. 401.