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The Possibilities of Implementing the „European Green Deal” Strategy in Poland as an Opportunity to Restructure the Area of Green Logistics

Implementacja Strategii Nowy Zielony Ład w Polsce jako szansa na restrukturyzację obszaru zielonej logistyki

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Abstract. The subject of the article is the implementation of the Green Deal strategy in Poland as the next step in reducing pollution in the European Union. Membership in the European Union brings challenges which Poland, as a member, has to realize. Modern level of industrialization causes complication that ecologically aware countries must cope with. Caring for the environment is becoming synonymous with conscious humanity. The consequences of the ever-developing industries of countries create a threat to the cleanliness of the air people breathe. Therefore, a need is born to create a strategy that will set the goal of upgrading technology to achieve zero emissions by 2050. The implementation of the Green Deal strategy comes with legal constraints that should guide every member of the European Union community. The research objective of the article is determining the role of the implementation of the newly adopted Green Deal strategy in the European Union. The research hypothesis of the article is that the European Union as a united community of states strives to unify the level of pollution emission reduction and the Green Deal strategy combines legal conditions of coexistence of the states in Europe. The authors applied research methods in the form of desk research (the analysis of the existing data), the analysis of individual cases, the analysis of legal documents and the analysis of scientific literature. The research concluded that the implementation of the New Green Deal by the member states is a necessary step to reduce emissions of pollutants as a plan of action of countries until 2050.

Keywords: Green Deal, implementation of strategy, eco-logistics, green logistics, reduction of pollutant emissions

Abstrakt. Głównym celem napisania artykułu jest implementacja strategii Nowego Zielonego Ładu jako kolejny etap redukcji emisji zanieczyszczeń we Wspólnocie Europejskiej. Przynależność do Wspólnoty Europejskiej niesie ze sobą wyzwania, które Polska jako członek musi realizować. Współczesny poziom uprzemysłowienia Państw niesie ze sobą komplikacje, z którymi świadome ekologicznie kraje muszą sobie poradzić. Dbanie o środowisko staje się synonimem świadomego człowieczeństwa. Konsekwencje idące z wciąż rozwijającej się gospodarki państw stwarzają zagrożenie dla czystości powietrza, którym oddychają ludzie. Stąd rodzi się potrzeba utworzenia strategii, która postawi za cel unowocześnienie technologii mającej na celu spowodowanie zerowej emisji zanieczyszczeń do 2050 roku. Implementacja strategii Nowego Zielonego Ładu wiąże się z prawnymi restrykcjami, które dla każdego członka Wspólnoty Unii Europejskiej powinno stwarzać wzór godzien naśladownictwa. W artykule przyjęto cel badawczy w postaci określenia roli implementacji nowo przyjętej Strategii Nowego Zielonego Ładu we Wspólnocie Państw Unii Europejskiej. W artykule postawiono hipotezę, że Unia Europejska jako zjednoczona wspólnota Państw dąży do ujednolicenia poziomu redukcji emisji zanieczyszczeń, a strategia Nowego Zielonego Ładu łączy prawnie uwarunkowania koegzystencji Państw w Europie. Autorzy zastosowali metody badawcze w postaci desk reasearch (analiza danych zastanych), analiza indywidualnych przypadków, analizy dokumentów prawnych oraz analizę piśmiennictwa naukowego. W artykule udowodniono, że implementacja Nowego Zielonego Ładu przez kraje członkowskie jest niezbędnym krokiem redukcji emisji zanieczyszczeń jako plan działania państw do 2050 roku.

Słowa kluczowe: Zielony Ład, implementacja strategii, eko-logistyka, zielona logistyka, redukcja emisji zanieczyszczeń

Introduction

The progressing climate changes on the earth create the need to transform politics as a response to the challenges of the modern world. The approach to the simultaneous development of the economy and technology, and at the same time of consciously being eco, involves a huge amount of work on the part of the regulatory and implementation side. The implementation of solutions influencing the protection of the environment becomes an imperative, not a self-advertisement. The current reduction approach is replaced by the complete elimination of the production of exhaust gases released into the environment. "Providing a permanent natural basis for human existence and development requires not only pro-ecological improvement of the existing systems of producing material goods, but also - changes of a civilization nature" [16]. The Green Deal, as a new strategy aimed at zero emissions by 2050, is becoming an important element of the green policy of the conscious countries. The strategies used so far have been designed to reduce pollutant emissions, so is zero emissions possible? The implementation of the Green Deal Strategy becomes an opportunity to restructure the area of green logistics through modernization and planned subsidies from the European Union funds.

Green logistics is becoming an indispensable part of development in the supply chain, and the radical changes introduced thanks to the Green Deal strategy will reduce the problem of the disturbed level of cleanliness of the planet, and the planned sustainable development will become the responsibility of states [12].

It should be emphasized that the Green Deal strategy is not only a definition of the directions of actions taken to protect the environment, but a legal basis obliging the Member States to comply with specific legal provisions.

The subject of the research in the article is the European Green Deal Strategy. The adopted research goal, which is to define the role of the implementation of the Green Deal strategy in the community of European Union States, remains a justified way of analysis which shows the important ideology of the Community of striving to breathe clean air. On the basis of the above, the following research hypothesis was adopted: *The European Union, as a united community of States, strives to standardize the level of reduction of pollutant emissions, and the New Green Deal strategy connects legally the conditions of coexistence of States in Europe* [1].

Achieving the research goal, as well as verifying the hypothesis, was possible through the use of the research methods in the form of desk research, the analysis of individual cases, the analysis of legal documents and the analysis of scientific literature.

The essence of eco-logistics

The basic assumption of caring for nature is the fact that the interaction of life on the earth depends on the environment. The constantly developing industries and economies of countries carry the problem of pollution which, despite the development of humanity, does not decrease, and the existing need to implement new legal regulations only proves the aggravation of the problem of environmental pollution.

Responsibility for the protection of nature from the very beginning of the appearance of information about the flowing source of pollution rests with people, and the implementation of solutions and correct habits is introduced from preschool education. It is incorrect to believe that the obligation to care for the environment rests solely with state authorities. Environmental protection measures are important at every level - local, national and international. Hence, the identification of threats resulting from the loss of a well-functioning environment is a necessary element of the implementation of new strategies to which every country involved in stopping the effects of pollution should have simultaneous access.

Nowadays, there are areas of science that specialize in educating and showing the possibilities of sustainable development, including Green Logistics - which is the use of environmentally friendly resources, including transformation favourable to humans and not harmful to the existing environment.

Threats

In order to identify the threat posed by the increase in exhaust emissions, one should look at the specificity of the climate in Poland. How do we know if something is a threat if we don't know its natural state? The European Union's decision to implement the European Green Deal Strategy was a consequence of many changes taking place in today's world. There are many threats that directly or indirectly affect climate change and the environment around us. Based on data from the Central Statistical Office (*Polish*: GUS), in 2014 the total emission of carbon dioxide in Poland amounted to 310,307 million tonnes [3].

Figure 1 shows the changes that are taking place which result in the introduction of legal restrictions on the reduction of carbon dioxide emissions to the atmosphere. However, it should be considered what the diagram below would look like if the mobilization of the ecological policy had not been introduced.

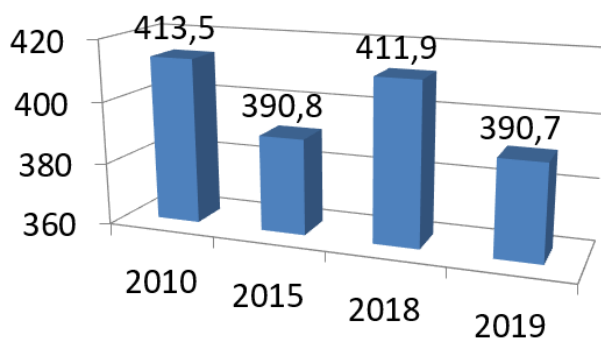


Fig. 1. Carbon emissions (in millions tons)
Source: Own study based on [11], [20]

The graph shows the total greenhouse gas emissions in terms of carbon dioxide equivalent. An unambiguous analysis shows a decrease in carbon dioxide emissions, the main reason of which are the increasingly serious legal restrictions on the reduction of CO₂ emissions to the earth's atmosphere.

The climate in Poland is varied and the weather is diverse. It is conditioned by the geographical location of the country. The weather can be influenced by the Atlantic as well as the location on a large continent [21]. Climate changes, hotter summers and wet winters can be noticed over the years. Table 1 shows changes in the temperature range that occurred in Poland in the winter months: January and February, and in the summer months: July and August.

Table 1. Average monthly air temperatures in Poland (°C). The year of occurrence is given in brackets.

	January	February	July	August
Temperature				
Normal	-1	0.1	18.7	18.1
The highest	4.9 (2007)	5.5 (1990)	23.4(2006)	22.8(2015)
The lowest	-9.6 (1987)	-8.4 (1986)	15.8(1979)	15.5(1976)
Difference	14.5	13.9	7.6	6.4

Source: [11]

The table shows the values of temperatures recorded at the Agro- and Hydrometeorological Observatory in Swojec, belonging to the University of Environmental and Life Sciences in Wrocław. Research indicates an increase in average temperatures in the winter months and an increase in the summer months. The increasing amount of carbon dioxide released into the atmosphere results in secondary emissions and in an increase in the temperature of the Earth.

Other threats should also be indicated. The observed decrease in the mass of glaciers is also one of the threats resulting from the increase in exhaust emissions. The consequence of melting glaciers is rising water levels which can result in floods, and melting snow in the mountains, causing avalanches.

In Poland, natural threats depend on the time and season of the year. Floods are a consequence of heavy rains, when water reservoirs are unable to store huge amounts of water, which in turn leads to flooding of areas that are not adapted to accept this amount of water. The consequence is threats to people, households, as well as to the cultural and economic heritage, for example by destroying arable land [28].

The currently progressing environmental degradation, which inevitably contributes to the global increase in air pollution, and the progressing civilization growth, which is the main distributor of pollutant emissions, forces international organizations and the international community to take action to enforce ever higher legal restrictions regulating the release of harmful substances by countries to the earth's atmosphere.

Environmental Policy of the European Union

The European Union (EU) is responsible for many areas of action of its Member States. Established strategies and directions of development include, among others, aspects related to foreign, economic policy. The EU also has a mandate to act in all areas of environmental policy, such as air and water pollution, waste management and climate change. The scope of these activities is determined by the principle of subsidiarity and the requirement of unanimity in the Council of the European

Union on such matters as budget issues, spatial planning of towns and villages, land use, quantitative management of water resources, choice of energy sources and the structure of energy supplies [6].

The current activities of the European Union regarding the principles of environmental policy focus on the implementation of the European Green Deal Strategy [2]. It is a response to the climate crisis and strong environmental degradation processes. The European Union has a major goal of achieving climate neutrality by 2050. The European Green Deal will affect many key areas of the economy.

The main assumptions of this strategy relate to the achievement of goals such as:

- providing clean and safe energy,
- implementation of a circular economy,
- designing buildings with lower energy requirements,
- accelerating the transition to sustainable and smart mobility,
- protection and restoration of ecosystems and biodiversity,
- adaptation to climate change,
- health protection [4].

The Kyoto Protocol signed by Poland in 1998 obliged to reduce greenhouse gas emissions (to the level of 448 million tons of carbon dioxide emissions annually) [29]. Within the first settlement period, Poland reduced emissions of greenhouse gases in 2008-2012 by 6% in relation to the emissions in the base year and fulfilled this obligation with a surplus stat.gov.pl [3].

Membership in the European Union gives Poland a chance to revitalize post-flood areas, as well as to prevent any future floods through the implementation of the EU Directives on flood risk assessment and management. Directive 2007/60 / EC [19] of the European Parliament and of the Council of 23 October 2003 on the assessment and management of flood risk allowed for the preparation of a preliminary flood risk assessment [13]. It allowed to designate areas exposed to the risk of flooding. Through membership in the European Union, Poland has a chance to implement new technologies that can protect against losses.

The countries that signed the Paris climate agreement in 2015 agreed to mobilize the reduction of carbon dioxide and other gases into the atmosphere. It was agreed in Paris that the countries are to spend a total of USD 100 billion annually on the fight against climate change [8]. This agreement allowed for the establishment of measures for the upcoming years which are to set the direction of reducing pollutant emissions. Each country is to support and manage ecopolitics from the local level, so that the established agreement has its practical dimension.

The United Nations (UN) Convention on Climate Change has been the first international legal treaty on climate protection in force since 1992. The parties agreed that the Earth's climate change and its negative effects are a common problem of mankind, and that the amount of greenhouse gases is increasing as a result of human activity [24].

EU regulations are fully binding on the Member States and provide direction for citizens, institutions and courts. The principles of the functioning of the European Union area are regulated by directives, which, when introduced, set the framework for action for legal regulations in each Member State [17]. The adoption of EU provisions means the obligation to proceed with the above-mentioned, to prepare for changes, to start research, to prepare the budget, to prepare reports on the progressive activities. Poland is a beneficiary of 34 conventions, protocols and international agreements on environmental protection [16]. International policy in the field of environmental protection should serve, in addition to the basic values of caring for the land, also experiencing support in the international correlation of Member States, developing technology and sharing technology with other members of the European Union, and promoting your own country at the level of the community of European countries.

Executive Vice-President for the European Green Deal, Frans Timmermans, said: “By 2050, economic activity in the European Union should no longer pollute our air, water and the environment. [...] By modernizing the European framework for industrial emissions, we have confidence in the future legislation that will guide long-term investments, increase Europe’s energy and resource independence and encourage innovation” [5].

Meanwhile, Commissioner for Environment, Oceans and Fisheries, Virginijus Sinkevičius, said: “The new rules will enable large industrial plants and intensive livestock farming to contribute to the European Green Deal goal and its zero emissions ambition. From livestock activities alone, the benefits to human health would amount to at least € 5.5 billion per year. [...] „ [5].

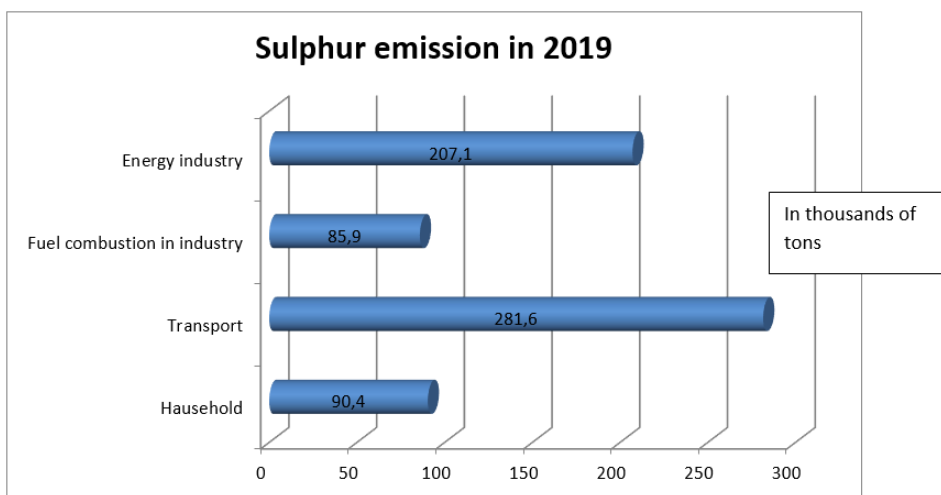


Fig. 2. Sulphur emission in 2019
Source: Own study based on [11], [20]

The Green Deal strategy also assumes the reduction of exhaust emissions from cars, not only those already on the roads of the European Union, but also the cars that will be produced. By 2035, car production is to be in line with the strategy and the goal of zero emissions. Intelligent mobility has become the topic of Reconstruction Plans, and zero-emission transport is the „green” future of the automotive industry [7].

According to the report of the Central Statistical Office of Poland [10], the balance of exhaust emissions in 2019 showed the enormous impact of transport on the volume of exhaust emissions into the atmosphere.

On the basis of the diagram, it is possible to indicate the disproportion shaping the emission of sulphur dioxide to the atmosphere from transport. In 2019 alone, more than 280,000 tonnes of sulphur dioxide were emitted into the earth’s atmosphere through transport. This remains a huge problem and the European Climate Law Regulation is transforming the political ambition to achieve climate neutrality by 2050 into a legal obligation for the EU. When adopted, the EU and its Member States have committed themselves to reducing net greenhouse gas emissions in the EU by at least 55% by 2030 compared to 1990 levels. This target is legally binding and is based on an impact assessment carried out by the Commission [9].

Polish Legislation

Poland occupies a leading place in the ranking of nitrogen oxides and sulphur oxides emissions among European Union countries, right behind France and Germany. For comparison, Germany, which was ranked first, produced around 1,100,000 tonnes of nitric oxide in 2019, and Poland, in the same year, produced less than 700,000 tonnes of nitrogen oxide [18].

By joining the ranks of the European Union, Poland accepted all the conditions required for membership. The Union’s policy has a direct impact on the regulations in force in each of the Member States. On the basis of the above, the assumptions of the European Green Deal Strategy will also be implemented into national legal regulations. However, it should be emphasized that the implementation of the new assumptions must be in line with the provisions currently in force in accordance with Polish legislation.

The Constitution of the Republic of Poland of April 2, 1997, in article 74 [14], shows the support of the state’s policy for environmental protection.

1. “Public authorities conduct a policy ensuring ecological safety for the present and future generations
2. Environmental protection is the responsibility of public authorities
3. Everyone has the right to information on the condition and protection of the environment
4. Public authorities support the actions of citizens to protect and improve the condition of the environment” [14].

In the National Security Strategy of the Republic of Poland of 2020 [23] we read about the protection of the natural environment. Actions increasing ecological safety will focus on improving the condition of the environment, preserving biodiversity and adapting to climate change, in particular by taking into account the need to ensure an appropriate level of investment in low-emission sources. Adapting to changing legal regulations is an obligation that comes not only from EU regulations, but also from national ones [26].

According to Art. 85 of the Environmental Protection Law, air protection consists in ensuring air quality through:

1. “maintaining the levels of substances in the air below the permissible levels for them or at least at these levels;
2. reducing the levels of substances in the air to at least the permissible levels, when they are not met;
3. reducing and maintaining the levels of substances in the air below the target levels or the levels of long-term goals or at least at these levels” [27].

The basic legal act regarding environmental protection is the Nature Conservation Act of April 16, 2004 [25] It contains the basic obligations of public administration bodies in the field of nature protection, manages natural resources, and regulates penal and offense legislation.

The accession of Poland to the European Union Community in 2004 revealed many years of neglect in the field of environmental protection, and showed a bumpy road to reformation in order to meet the requirements for the Community countries that recognize themselves as ecological [16]. Directives and legal acts in force in the European Union were transferred to Polish legislation, giving it time to implement all assumptions.

Table 2 presents the EU directives which in the specified areas allowed for the extension of Poland’s adaptation to the new regulations.

Table 2. Union European directives and implementation date

Directives	Area
Council Directive 98/70/WE	Limitation of sulphur content in some liquid fuels - until December 31, 2006.
Council Directive 76/464/EWG	Discharge of hazardous substances to surface waters - by 31 December 2007
Council Directive 1999/31/WE	Solving the problem of landfills - by 1 July 2012.
Council Directive 91/271/EWG	Treatment of municipal wastewater from all centres over 2000 people - by 31 December 2015.
Council Directive 96/61/WE	Integrated permits for emissions of pollutants from industrial installations - until October 30, 2007.

Source: Own study based on [16]

Poland, as a member of the European Union, must implement the binding directives in order not to be accused of “eco-dumping” [22] and lose the image of a reliable country that maintains its level on the European market.

Green economy is inextricably linked with regulatory, living and cultural services as well as the relations between the environment and society [15]. Environmental pollution affects human health. The consequence of such important effects is the essence of investment in the development of green logistics. Reorienting the country according to the assumptions of green logistics and its implementation requires effort by governmental and local government bodies at every level.

Summary

The implementation of the Green Deal Strategy is an opportunity to restructure the area of green logistics in Poland. The assumptions of the strategy are becoming a real determinant of the correct path of development of countries in the spirit of caring for the environment. The assumptions of the European Union of zero emissions are associated with the implementation of costly technology. The Green Deal Strategy is designed to financially support countries whose profitability is based on mine deposits. Transforming the economy is a long and costly process, but the goal of achieving zero emissions by EU Member States remains a priority. The analysis carried out in the article clearly defines the conclusions about the need to introduce a modernized strategy, which aims at the next step to purify the air. The European Union plays a leading role in global action on climate and biodiversity, and also claims to be a leader in ecology. The goal of achieving climate neutrality by 2050, together with the EU, is already declared by other countries, such as Japan and Korea. For Poland, the Green Deal is an opportunity to move to a low-carbon economy and move away from an economy consuming non-renewable natural resources [10]. Green logistics, based on the global awareness of the need to care for the environment, is developing very quickly, and the community of European countries declares care for the future thanks to constantly improved legal conditions.

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