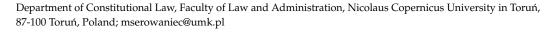




# Article Sustainable Development Policy and Renewable Energy in Poland

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Abstract: (1) Background: This article aims to answer the question of whether the Republic of Poland, by stipulating in the Constitution of 1997 the principle of sustainable development and ecological security, has created favourable conditions for the development of renewable energy. (2) Methods: The research is conducted using descriptive methods and—due to the legal nature of the publication and the crucial role played by the dogmatic method—it consists of the interpretation of legal acts and court decisions. (3) Results: Over the last few years, state authorities have introduced a number of regulatory and legal mechanisms to increase the stability of the operation of renewable energy sources, including the development of biomass or geothermal energy, as well as the development of energy clusters and cooperatives. This article characterises specific solutions and assesses their effectiveness. (4) Conclusions: The state authorities should take further specific actions aimed at achieving the sustainable development of the renewable energy sector in Poland. These actions should be primarily aimed at the use of huge resources of renewable energy sources, saving the consumption of energy resources, reducing the demand for final energy, gradually converting electricity production from coal to renewable energy sources (RES), and moving away from fossil fuels for heat production in favour of RES.

Keywords: renewable energy sources in Poland; sustainable development in Poland

# 1. Introduction

The Polish Constitution of 1997 [1] highly appreciates the value of the natural environment. Pursuant to Article 5, "The Republic of Poland ( ... ) ensures environmental protection, being guided by the principle of sustainable development". The concept of sustainable development [2], which was used in these provisions and which had existed in documents of international law, means that (i) one should interfere in the environment in a manner that is least harmful to natural resources and (ii) that the social benefits of such interference should outweigh the potential damage to the environment [3]. The legislator defines the concept of sustainable development in a similar way. It is stated in Article 3(50) of the Act of Environmental Protection Law [4] that sustainable development is a form of socio-economic development in which political, economic, and social activities are integrated in such a manner that the natural balance and sustainability of basic natural processes are maintained, with the aim of guaranteeing the possibility of satisfying the basic needs of singular communities and both present and future generations. The principle is similarly defined by the Polish Constitutional Court, which stated that "the principles of sustainable development include not only the protection of nature or ensuring of the spatial order, but also due care for social and civilizational development associated with the need to build appropriate infrastructure necessary for civilizational needs of a human being and every singular community. Therefore, the idea of sustainable development is based on the need to take into account various constitutional values and to balance them appropriately" [5]. What is more, in the Polish literature on this subject, one can analyse sustainable development from two related perspectives: the ecological perspective and the civilisational one. The first refers to sustainable development that is seen as "the



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**Copyright:** © 2021 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). process of reducing pressure on the environment and placing the emphasis on improving the quality of the environment through the ecology of economic processes and the implementation of integrated methods of environmental protection". The second perspective describes sustainable development as "the process of exploring and implementing new forms of economic growth, high-tech technologies, alternative energy sources, new forms of organization and social communication, as well as new forms of non-economic human activities" [6]. Thus, the current constitutional law defines the natural environment as one of the basic values protected by the Basic Law [7].

In this context, it is worth noting that in the field of energy management, we must deal with the interference of various constitutional values and principles that include, among others, the security of citizens and the principle of the sustainable development of the state (Article 5 of the Constitution), as well as the principle of environmental protection (Article 74(1-2) of the Constitution). Therefore, access to energy resources is essential from the point of view of the existence of society and individual entities.

The aim of this article is to answer the question of whether the Constitution and the normative acts adopted on its basis create favourable conditions for the development of renewable energy sources (RES) in Poland. It is worth analysing whether the principle of sustainable development expressed in the Constitution and the need to ensure ecological security for the state can provide an impulse for increased interest in the use of RES.

#### 2. The Principle of Sustainable Development and Ecological Security of the State

The development of the systemic principle of sustainable development is included in Article 74 of the Constitution, which states that (i) environmental protection is the responsibility of all the public authorities, whose role is to implement a policy ensuring ecological security for present and future generations and that, at the same time, (ii) public authorities are to support citizens in their activities to protect and improve the condition of the natural environment [8]. According to provision (i), which explicitly formulates the obligation forced on the state mechanisms in their broadest sense, one should firstly pay attention to the concept of ecological security, which can be considered from two basic points of view.

On the one hand, the individual's behaviour towards the environment should be taken into consideration, and, at that point, the obligation to maintain ecological safety would be part of the scope of obligations regulated by environmental law and addressed to everyone in the form of prescribed or prohibited behaviours. On the other hand, ecological security may be described as the effect of public authorities using legal instruments to ensure the subjective right to use the environment and the right to live safely in the natural environment [9]. When analysing the content of the obligation to ensure ecological safety, it is worth emphasising the long-term and permanent nature of that obligation. This assumption results from the formulation of the provision specifying the beneficiaries of activities that public authorities are obliged to take into consideration. These beneficiaries are to be both present and future generations. The wording refers directly to the ideas contained in the concept of sustainable development, making all current and future needs equal in the hierarchy. This means that the State cannot act to satisfy the current needs in a way that it would impede meeting the needs of future generations, and (of course) vice versa. Thus, the government has to find a reasonable compromise to meet these different needs [10]. In addition, Article 68(4) of the Constitution imposes an obligation on public authorities to prevent the negative health effects of environmental degradation. Bringing together all the above-mentioned provisions makes it possible to conclude that the natural environment is a constitutional value whose implementation should be subject to the process of the interpretation of the Constitution. It is not only this negative aspect, namely a ban on the destruction or degradation of environmental elements, that stands out in the content of the obligation to care for the condition of the environment. There is also a noticeable positive aspect—that is, the requirement to prevent damage to the

environment, to shape it in a rational way, and to restore its natural elements to their proper condition [11].

# 3. Sustainable Development Policy in the Field of Renewable Energy Development

The extraction and processing of fossil fuels to produce energy results in adverse effects on the environment. Conventional coal-based energy production is one of the main consumers of environmental resources, causing land degradation and other side effects, such as soil and water pollution, and the release of significant emissions from combustion products into the atmosphere [12].

The energy demand, which has increased along with the development of civilisation, the depletion of traditional energy, and the simultaneous growth in environmental pollution has led to increased interest in the use of energy from renewable sources. Renewable energy means energy derived from natural repetitive processes and renewable, non-fossil energy sources. Therefore, renewable energy sources (hereinafter RES) are a good alternative to traditional primary, non-renewable energy products, namely fossil fuels. RES are usually local and therefore can be used without the necessity of building a special centralised infrastructure. Being small, dispersed, and user-friendly technologies, with their high energy potential, RES are part of the sustainable development policy of individual European Union (EU) member states. The most obvious advantage of this energy sector, based on renewable sources, is its beneficial effect on the natural environment, resulting from the reduction in the emission of pollutants into the atmosphere, including greenhouse gases. The development of this energy sector has resulted in a significant reduction in environmental costs that accompany the usage of conventional technologies of energy generation, and this has had a noticeably positive effect on the economy and society.

The national policy of sustainable development in the field of RES development was defined, in particular, in the Strategy for Responsible Development up to 2030, the Energy Security and Environment Strategy up to 2020, the Polish Energy Policy up to 2030, the National Action Plan on Energy from Renewable Sources, and the National Energy and Climate Plan for the Period 2021–2030.

# 3.1. Strategy for Responsible Development

One of the main objectives of Poland's energy policy, indicated in the Strategy for Responsible Development [13], is the introduction of regulatory and legal mechanisms that increase the stability of the functioning of renewable sources; the importance of stable sources of renewable energy, including the development of energy production based on biomass or geothermal energy; as well as the development of energy clusters and cooperatives. As part of improving the state energy security, which is the second line of intervention in this subject area, the Polish Council of Ministers proposes the introduction of legal mechanisms to increase the stability of RES and measures to develop energy storage technologies. This should take place through the rational and effective use of locally available materials and fuels, while considering the energy value of waste and renewable energy sources, and using the innovative potential of the generation, transmission, and distribution of energy.

#### 3.2. The Energy Security and Environment Strategy

The Energy Security and Environment Strategy [14] is one of nine integrated development strategies based on the Principles of the Development Policy Act of 6 December 2006. The main objective of the strategy is to ensure a high standard of life for existing and coming generations, considering environmental protection, as well as to create conditions for the sustainable development of the present energy sector so that it is capable of ensuring energy security, along with a competitive and efficient economy for Poland. Some specific objectives of the strategy in question are as follows: sustainably managing environmental resources, ensuring safe and competitive energy supply for the national economy, and improving the condition of the environment. The development of RES in Poland requires taking certain measures to promote RES production in the country, based on Poland's energy policy as well as periodic reports on the progress toward the promotion and use of energy from renewable sources in Poland (adopted in accordance with Article 22 of Directive 2009/28/EC of 23 April 2009). The objectives of the programme were to develop certain solutions to ensure the adoption of a path that will enable the growth of specific renewable energy technologies specified in the National Action Plan and, as a result, achieve at least a 15% share of renewable energy in the gross final energy consumption by 2020. The programme included solutions that covered all the economic, social, and environmental issues so as to ensure the sustainable development of this sector of the country's economy.

#### 3.3. The Energy Policy of Poland Up to 2030

The implementation of energy policy objectives, set at the EU level, also includes the Energy Policy of Poland up to 2030, adopted by the Council of Ministers [15]. As emphasised in this document, Poland actively participates in the creation of a common energy policy, and it also implements the main objectives of this policy in specific national conditions, taking into account maintaining the competitiveness of the national economy and protecting the interests of consumers along with the country's energy resources and technological conditions of electricity generation, transmission, and distribution. The energy policy in the field of RES sets objectives resulting from Directive 2009/28/EC, namely achieving at least a 15% share of renewable energy in the gross final energy consumption and a further rise in this ratio in the following years, a 10% share of the use of biofuels in the transport fuel market in 2020, and an increase in the use of second-generation biofuels. The directive also mentions the protection of forests against over-exploitation due to excessive biomass extraction and the sustainable use of agricultural areas for renewable energy, including biofuels, so as not to lead to competition between the renewable energy sector and agriculture and to preserve biodiversity. In the document being discussed, the need to increase the diversification of supply sources and to create optimal conditions for the development of distributed energy based on locally available raw materials is also pointed out.

### 3.4. The National Action Plan on Energy from Renewable Sources

The National Action Plan on Energy from Renewable Sources [16] sets objectives concerning the share of renewable energy in the area of transport, electricity and heating and cooling in 2020. In this plan, the Polish government presented the overall direction of action to reach the general objective in 2020. The anticipated share of energy from renewable sources in 2020 in individual sectors was as follows: 17.05% in heating/cooling (network and non-network systems), 19.13% in electricity, and 11.36% in transportation, taking into account the surplus used for cooperation mechanisms [17]. The plan takes into account all the technologies in use for renewable energy production, as well as those that may be developed in the future under Polish conditions due to the development of the energy market, bearing in mind all the economic, technical, and legal aspects. In the transport sector, the development of RES primarily assumes an increase in the share of biofuels and bio-components in transport fuels.

# 3.5. The National Energy and Climate Plan for the Period 2021–2030

In accordance with the objectives of the National Energy and Climate Plan for the Period 2021–2030, the main goal of the Polish energy policy is energy security, while ensuring the competitiveness of the economy, energy efficiency, and a reduction in the impact of the energy sector on the environment, as well as the optimal use of the country's own energy resources. The plan proposes eight strategic approaches: optimal use of the country's energy resources, development of the energy production infrastructure and network infrastructure of energy distribution, diversification of natural gas and crude oil supplies, development of energy markets, implementation of nuclear energy, development

of renewable energy sources, development of heating and energy cogeneration, and the improvement of energy efficiency. As part of the implementation of the overall EU objective, the Polish government has declared that by 2030, RES will make up 21% of the gross final energy consumption (meaning the total energy consumption of the power industry, heating and cooling, and transportation, which depends on the competitiveness of these sources and their place and usefulness as part of the entire system). Technological progress will have a significant impact on the scale of RES usage, not only in terms of both currently known methods of energy production and completely new technologies, but also in terms of energy storage technologies. It is planned that the RES share of the net electricity generation will increase to about 27% by 2030.

#### 4. National Support Schemes for Renewable Energy Investments

All the objectives set by various strategies and plans were to be achieved through national support schemes for renewable energy investments. For instance, the Prosument Support Programme was designed to increase the production of energy from renewable sources by purchasing and installing small and micro-environment-friendly installations to produce heat and electricity for individuals, housing communities, and cooperatives. The planned budget for repayable forms of funding was PLN 800 million. Funds were allocated for the years 2014–2018, and their disbursement was planned to finish by 31 December 2020. Financial support was granted in the form of a subsidised loan along with a subsidy (up to 100% of installation costs in total); the subsidy was 20% or 40%, depending on the type of RES installation.

The Infrastructure and Environment Operational Programme identifies national objectives in the field of sustainable development, while maintaining cohesion and balance between investment activities concerning all the necessary infrastructure and support for selected areas of the Polish economy. The Ministry of Energy is the intermediary institution and the National Fund for Environmental Protection and Water Management the implementing institution in the implementation of the programme for the power industry. Under the programme, co-funding of up to 85% of the eligible expenditure for projects up to EUR 15 million may be obtained for the infrastructure of renewable energy sources, including the connection to the power or heating network, which can use wind energy, biomass, biogas, hydroelectric energy, solar energy, and geothermal energy.

However, the European Commission reports that only a small amount of the funds from this programme (7.6%) have been spent in Poland [18]. For this reason, among the EU member states, Poland is one of the outsiders when it comes to the implementation of investments for the development of RES. Therefore, it is worth drawing on the experiences of countries such as Italy and Cyprus, which are successfully achieving the objectives set by the EU. For example, in Italy, to stimulate the development of renewable energies, a special incentive programme, the so-called feed-in tariff, was created to increase support for RES by lowering the cost of the technology. State authorities have prioritised renewable energy over traditional energy sources, and procedures for its authorisation, the construction of power plants, and the feeding of generated energy into the grid have been simplified [19]. In Cyprus, besides high subsidies that make RES energy production profitable, at least 2% of the energy produced by RES must be used to satisfy the needs of local communities. This practice favours societal openness towards RES [20].

# 5. Current Legislative Trends in Promoting the Use of RES

To ensure sustainable development in the use of renewable energy sources, the Renewable Energy Sources Act of 20 February 2015 [21] was adopted. It provided for the continuation of the implementation of the objective on energy and climate, creating a competitive, safe, and sustainable renewable energy market by guaranteeing existing competition rules and a high level of protection of the addressees of the act, including consumers. The act included and adapted the current system of support for energy from renewable sources, as regulated by the provisions of the Energy Law [22], based on the certificates of origin that are obtained by all the producers of energy from renewable sources, who benefit from the guaranteed demand for the energy that they produce at a price higher than the market price of energy from traditional sources. Later, the act on RES [23] separately regulated the issuance of biogas certificates of origin, that is, so-called blue certificates, which confirm the production of agricultural biogas and its introduction into the gas distribution network. Aiming to reach a 15% share of energy from renewable sources in the gross final energy consumption by 2020, the Council of Ministers submitted the Draft Law on RES and Certain Other Acts. This draft law, adopted on 19 July 2019, provided for the implementation of the objectives of Directive (EU) 2018/2001 of 11 December 2018 on the Promotion of the Adoption of Energy from Renewable Sources. Moreover, the adopted amendment contributed to the removal of legal and editorial interpretation doubts emerging in various areas of the act on RES. The intention of the authors of the amendment was, among other things, to clarify the provisions in view of the applications submitted after the first auction for RES in 2018, due to the extensive technological subject of the auction and the fact that it occurred on such a large scale. Another aim of this regulatory intervention was to specify specific issues regarding the act on RES and elements related to the settlement of the negative and positive balance with the settlement operator. The expected effect was to eliminate doubt on the part of entrepreneurs participating in the auction system. On the initiative of the Council of Ministers, a few technical changes were introduced to improve the operation of the auction system with respect to, among others, procedures carried out after the submission of auction bids, including the possibility of modifying bids or determining a deadline, to be respected by the president of the Energy Regulatory Office, to announce the results of the auctions conducted. The selected changes enable one to more precisely set the date of the first sale of electricity to an energy network through the auction system and to precisely determine the level of the RES fee in a given calendar year. With regard to the land use plan, its existing principle was clarified, which should not only enable the proper location of residential buildings but should also allow for micro-installations to be installed on top of them. This should be possible for micro-installations using wind technology and photovoltaic technology, which can be easily integrated into the structure of residential buildings.

The entry into force of the Investments in Wind Power Plants Act of 20 May 2016 [24] had a negative impact on the development of RES in Poland. The anti-windmill act introduced significant investment restrictions for installations with a capacity above 40 kW. The statutory definition of a wind power plant is that it is "a building within the meaning of the Construction Law, consisting of at least a foundation, a tower and technical elements, with a capacity greater than that of micro-installations pursuant to Article 2(19) of the Act on RES". In accordance with this definition, the location of the investment in the construction and operation of a wind power plant (with a capacity greater than that of a micro-installation) was possible only on the basis of a local land use plan. The act of 7 June 2018 amended the previously unfavourable regulations. In the light of the new wording of the provision, a wind power plant is an installation of a renewable energy source, consisting of a construction portion, being a building within the meaning of the Construction Law, as well as technical devices (including technical elements), in which electrical energy is generated from wind energy, with a capacity greater than that of a micro-installation, pursuant to Article 2(19) of the Renewable Energy Sources Act of 20 February 2015. As a consequence, only the construction parts of wind power plants, not their technical elements, are subject to a property tax, which was a case that had raised doubts before. More importantly, the legislator decided that such an amendment had to apply retroactively from 1 January 2018. The transitional provision of the anti-windmill act in force at that time provided that, within 36 months from the date of the entry into force of the act, it would be acceptable to adopt local land use plans providing for the location of a residential building or of a mixed-use building (including one with a residential function) on the basis of the previous provisions, that is, without it being necessary to consider the criterion of the minimal distance. The amendment extended the time for the preparation

of such plans to 72 months from the date of the entry into force of the act. It means that until 16 July 2022, all municipalities have time to adopt local land use plans providing for the location of buildings with a residential function without taking into account the criterion of the distance from wind power plants. Naturally, this amendment did not solve all the problems of the wind power industry, but it was certainly a panacea for some of its problems.

#### 6. Conclusions

The Polish Constitution, by stipulating the principle of sustainable development and ecological security of the State, tries to draw attention to the need to support the RES sector. However, more decisive legal measures creating favourable conditions for the development of RES should be implemented by state authorities. In particular, it would be worthwhile to promote RES technologies such as wind turbines, photovoltaic power stations, heat pumps, and solar collectors to the small and medium-sized enterprises (SME) and household sectors. To support investments in RES, efforts should be made, in particular, to simplify all state administrative procedures regarding investments in this sector. The unification of the interpretation of regulations and the modification of the RES support system towards much greater network development would also contribute to the faster introduction of new renewable energy sources. The condition of electricity transmission and distribution infrastructure is undoubtedly a barrier to the development of renewable energy sources, which is why it is important to find solutions combining the development of RES with the development and modernisation of the electricity grid.

Motivation for Polish authorities to take such measures is also being provided by EU bodies. Undoubtedly, membership in the European Union will have a positive impact on Poland's ability to take further and more specific actions aimed at achieving the sustainable development of its renewable energy sector. These actions should be primarily focused on the use of huge amounts of renewable energy sources, a reduction in the consumption of energy resources, a reduction in the demand for final energy consumption, gradual switching from coal to RES and withdrawal from fossil fuels for heat production in favour of RES [25]. Taking into account the large potential of renewable energy carriers in Poland, it is necessary to take action to use RES for the benefit of the natural environment and the entire society, while obtaining notable economic benefits.

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