Appendix 2: Summary of the implementation of the Strategy "Energy Security and Environment – perspective to 2020" (BEiŚ) in the environmental part

Warsaw, 2019



The Strategy*"Energy Security and Environment – perspective to 2020"* (BEiŚ) was adopted by the Council of Ministers on 15 April 2014 [[1]](#footnote-1). It was one of nine integrated strategies entering the system of managing the development of Poland, which was based on the Act on the principles of conducting the development policy[[2]](#footnote-2). On 14 February 2017, the Council of Ministers adopted the *Responsible Development Strategy until 2020 (with an Outlook until 2030) – SOR*, which replaced the medium-term *National Development Strategy 2020*. As a result of the adoption of the SOR, nine integrated strategies had to be updated. The Coordination Committee for Development Policy decided to replace BEiŚ with two separate strategies: *2030 National Environmental Policy – the Development Strategy in the Area of the Environment and Water Management (PEP2030)* and *the Energy Policy of Poland until 2040 (PEP2040)*.

The BEiŚ Strategy integrated the environmental policy with the energy policy, setting out the directions of power industry development and indicating the priorities in environmental protection. The main objective of BEiŚ was to ensure a high quality of life for present and future generations, taking into account environmental protection, and to create conditions for sustainable development of a modern energy sector capable of ensuring energy security as well as competitive and efficient economy for Poland. Two of the three specific objectives were directly related to environmental issues: objective 1 – sustainable management of environmental resources and objective 3 – improvement of the condition of the environment.

The level of implementation of BEiŚ was measured by a set of indicators assigned to specific objectives. The base year for the indicators was 2010. The analysis of the data available in 2018 indicates that the targets were met for six out of 15 indicators. The value of two indicators, despite the activities carried out within the framework of BEiŚ, deteriorated in comparison with 2010. Six indicators came close to the 2020 objective, but the dynamics of changes do not guarantee that the objective will be met. One indicator had the same value as in 2010.

BEiŚ implementation and monitoring should be evaluated as not effective if most of the indicators for achieving the objectives will be not met by 2020. Some tasks and activities within the framework of BEiŚ were formulated in a vague way or did not clearly define the entity responsible for them and for initiating inter-ministerial cooperation. Another problem was the low level of awareness of the BEiŚ Strategy as a government document, even in the departments responsible for its implementation. This resulted in a lack of prioritisation of activities. Actions taken in previous years have rarely been referred to the priorities of BEiŚ. This was also apparent in the lack of full consistency between the existing financial instruments and the types of interventions that should be undertaken on the basis of BEiŚ. The inefficiency of the system of state institutions also contributed to the unsatisfactory level of performance.

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| **No.** | **Indicator** | **Base value in 2010** | **Value achieved in 2014/2015/2016** | **Value expected in 2020** |
| **Objective 1. Sustainable management of environmental resources** |
| 1 | Water consumption for the needs of national economy and general population in hm3 (cubic hectometres) | 10 356.5 hm3 | 9656.3 hm3 [2017] | 10 100.0 hm3 |
| 2 | Industry share in total water consumption (%) | 74% | 73% [2017] | 65% |
| 3 | National forest cover level (%) | 29.2% | 29.6% [2017] | 30% |
| 4 | FBI – *Farmland Bird Index* (2000 = 100%) | 88% | 79.98% [2017] | 90% |
| 5 | Percentage of the areas covered by current spatial development plans in the total surveying area of the country | 26.4% | 30.5% [2017] | 35% |
| […] |
| **Objective 3. Improvement of the condition of the environment** |
| 6 | Ecological condition/potential of water bodies (Class I-V) | rivers (natural WBs) – very good and good – 16% | 27.9% [2015] | increase in the percentage of WBs in good and very good condition/potential |
| rivers (natural WBs) – below good – 84% | 72.1% [2015] |
| rivers (artificially and strongly modified WBs) – maximum or good – 17.1% | 31% [2015] |
| rivers (artificially and strongly modified WBs) – below good – 82.9% | 69% [2015] |
| 7 | Chemical condition of water bodies (good/below good) | rivers – good condition – 44% | 69.4% [2015] | increase in the percentage of WBs in good condition |
| rivers – condition below good – 56% | 30.6% [2015] |
| 8 | Condition of water bodies (good/bad) | rivers – good condition – 11.2% | 10.9% [2015] | increase in the percentage of WBs in good condition |
| rivers – bad condition – 88.8% | 89.1% [2015] |
| 9 | Air quality condition – percentage of zones with exceeded air quality standards | 91% – 42 zones with exceeded air quality standards | 76% [2016] | min. 45% |
| 10 | Percentage of the population using sewage treatment plants | 64.7% | 73.6% [2017] | 71.5% |
| 11 | Level of recycling and preparation for re-use of selected waste groups: paper, metals, plastics and glass (% by weight) | 18% [2012] | 28% [2016] | 50% |
| 12 | Level of recycling, preparation for re-use and recovery by other means for non-hazardous construction and demolition waste (% by weight) | 69% | 105% [2015] | 70% |
| 13 | Degree of reduction of biodegradable municipal waste transported to landfills (in relation to waste produced in 1995) | 85% | 12% [2016] | 35% |
| 14 | Number of Polish environmental technologies verified under the ETV system (European Union Environmental Technology Verification Programme) | 0 | 2 [2017] | 20 |
| 15 | Percentage of “green” public procurement tenders | 9% | 9% [2014] | 25% |

Legend:

|  |
| --- |
| Achieved 2020 target value |
| Negative trend of indicator value change  |
| Risks to the achievement of target in 2020 |
| Positive trend of indicator value change or no change in indicator value |

***Water consumption***

Water consumption for the needs of national economy and general population includes water consumption for the industry, agriculture, forestry, fishpond filling and replenishment, water supply networks operation and for individual households. This consumption in 2017 amounted to 9656.3 hm3, which is below the objective for 2020 (10 100 hm3). The trend over the years 2010-2017 was downward, despite the recorded economic development.

In implementing the BEiŚ provisions, the goal was to manage water in accordance with the "user pays" principle. The measures taken were intended to encourage users to save water. Rationalisation of water use and special protection of high-quality water resources were perceived as the most effective method of ensuring full access to good quality water for the Polish population. One of the key instruments to optimise water use is the new Water Law[[3]](#footnote-3), which was adopted in 2017.

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*Source: Own study based on data in the STRATEG database.*

***Sewage treatment***

BEiŚ states that the development of sewage treatment infrastructure is important for the improvement of water quality. Significant investments have been made in this area in recent years. As a result, in the years 2010-2017, the percentage of the population using sewage treatment plants increased by 8.9 percentage points, i.e. to 73.6%. The 2020 objective was reached in 2014.

*Source: Own study based on data in the STRATEG database.*

The length of the sewage network in Poland in 2017 amounted to 156 800 km [[4]](#footnote-4). In cities, the network was used by about 95% of the population, and in rural areas by 42%. Out of the total number of 923 cities in Poland in 2017, 2 cities were not serviced by sewage treatment plants[[5]](#footnote-5). Rural areas with low population density and developing tourism infrastructure still lack local sewage systems and sewage treatment infrastructure.



*Source: "Environmental Protection 2018", Statistics Poland (GUS), p. 66.*

However, the achievement of the indicator pertaining to percentage of the population using sewage treatment plants does not translate into the BEiŚ objective of improving the condition of water bodies. This is mainly due to the time required for the reaction of the water environment and the existence of other sources of pollution, particularly of agricultural nature. For this reason, on 5 June 2018 the Council of Ministers adopted a regulation on the adoption of the *Action Programme to reduce water pollution by nitrates from agricultural sources and to prevent further pollution*[[6]](#footnote-6)*.* Proper implementation of the requirements of the *Action Programme* is expected contribute to reducing the agriculture share in the amount of nitrogen loads discharged to water.

Access of residents to sewage treatment plants services is the most common in Pomorskie, Zachodniopomorskie, Dolnośląskie and Śląskie voivodships, where the indicator exceeds 80%. The smallest percentage of the population using sewage treatment plants is located in Lubelskie Voivodship and amounts to less than 60%. A clear differentiation in the percentage of population with active access to sewage treatment plants services is visible both at the level of voivodships and counties, which may suggest a need to focus activities on selected local government units in the future. The applied technology should be economically efficient, which is facilitated by the construction of biogas plants near local sewage treatment plants, which has an additional positive impact on the improvement of energy security of the area.



*Map legend: Rok – year; Kartogram – choropleth map; Odsetek ludności korzystającej z oczyszczalni ścieków [%] - percentage of population using sewage treatment plants [%]; Brak danych – no data; j.m. – units: %; Opracowanie własne na podstawie danych systemu Strateg na dzień 13.9.2017 - own study based on the data from the Strateg system as at: 13.9.2017.*

*Source: Own study based on data in the STRATEG database.*

***Waste management***

Waste management has been recognised by BEiŚ as one of the most difficult areas of environmental protection. Measures were taken to gradually move from the system consisting in landfill storage to the system supporting the processing and recovery of raw materials and the use of waste for power generation. According to the Waste Framework Directive, by 2020, at least 50% of the four groups of municipal waste – paper, glass, metals and plastics – should be prepared for re-use and recycled. Between 2012 and 2016, this indicator rose from 18% to 28%. The year 2014 was the first full year of application of the amended Act on maintaining cleanliness and order in municipalities[[7]](#footnote-7). The rate of growth of the indicator value so far does not guarantee that the target value will be reached in 2020, due to the fact that the share of selectively collected municipal waste in the entire stream of waste is too low, among other factors. At the same time, it should be noted that the amount of waste being recycled is expected to increase steadily in subsequent years.

Efforts to reach the required levels have been intensified. Among the measures taken, the following should be mentioned:

* issuing a regulation on the detailed method of separate collection of selected waste groups[[8]](#footnote-8), which introduces uniform standards of separate collection of municipal waste throughout the country,
* a revision of the Regulation on environmental charges[[9]](#footnote-9), providing for increased landfill fees in the case of waste that should be recycled,
* introduction of the reporting obligation[[10]](#footnote-10) for entities which collect municipal waste in groups: paper, metals, plastics and glass, which makes it possible to count this waste towards the recycling levels achieved by the communes and prepare it for reuse,
* introducing the principle of extended manufacturer responsibility for burdensome waste, including packaging waste.

*Source: Own study based on data in the STRATEG database.*

The level of recovery of construction and demolition waste is more favourable. Concrete, brick and ceramic debris contained in construction and demolition waste after simple processing may constitute a construction aggregate of full value. It is used in the production of construction materials and elements, as well as in the construction of buildings and roads. Therefore, the level of recovery of this type of waste is not only of environmental but also of economic significance.

The target level of recycling, preparation for re-use and recovery by other means for non-hazardous construction and demolition waste, set for 2020 at 70%, has already been reached in Poland. In the years 2010-2015, this indicator oscillated around the target value. In 2015, the indicator reached as much as 105% of the target, which may be due to the treatment of waste stored in previous years.

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*Source: Own study based on data in the STRATEG database.*

An important element of the environmental policy is the reduction of the amount of landfilled waste. The activities undertaken in this area resulted in a gradual reduction of the mass of biodegradable municipal waste which was transferred to landfills. The 2020 objective has already been met.

The management of municipal waste is carried out considering the hierarchy of waste management methods. Municipal waste that could not be prevented is subject to the recovery process, including preparation for reuse and recycling, as well as other processes, e.g. thermal processing, biological treatment and landfill storage (mixed waste goes to landfills after previous processing). The amount of municipal waste recycled in 2016 has quadrupled compared to 2012 and the amount of thermally processed waste has increased forty-two-fold. Such a large increase in the stream of waste directed for thermal processing was caused by opening new municipal waste incineration plants, which started operating at the turn of 2015/2016[[11]](#footnote-11). An indirect impact on the increase in the amount of waste directed for thermal processing was caused by the regulation of the Minister of Economy of 8 January 2013 on the criteria and procedures for allowing waste to be stored at landfills[[12]](#footnote-12).

Between 2012 and 2016, the amount of municipal waste subjected to biological processes increased by 67%, while the total weight of municipal waste sent for landfill storage decreased by as much as 40%.

*Source: Own study based on data in the STRATEG database.*

***Air quality***

Although BEiŚ has identified curbing air pollution as a priority, in recent years, exceeded concentrations of pollutants have still been recorded in most parts of the country. In 2016, exceeded air quality standards were recorded in 76% of the zones where measurements were made. Achievement of the target value (45%) in 2020 is unlikely based on the actions taken. This has a direct impact on the quality of life, the health of the population and the condition of ecosystems.

In view of the unsatisfactory state of air quality, the Ministry of the Environment intensified its activities in 2015 with the adoption of the *National Air Protection Programme* (KPOP). It aims to achieve, as soon as possible, the limit values for particulate matter and other harmful substances in air laid down in EU legislation and, with a view to 2030 – those set by the World Health Organisation. Within the framework of the amendment of the Environmental Protection Law[[13]](#footnote-13), the effectiveness of actions resulting from air protection programmes and short-term action plans has been increased. Thanks to this amendment, the Voivodship Assembly may, by way of a resolution, introduce restrictions or bans on the operation of plants relying of fuel combustion and specify the types or quality of fuels allowed for use. So far, anti-smog resolutions have been prepared and are being implemented for the city of Kraków and ten voivodships: Małopolskie, Śląskie, Opolskie, Mazowieckie, Łódzkie, Dolnośląskie, Lubuskie, Wielkopolskie, Podkarpackie and Zachodniopomorskie. Works on the resolution for the Lubelskie Voivodship (Lublin Province) are nearing completion.

In 2017, the Economic Committee of the Council of Ministers, at the request of the Prime Minister, presented recommendations under the name of the "*Clean Air" programme*. Measures to improve air quality were also included in government strategic documents – the Strategy for Responsible Development for the period up to 2020 (including the perspective up to 2030) and *the Electromobility Development Plan* *"Energy for the Future"*. The implementation phase of measures to improve air quality is currently underway.

In all activities aimed at improving air quality, it is very important to raise environmental awareness and develop appropriate social attitudes, as it is the municipal and household sector that is the main source of emission of harmful compounds, the so-called low emission. Therefore, one of the directions of action, which is emphasised, is to form the right behaviours and attitudes of the public by educational campaigns, including campaigns on the optimal ways of combustion in boilers and the associated effects. Educational activities shall be continued under PEP2030.

The problem is also the poor energy efficiency standard of buildings. Its solution lies in the widespread use of deep thermal modernisation of buildings using the most effective technologies, as well as in the enforcement of the current regulations. Comprehensive activities aimed at improving air quality shall be carried out within the framework of the strategic *Clean Air* programme.

*Source: Own study based on data in the STRATEG database.*

***Forest cover***

The share of forest area in the total area of the country was gradually increasing, reaching the level of 29.6% in 2017. The positive trend in the described period is to a large extent an effect of afforestation of private agricultural land unsuitable for agricultural production. Afforestation was carried out mainly under the Rural Development Programme and as a result of reclassification of land on which afforestation occurred as a result of natural succession.

*Source: Own study based on data in the STRATEG database.*

Despite the positive trend, the achievement of the objective (30%) may be jeopardised due to the decreasing area of land available for afforestation. From the base year onwards, the area of land used for future forests decreased annually. In 2017, a total of 1.6 thousand ha was afforested, including 0.5 thousand ha belonging to the State Forests[[14]](#footnote-14).



*Source: "Environmental Protection 2018", Statistics Poland(GUS), p. 135.*

The forest cover of the country is not evenly distributed. The values range from 21.5% in the Łódzkie Voivodship to 49.3% in the Lubuskie Voivodship.



*Forest cover per voivodship in 2017 Prepared using the data and tools of the STRATEG database.*

***Farmland Bird Index***

The FBI is a population index of 22 bird species typical for agricultural landscape habitats. It is treated as an indicator of the state of "health" of ecosystems used for agricultural purposes, which constitute about 60% of the country's area. The Polish portfolio of species whose numerical indices make up the FBI currently includes: *Ciconia*, *Falco tinnunculus*, *Vanellus vanellus*, *Limosa limosa*, *Upupa epops*, *Streptopelia turtur*, *Galerida cristata*, *Alauda arvensis*, *Hirundo rustica*, *Motacilla flava*, *Anthus pratensis*, *Saxicola rubetra*, *Saxicola rubicola*, *Sylvia communis*, *Lanius collurio*, *Sturnus vulgaris*, *Passer montanus*, *Carduelis cannabina*, *Serinus serinus*, *Emberiza citrinella*, *Emberiza hortulana*, *Miliaria calandra.*

In 2017, the FBI value was 0.7998, the lowest level in the recorded history. The trend of changes in species abundance is downwards. The indicator decreased by 20% in relation to 2000. The highest level of the indicator was recorded in 2008 (0.99). The individual data show that the value of the indicator in relation to the base year increased the most for the *Saxicola rubicola* (by 66%) and decreased the most for the *Vanellus* (by 76%). According to Eurostat data, the aggregate index for the European Union countries in 2014 amounted to 0.84 and was 16% lower compared to the base year[[15]](#footnote-15).



*Source: "Environmental Protection 2018", Statistics Poland (GUS), p. 123.*

The current CAP serves to protect many rare and endangered bird species. Within the framework of the agri-environment-climate measure of the Rural Development Programme for 2014-2020, support is provided for environmental practices conducive to the preservation of breeding habitats of endangered bird species in the Special Protection Area (SPA). The support is intended in particular for the following species: *Limosa, Gallinago gallinago, Tringa totanus, Vanellus, Acrocephalus paludicola, Gallinago media, Numenius arquata* and *Crex crex.*

Packages of measures contributing to stopping the decline in the number of the indicator species of agricultural landscape are implemented in the Rural Development Programme 2007-2013 and 2014-2020, while in the perspective of 2014-2020, they have been assigned to agricultural areas located in special bird protection areas.

***Environmental technologies***

BEiŚ pointed to the need to reinforce research, implementation and promotion of environmental technologies as a necessary element to achieve an innovative low-carbon and environmentally friendly economy. Such activities as: promotion of Polish environmental technologies abroad as part of the GreenEvo project or implementation of the ETV system in Poland were intended to support it. They were to strengthen the transfer of ecological innovation research results to market practice, support the commercialisation of environmental technologies and create a market offer for these solutions on the domestic and foreign markets.

The Environmental Technology Verification (ETV) system, based on the *EU Environmental Technology Verification (ETV) pilot programme*[[16]](#footnote-16), verifies the effect of the given technology declared by the manufacturer. The verification is performed by ETV Verification Units (VUs) accredited by the Polish Centre for Accreditation (PCA). Since August 2016, four such units have been operating in Poland. They are prepared to verify environmental technologies in all pilot EU areas. Each Verification Unit has been accredited by the type A inspection body, i.e. with the highest degree of impartiality and reliability of the performed testing. In this way, ETV realistically supports the commercialisation and promotion of innovative environmental technologies, and the Certificate of Verification obtained by businesses facilitates, and often allows them to access foreign markets.

BEiŚ assumes that by 2020, 20 Polish technologies will have been verified under ETV. However, it is unlikely that the indicator estimated in BEiŚ is achieved. By the end of 2018, two Polish technologies had been verified, with a total of 29 verifications in the EU. The main reasons are high verification costs and poor recognition of ETV verification certificates on the market. This is a result of insufficient knowledge of businesses and administration, entities financing research and implementation of ecological innovations and investment projects, as well as scientific and industrial consortia, implementing R&D&I projects, regarding ETV and the possibility of using this tool to increase the probability of implementing the technology and increasing its commercialisation potential, building a competitive position of the company on the market. ETV can also be used to make innovation more credible, to confirm the environmental effect of the technology, in green public procurement tenders – as a confirmation that the offered technology meets the expectations of the contracting authority. Another factor limiting the number of verified technologies is the slower than expected pace of verification. The length of the verification process depends on the type and complexity of the technology and operating parameters to be verified. Some technologies may require tests confirming the efficiency throughout the entire year (e.g. sewage treatment technologies), hence the verification process before issuing the ETV verification certificate may take from a few months to over a year. Furthermore, the verification process is also slowed down by the degree and possibility of process involvement by the business and the availability of resources at its disposal.

The main barrier to joining the programme turned out to be high costs of testing conducted by qualified units, including accredited laboratories. The answer to this problem is the subsidy programme of the National Fund for Environmental Protection and Water Management[[17]](#footnote-17), launched in 2017. The subsidy for businesses is a real incentive to verify as many Polish ecologically innovative technologies as possible. However, the proposed level of co-financing was perceived as too low in comparison with the assumed costs of testing. The decision to increase the maximum amount of co-financing was made in 2018. Insufficient level of co-financing combined with poor recognition of ETV on the market caused limited interest of Polish companies in the verifications. Since the ETV support programme in Poland has been operating only recently, the effects of the programme remain to be seen in the following years. The increase in the number of verified technologies in the future should be influenced by increased financing of the National Fund for Environmental Protection and Water Management and more effective dissemination of information on the ETV system in order to increase the recognition of ETV verification certificates on the market among the suppliers and purchasers of technologies, especially from the public finance and public administration sectors.

The expansion of the technological areas with the implementation of the full ETV programme at EU level may also have a significant impact on the number of verifications. This expansion covers technological areas closely related to the implementation of strategic projects in Poland, requiring innovative technical and technological solutions, including e.g. improvement of air quality management system, improvement of resource efficiency, protection of the land surface or new technologies related to natural resources.

The increased interest in ETV will also be influenced by the wider possibilities of using ETV verification certificates due to the fact that the verification units run their processes in accordance with the global standard adopted also in Poland[[18]](#footnote-18). This will increase the recognition of verification certificates issued for Polish technologies on international markets, e.g. in North America and Asia. Increasing the number of verified technologies should also result in using ETV as a system element to increase the probability of implementation and commercialisation potential of new environmental technologies in R&D&I projects.

1. Resolution no. 58 of the Council of Ministers of 15 April 2014 on the adoption of the Strategy "Energy Security and Environment – perspective to 2020" (M.P. item 469). [↑](#footnote-ref-1)
2. Act of 6 December 2006 on the principles of development policy (OJ L of 2018, item 1307, as amended). [↑](#footnote-ref-2)
3. Act of 20 July 2017 – Water Law (OJ L of 2018, item 2268, as amended) [↑](#footnote-ref-3)
4. *Water and sewage management in Poland in 2017*. Statistics Poland (GUS). [↑](#footnote-ref-4)
5. *Environmental Protection 2018*, Statistics Poland (GUS), p. 66. [↑](#footnote-ref-5)
6. OJ L of 2018 item 1339. [↑](#footnote-ref-6)
7. Act of 25 January 2013 amending the Act on maintaining cleanliness and order in municipalities (OJ L, item 228). [↑](#footnote-ref-7)
8. Regulation of the Minister of the Environment of 29 December 2016 on the detailed method of separate collection of selected waste groups (OJ L of 2017, item 19, as amended). [↑](#footnote-ref-8)
9. Regulation of the Council of Ministers of 6 March 2017 amending the Regulation on environmental charges (OJ L, item 723). [↑](#footnote-ref-9)
10. The obligation was introduced by the provisions of the Act of 12 October 2017 amending the Act on packaging and packaging waste management and several other acts (OJ L, item 2056, as amended). [↑](#footnote-ref-10)
11. *Change in the municipal waste management system in Poland in the years 2012-2016*, Statistics Poland (GUS), 29.09.2017. [↑](#footnote-ref-11)
12. Regulation of the Minister of Economy of 8 January 2013 on the criteria and procedures for allowing waste to be stored at landfills for a given type of waste (OJ L, item 38). [↑](#footnote-ref-12)
13. Act of 10 September 2015 on amending the Environmental Protection Law (OJ L, item 1593). [↑](#footnote-ref-13)
14. *Statistical Yearbook of Forestry*, Statistics Poland (GUS), Warszawa, 2018, p. 81. [↑](#footnote-ref-14)
15. *Environmental Protection 2018*, Statistics Poland (GUS), p. 123. [↑](#footnote-ref-15)
16. *EU Environmental Technology Verification (ETV) pilot programme* [*https://ec.europa.eu/environment/ecoap/etv/*](https://ec.europa.eu/environment/ecoap/etv/)*)* [↑](#footnote-ref-16)
17. Priority Programme *Support for innovation towards a resource-efficient and low-carbon economy. Part 2) Popularisation of technologies verified within the ETV Environmental Technology Verification System*. [↑](#footnote-ref-17)
18. PN-ISO 14034:2016. [↑](#footnote-ref-18)