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## **AMOUNT OF INVESTMENT OUTLAYS ON ENVIRONMENTAL PROTECTION IN POLAND**

### *WYSOKOŚĆ NAKŁADÓW INWESTYCYJNYCH NA OCHRONĘ ŚRODOWISKA W POLSCE*

**Key words: environmental protection, investment in environmental protection, financing of environmental protection**

*Słowa kluczowe: ochrona środowiska, nakłady inwestycyjne na ochronę środowiska, finansowanie działań ochrony środowiska*

**Abstract.** This article analyzes the investment in environmental protection in Poland in the years 2000-2009. Up to the mentioned period of time we analyzed changes in the structure of the financing of investment in environmental protection according to the sources of investment. For the year 2009 we presented the structure of investment expenditures by province and pointed out the basic directions of investment in environmental protection. The source of information on investment for the environmental protection has been created in the Central Statistical Office. Interpretation of data leads to the conclusion that spending on environmental protection are growing steadily.

### **Introduction**

Environmental protection is defined as taking or failing the action which are able to preserve or restore the natural balance, consisting of rational development and environmental resources and according with the principle of sustainable development, combating pollution and to restore the natural elements of the proper environment (D.U nr 62, poz. 627).

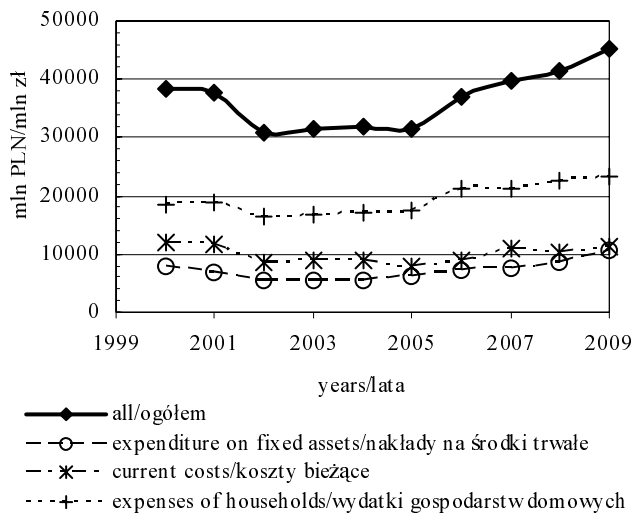
The environmental protection in Poland is been financed from domestic resources and the financial resources of foreign origin. Among the domestic resources of financing for investments in environmental protection are: state budgetary resources, special funds, own resources of the business (capital expenditures are incurred to specifically separate investment measures, those measures are non-refundable and other repayable funds – bank loans, the proceeds of issuance of securities, leasing, etc.), people's own resources (expenditure incurred by households for services and pro-security investments implemented in-house or on subsidies for municipal investments) and social measures (environmental protection expenditure incurred by foundations and organizations established for special deliberate capture and collection of funds) [Poskrobko 1998].

Foreign aid appropriations are expenditure on environmental protection in Poland, borne by foreign entities under: bilateral aid, mainly German and American, EU assistance under the PHARE program, ecoconversion (Polish foreign debt cancellation under the zloty equivalent of the distribution of its budget funds to finance investment in environmental protection), assistance under the Global Environment Facility and aid in the framework of international foundations.

### **Investment expenditures on environmental protection**

Investment expenditures on environmental protection contribute creation of new assets (eg. acquisition of land, buildings, premises and facilities, civil engineering, technical equipment and machinery, transport equipment, tools, appliances, property and equipment) or improvement of existing capital asset as well as expenses that do not increase the value of fixed assets ex. expenditures on initial investments.

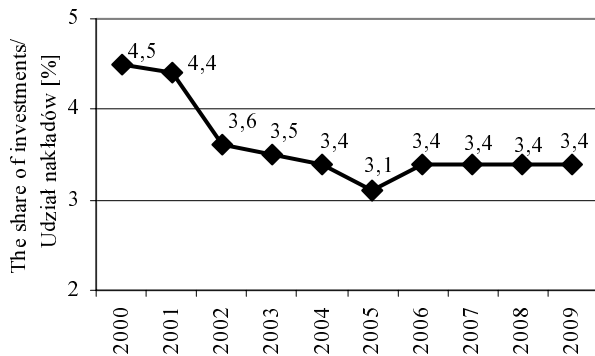
In the years 2000-2009 the total net expenditure on environmental protection in Poland amounted to 364,767 million PLN. The largest share in total household expenditure accounted for (53.16%), while the lowest expenditures on fixed assets (19.60%). Since 2001, it collapsed on the question of investment objectives. This unfavorable trend was maintained until 2005. The lowest level of



**Figure 1. Expenditures for environmental protection in 2000-2009 (constant prices in 2009)**

*Rysunek 1. Nakłady na ochronę środowiska w latach 2000-2009 (ceny stałe)*

Source: own study based Rocznik Statystyczny... 2000-2010  
 Źródło: opracowanie własne na podstawie Rocznik Statystyczny... 2000-2010



**Figure 2. The share of investment in environmental protection in GDP in 2000-2009**

*Rysunek 2. Udział nakładów inwestycyjnych na ochronę środowiska w PKB w latach 2000-2009*

Source: see fig. 1  
 Źródło: jak na rys. 1

expenditures amounted to 280 PLN. In Slask region they were more than 100% higher than the national average (521 PLN). The lowest spending, at 91 PLN, was characterized by the Lubelskie province.

### Capital expenditures are focused on three main areas of funding

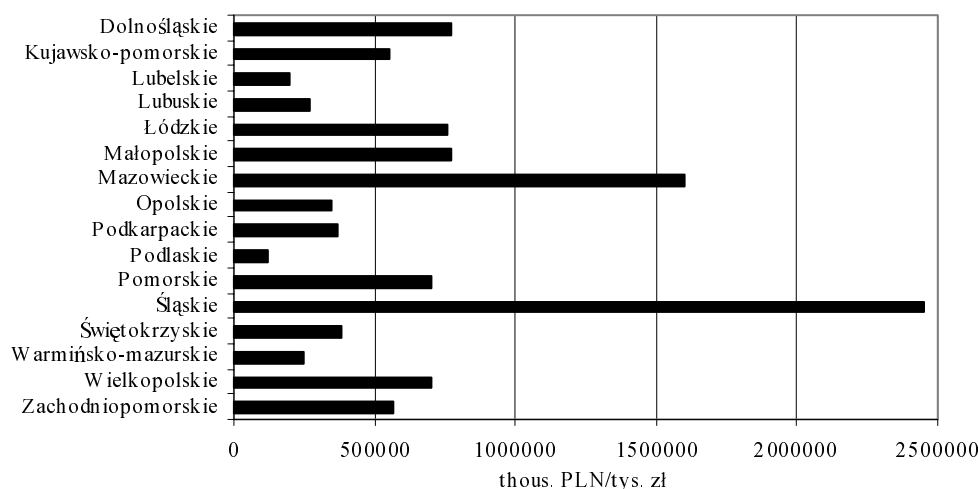
The first of these is the protection of air and climate, where the activities were funded primarily concerning the construction or upgrading and installation of dust collection equipment or reducing gaseous pollutants, the purchase of measurement equipment and new technologies of fuel combustion, boiler upgrades to reduce pollution caused by combustion as well as investments in renewable energy. The total amount of expenditures earmarked for this purpose in 2000-2009

investment was recorded in 2002 (30,757 million PLN). Since 2006 it has been gradually increasing the investment in environmental protection. Total expenditures on environmental protection have increased from 38,329.2 million PLN in 2000 to 45,365.1 million in 2009 PLN (Fig. 1).

Analyzing the contribution of environmental protection in GDP since 2002 we noted a clear downward trend (Fig. 2) which shows little activity of the state – the emerging new financial resources with the increase in GDP should be channeled to other areas of the economy. In 2006, the share of investment in environmental protection in GDP increased to 3.4% and maintained on the same level until 2009.

The level of investment in fixed assets for the protection of the environment in the regional structure were varied (Fig. 3). Most investments were spent in the Slask province (2,410,706.7 thousand PLN) and Mazowieckie province (1,591,661.5 thousand PLN). These expenditures accounted for 37.58% of the total of these expenditures in the country. Smallest part of investments went to the provinces: Podlaskie (140,621.5 thousand PLN), Lubelskie (197,262.4 thousand PLN) and Warmia and Mazury (256,344.5 thousand PLN) and accounted for 5.56% of share in the national effort.

The share of expenditure on environmental protection in relation to the overall investment in the national economy in 2009 amounted to 4.9%. The highest level of this indicator was recorded in Slask (8.5%), West Pomeranian region (7%) and Opolskie region (7%), the lowest in the region of Lublin (2.5%). Per capita investment expen-



**Figure 3. Gross fixed capital formation to protect the environment by provinces in 2009 (current prices)**  
**Rysunek 3. Nakłady na środki trwałe służące ochronie środowiska według województw w 2009 roku (ceny bieżące)**  
 Source: own study based on Environmental Protection 2010  
 Źródło: opracowanie własne na podstawie Ochrona środowiska 2010

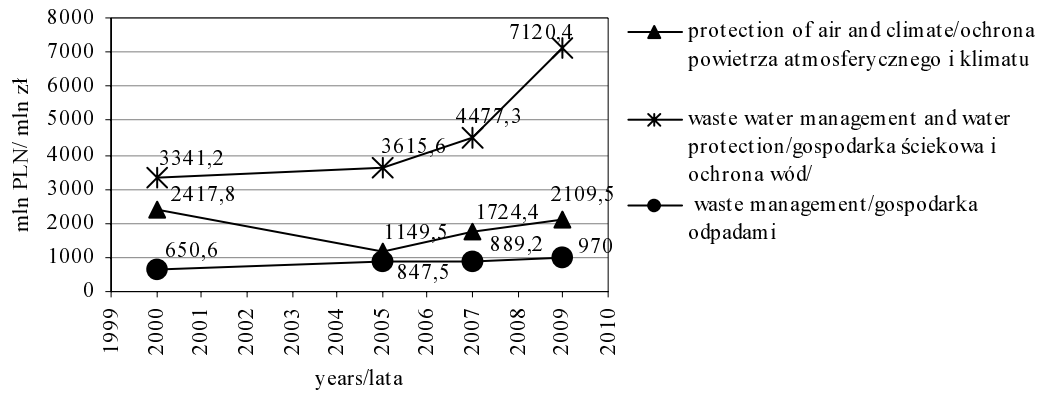
amounted to 7401.2 million PLN which accounted to 24.95% of total expenditures. Silesia (690,145.0 thousand PLN) spent most amount of money on the protection of air and climate while the Warmia&Mazury (22,206.0 thousand PLN) – the lowest amount.

The second direction relates to wastewater management and water conservation. The investments consist mainly of construction and upgrading of sewage treatment plant and industrial equipment including installation for the disposal and sewage treatment technology using mechanical, chemical, biological and high removal mio-gens as well as peri-household sewage, construction of sewage effluent discharge and water basins. The total amount of expenditures earmarked for this purpose in 2000-2009 amounted to 18,554.5 million PLN, more than half of the total expenditures on environmental protection (62.54%). Among the provinces which for this purpose spent most are the Silesia region (1,508,776.9 thousand PLN) and Mazowsze region (824,477.9 thousand PLN). Podlaskie region spent lowest amount of money for waste water management and water conservation (90,075.8 thousand PLN).

The third direction is a waste service and the activities of collection, transport and economic use of waste and their disposal, including such projects as the construction and modernization of landfills and recultivation. The total amount of expenditures earmarked for this purpose in 2000-2009 amounted to 3357.3 million PLN (11.32% of total expenditures). The biggest investment in waste management suffered Pomorskie region (165,795.9 thousand PLN) and Mazowsze region (158,509.5 thousand PLN), and the smallest province: dolnośląskie (46,234.2 thousand PLN) and kujawsko-pomorskie (79,021.7 thousand PLN). Other investment directions related to the protection of biodiversity and landscape, noise reduction and vibration and protection against ionizing radiation. The total amount of expenditures allocated for these purposes in 2000-2009 amounted to 354.2 million PLN (1.19% of total investment).

In the analyzed period, expenditures on environmental protection has increased from 6.5 billion PLN in 2000 to a level of 10.6 billion PLN in 2009 for three years followed by a marked increase in investment outlays in the direction of wastewater management and water protection (in 2000 the amount invested amounted to 3341.2 million PLN and in 2009 7120.4 million PLN) (Fig. 4). There have also increased expenditure on the waste management. For the protection of air and climate the total value of investment deteriorated.

In terms of investment in environmental protection expenditure in the country came primarily from investors' own funds, which since the mid-nineties have become the main source of money for environmental protection. Their share in the structure of expenditures in 2000-2009 decreased from 53.4% in 2000 to 46.02% in 2009 (Fig. 5). Another major source of funding for environmental expenditures are funds coming from abroad whose share in total investment outlays increased from 3.9% in 2000 to 18.91% in 2009. The share of environmental funds (loans, credits and grants) to finance environmental investments in 2009 stood at 18.30%. This level was lower by 1.70% compared to 2000.

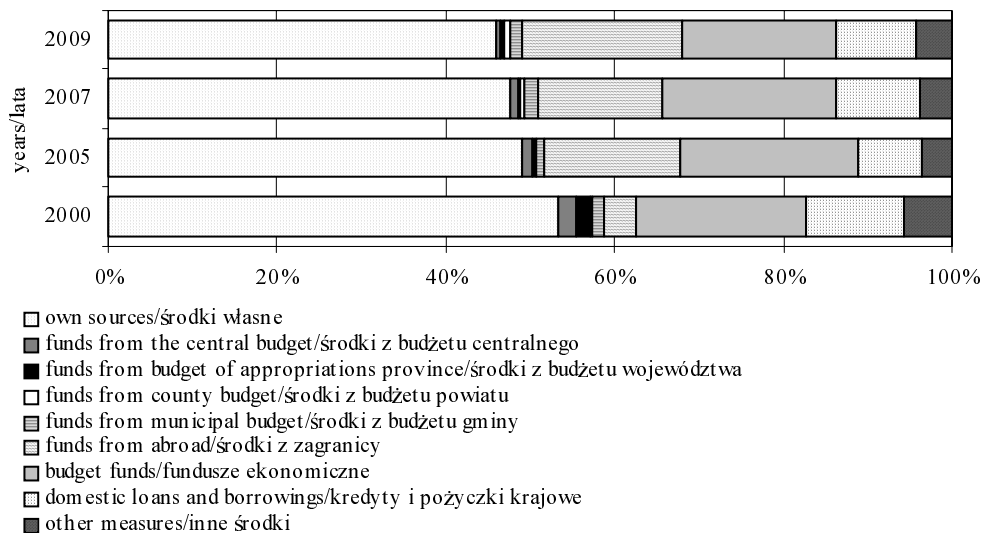


**Figure 4. The amount of investment in environmental protection according to the main directions of investing in the years 2000-2009**

*Rysunek 4. Wysokość nakładów inwestycyjnych na ochronę środowiska według głównych kierunków inwestowania w latach 2000-2009*

Source: see fig. 1

*Źródło: jak w tab. 1*



**Figure 5. Capital expenditures on environmental protection in 2000-2009 by investment resources**

*Rysunek 5. Nakłady inwestycyjne na ochronę środowiska w latach 2000-2009 według źródeł finansowania*

Source: see fig. 1

*Źródło: jak w tab. 1*

Domestic credits and loans during analyzed period were at the level 9.66% of the total amount of expenditures. Much less is a significant source of funds from the central budget and the budgets of lower levels of government. These investments are supported by foreign investments. Their share in 2009 amounted to 3.07% and was significantly lower than in 2000 (5.46%).

Two groups of investors are principally engaged on spending on environmental investments, it means companies (59.98% of total expenditures) and the local governments (36.46% of total expenditures). The third group consists of budgetary entities, the investment in environmental protection in 2009 accounted for 3.56% of total expenditures for this purposal.

## Conclusions

Rational use of natural resources for development, in terms of universal access to public goods of nature, requires the widespread use of environmentally friendly farming methods and measures that are conducive to the maintenance of the natural potential of the region. Direct indicator of progress in the implementation of environmental protection is the amount of spending on financial and tangible results achieved.

In the years 2000-2009 investments on environmental protection in Poland have increased from 38,329.2 million PLN in 2000 to 45,365.1 million PLN in 2009. It was noted a systematic increase in running costs, fixed investment and household spending on environmental protection. During above period of time the share of environmental protection in GDP is decreasing.

Investments in environmental protection could not be implemented in the current scale without the foreign aid. The biggest role is played by funding from the European Union.

It's to be expected to have systematically increase investment in environmental protection in the subsequent years.

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## Streszczenie

*W artykule dokonano analizy nakładów inwestycyjnych w ochronie środowiska, w Polsce w latach 2000-2009. Przeanalizowano zmiany w strukturze finansowania nakładów inwestycyjnych w ochronie środowiska według źródeł inwestowania. Dla 2009 roku zaprezentowano strukturę nakładów inwestycyjnych według województw oraz wskazano na podstawowe kierunki inwestowania w ochronie środowiska. Źródłem informacji o nakładach inwestycyjnych na ochronę środowiska były Roczniki GUS. Interpretacja uzyskanych danych prowadzi do wniosku, że nakłady na ochronę środowiska systematycznie rosną.*

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