

State of Environment in Poland. 2014 report – Summary

Poland belongs to the group of the most developed countries. The main sources of environmental hazards include: industry, in particular the energy, municipal economy and transport sectors. There is quite high spatial diversity as regards levels of environmental hazards and their type, with the pressure in large agglomerations being much higher.

Poland's demographic situation is alarming for various reasons, mainly due to persistent depression in the number of births observed since 1989, which has a negative impact on the changes in the age structure of the population. The national economy is continuing to grow and Poland's economic situation is good in comparison with other countries of the European Union (EU). Since the start of the global economic crisis Poland remains the only EU Member State whose gross domestic product (GDP) has not decreased in any year of its duration. However, GDP *per capita* in purchasing power parity still remains below the European Union average.

During the last 20 years a significant progress has been made in reducing pressure on the environment. However, despite these successes, further actions aiming at increasing eco-efficiency and greening the Polish economy have to be undertaken. This concerns in particular material and energy efficiency indicators, whose values for Poland are considerably higher than the EU average. The dynamic of the growth of final energy consumption in the country is significantly weaker than the dynamic of economic growth, but the dynamic of material consumption is closer to the dynamic of the GDP growth. It may be assumed that the economic costs will increasingly encourage the companies to introduce eco-innovations and raw materials and energy savings. Reducing the resource use will result not only in decreasing the future economic costs, but also in mitigating pressure on the environment.

It is worthwhile to mention that while the GDP continues to grow, the amount of industrial waste remains at similar level. Since 2006 the share of industrial waste sent to landfill has been growing and the share of such waste subjected to recycling has been decreasing. Since 2000 the mass of collected municipal waste has been decreasing, and the indicator of municipal waste generation *per capita* for Poland is one of the lowest in the EU.

Due to its geographic location, Poland is characterised by exceptional natural and landscape diversity. The presence of species of plants and animals which are rare on the continental scale imposes on Poland a special responsibility for the status of natural heritage protection. A number of naturally valuable areas under protection increases. The large surface area of the projected Natura 2000 sites created to protect species and natural habitats threatened on a European scale is also indicative of natural values. This network covers 20% of the country's area. Nevertheless the conservation status of the majority of species and natural habitats threatened on a European scale is deemed to be unfavourable.

Significant hazards are related to: abandonment of extensive agricultural use of valuable non-forest areas, intensification of agriculture, development of transport, tourist, industrial and energy infrastructure (small hydropower plants, wind power stations). Such activities contribute in particular to secondary succession, habitat fragmentation and loss of habitats of rare species of wetland fauna and flora. Natural factors also play an important role in this regard, e.g. harsh winters in case of birds. Development and implementation of protective activities and protection plans for protected areas and species, agri-environmental programmes supporting organic farming, as well as facilitating the decision-making process related to e.g. location of undertakings which could have a significant impact on the environment or natural compensation and other activities are meant to combat such negative phenomena.

The total area of forests in Poland has gradually increased during the recent years – in 2004 it amounted to 8 972.5 ha, while at the end of 2012 to 9 163.8 ha (Central Statistical Office data), which puts forest cover at 29.3%. The beneficial changes in species composition of forest stands continue since consistent and gradual decrease of the share of coniferous species is observed. The age structure of the forest stand also gradually changing over time, indicated by continuous increase of the share of forest stand over 90 years. The average age of the entire forest stand amounts to 60 years.

The condition of the forests in Poland decreased slightly in 2008–2012. The total amount of precipitation in recent years was similar to multi-year average and did not have a negative impact on forests' health. Water shortage was observed in the forest stand only at regional level and it lasted for a relatively short period of time.

Activities aiming at preserving and protecting forest resources were reflected e.g. by establishing Promotional Forest Complexes and carrying out activities contributing to increasing forest biodiversity.

The impact of air pollutants on the environment is particularly important not only due to its general prevalence, the amount of emitted pollutants and their extensive impact range (from local to global level), but also due to the fact that pollutants have an impact on other elements of the environment, including human health. Taking the above into account it has to be stressed that in order to protect the air it is necessary to create synergies between activities carried out under numerous policies and sectors – both at local and global level. It is especially important to ensure the cohesion of activities aiming at protecting the air with climate change mitigation activities, as not all activities contributing to climate protection lead to improvement of air quality (e.g. burning of biomass).

Despite numerous actions to improve the air quality, the following issues still constitute a serious problem in Poland: exceedances of target value for tropospheric ozone during the summer season and exceedances of limit values for particulate matter PM10 and benzo[a]pyrene during the winter season. Assessments of air pollution with particulate matter PM2.5 carried out since 2010 also show excessive concentrations of finer dust particles of a diameter up to 2.5 µm.

In the upcoming years investment activities related to the construction of modern transport infrastructure (e.g. construction of fast road and railway connections and town bypasses) financed e.g. from European funds should bring important benefits in the form of improved air quality, especially in cities. Such investments will have a positive impact not only on the achievement of air quality goals, but also on the achievement of noise protection goals.

The amount of water resources in Poland is small. The resources per capita are among the smallest in Europe and for this reason their rational management should remain one of the top national priorities. Poland is a country with low water consumption in terms of water abstraction per capita. The most important factors putting pressure on surface waters include: municipal economy, agriculture and industry (especially extractive industry).

Achieving and maintaining the good status of water in order to ensure appropriate quality of drinking water, water used for recreational purposes and water used for economic purposes, is also important. This long-term objective should be achieved by 2015, in line with the requirements applicable to all European Union countries established under the Water Framework Directive¹. This objective will be achieved by implementing a river basin

¹ OJ L 327 of 22.12.2000, p. 1.

management plan and national water and environmental programme for each individual river basin district in Poland.

The quality of water, especially drinking water, has an important impact both on the health of the population, as well as on the proper functioning of the ecosystems. Despite a significant improvement in water quality observed in recent years which is a consequence of limiting production in many branches of the industry, modernisation of technology and construction of industrial and communal waste water treatment plants, the level of quality of surface running waters and lakes is still unsatisfactory.

Water monitoring and assessment system functioning within the State Environmental Monitoring were amended due to the need to implement the Water Framework Directive and therefore differ significantly from the systems which were in place prior to 2008; therefore there is no possibility to compare the results from these two periods.

In 2010–2012 4594 river surface water bodies (SWB) were assessed throughout the country. 30.6% of natural river SWB reached good or very good ecological status, while ecological potential of 30.7% of artificial or heavily modified river SWB has been assessed as at least good.

Basing on the monitoring of lakes carried out in 2010–2012 the assessment of 375 lake SWB, 27 of which were classified by the water management authority as heavily modified, and 348 as natural, has been done. Assessment of the ecological status (of natural lake SWB) and ecological potential (of heavily modified lake SWB) was carried out in the same manner by using the same limit value. Out of 348 analysed lake SWB classified as natural, 34.5% achieved a very good or good ecological status, while the other 65.5% did not achieve the expected ecological status. Out of 27 monitored lake SWB classified as heavily modified, 44.5% achieved the highest or good ecological potential.

Groundwater quality monitoring carried out in 2012 within the framework of diagnostic monitoring at monitoring sites of the national network of groundwater quality monitoring indicate that in ca. 80% of monitoring sites covered by the monitoring the chemical status of groundwater was good (class I, II, III), while chemical status of groundwater in ca. 20% of monitoring sites was poor (class IV, V). Aside from the assessment of the quality classes at individual monitoring sites, the chemical and quantitative status of 161 groundwater bodies (GWB) was also assessed. Results of GWB chemical status assessment indicate that chemical status of 145 GWB is good, while 16 GWB were assessed as having poor chemical status. Results of quantitative assessment indicate that quantitative status of 145 GWB is good, while 16 GWB were assessed as having poor quantitative status.

The Baltic Sea is one of the most polluted seas in the world. Population growth in the Baltic States, urbanisation, industrialisation and increasing agricultural activity has had a significant negative impact on its condition. At the same time the total amount of nutrient loads has constantly decreased since 1990. This is a consequence of substantial investments in municipal waste water treatment, removal of various industrial sources and implementation of the Code of Good Agricultural Practice.

Trends related to environmental noise in Poland point to the growing threat of traffic noise pollution, on the one hand, and to mitigation and reduction of the growth of industrial noise, on the other hand. Growing tendencies related to traffic noise concern mainly road traffic noise and air traffic noise.

In 2012 approximately 9.7 million people living in urban areas, i.e. ca. 25.2% of the total population of the country and 41.4% of urban population, were covered by noise mapping. Noise maps developed for agglomerations indicate that 3 million people in Poland are exposed to excessive noise during daytime, while more than 2 million people are exposed to excessive noise during night-time.

Spatial scale of acoustic environment degradation due to traffic, especially road traffic, requires effective solutions to be introduced and sustained efforts to be taken. Currently the focus of activities in the field of noise abatement shifts from *ad hoc* measures to implementation of noise action plans which have to include proposed investments in the field of noise protection.

Results of monitoring of electromagnetic field levels (EFL) in the environment carried out by Voivodship Inspectorates of Environmental Protection indicate that emissions of artificially generated EFL in the environment remain at a very low level and represent just a few percent of the limit value. However, due to constantly growing number of EFL sources, mainly mobile communications base stations, and emerging public concerns related to the impact of EFL on human health it is appropriate to continue monitoring the EFL levels in the environment.

Ensuring radiological safety of the country requires knowledge about patterns of radioactive isotopes migration in the environment and ongoing monitoring of its state. This makes it necessary to carry out systematic and uniform sampling and to introduce a measurement system capable of assessing even small changes in the level of pollutants in the environment and its individual components, i.e. air, surface water, sediment and soil. It needs to be re-emphasised, that the results of all measurements carried out in 2008–2012 presented in the Report remain at a very low level and do not pose a threat to human health nor the quality of the natural environment.

According to current popular belief substances that deplete the ozone layer are the main cause of shortages in the total amount of ozone in the past decades. Results of recent studies point to links between the state of the ozone layer and climate change, which need to be observed and explained further. Measurements and monitoring of total amount and vertical distribution of ozone remain an important scientific challenge.

Certain growth tendencies in the amount of ozone in the upper layers of the atmosphere seem to confirm the effectiveness of restrictions imposed on production of substances that deplete the ozone layer introduced by the Montreal Protocol.

Climate change and its consequences constitute a common challenge for the entire humanity. Overcoming this challenge requires a maximally closed cooperation of all countries and their participation in carrying out effective and adequate international activities in the field of climate change prevention and mitigation. Climate change prevention activities in the form of emission reduction and increased absorption of greenhouse gases will be effective only if they are taken jointly by the entire international community. This is one of the reasons why climate change prevention constitutes one of the priorities of the European Union policy. EU countries carry out various activities aiming at reducing greenhouse gases emissions, including activities aiming at integrating climate and energy policy by implementing the integrated energy and climate change package. Climate policy integration with the air policy is becoming increasingly noticeable. As a member of the European Union Poland participates in numerous activities aiming at reducing greenhouse gases emissions, while climate change mitigation remains one of the most important objectives of Poland's environmental policy.

In the face of imminent consequences of climate change it is necessary to reduce societies' vulnerability to climate change impact by strengthening the second pillar of climate policy, i.e. climate change adaptation. *Strategic Adaptation Plan till 2020 with 2030 perspective* constitutes one of the measures undertaken in Europe for the purpose of adapting economic sectors and societies to consequences of changing climate conditions. It is the first

step towards establishing a long-term vision of climate change adaptation by the end of the 21st century. Planning activities in such a long time horizon is necessary e.g. due to adverse climatic and weather phenomena whose intensity and frequency will increase significantly during upcoming decades as compared to the current situation. This is key to maintaining resilience of the economy and ensuring its competitiveness under climatic stress conditions and, in the unanimous opinion, will become particularly significant in the second half of the current century.

Environmental problems pose a significant threat to human health and well-being; aside from lifestyle, genes and the quality of health care, the living environment constitutes one of the main factors having an impact on human health. Measures aiming at improving the state of the environment may improve people's quality of life and be beneficial to their health. Respecting requisite legal limit values of pollutants in the environment ensures effective protection of people and the environment from negative impacts. Therefore, it is crucial to regularly monitor the status of the environment in order to identify relevant risk areas.

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