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Sustainable Development Goals and Indicators for a Small Planet

Securing Means of Implementation in Poland



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Sustainable Development Goals and Indicators for a Small Planet

Securing Means of Implementation in Poland

An Output of the Asia-Europe Environment Forum (ENVforum)

Zbigniew KARACZUN, Andrzej KASSENBERG and Dominik OWCZAREK

Edited by Grażyna PUŁAWSKA

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PREFACE AND ACKNOWLEDGEMENTS

Over the last 25 years, Poland has gone through two major transformations. The first one, in the late 1980s and the beginning of the 1990s, was connected with the collapse of the communist regime and subsequent development of a democratic system. Abandoning the central command system and building the market economy was followed by Polish accession to the European Union, and the subsequent adoption of the *acquis communautaire*, the body of common procedures, rights and obligations that bind all EU Member States.

The issue of sustainable development played a role during the collapse of the communist regime and the accession to the EU. At the beginning of the 1990s, the challenge was to improve the condition of the environment so that it no longer posed a threat to people's health and life. In the second process, the challenge was to adopt European Union legislation and standards and implement them in a way that would enable sustainable economic and social development.

During the period under discussion, Poland actively engaged in international negotiations to create the foundations of sustainable development. The country became a party to several international environmental conventions, adopted and implemented the Millennium Development Goals (MDGs), and was active in the inter-governmental negotiations on the Sustainable Development Goals (SDGs). These efforts in sustainable development were carried out alongside the liberalisation of the Polish economy and the subsequent rise of unsustainable patterns of consumption.

At the global level, debate on the post-2015 development agenda and the follow-up on the MDGs have led to the negotiation of Sustainable Development Goals (SDGs). International negotiations concluded in September 2015 with the adoption of the 17 Sustainable Development Goals. Poland has been actively involved in the process as part of the EU and its Member States' involvement in developing the SDGs.

This publication attempts to analyse the readiness of Poland to implement SDGs in three thematic areas: 1) poverty and inequality, 2) sustainable agriculture, and 3) energy and climate change. The report presents an overview of Poland's experience in these three areas of SDGs. It offers options for governance that may support the implementation of SDGs, based on the country's experience and previous successfully implemented policies.

The findings of this national country research build on the ENVforum's "Small Planet" series on SDGs:

- 1) Sustainable Development Goals and Indicators for a Small Planet. Part I: Methodology and Goal Framework (Pintér *et al.*, 2013);
- 2) Sustainable Development Goals and Indicators for a Small Planet. Part II: Measuring Sustainability (Pintér *et al.*, 2014); and
- 3) Who will pay for the Sustainable Development Goals? Addressing Development Challenges in ASEM countries (Almassy, 2015);
- 4) Sustainable Development Goals and Indicators for a Small Planet– national case study: Securing Means of Implementation in Viet Nam (Vu *et. al.*, 2015).

The Polish case study is the result of a collaborative research endeavour conducted within the Asia-Europe Environment Forum programme (ENVforum), led by Dr Andrzej Kassenberg and Grażyna Puławska. The researchers involved in the project were Prof. Zbigniew Karaczun and Dominik Owczarek. This study would not have been possible without the support of Thierry Schwarz and Dara Lee of the Asia-Europe Foundation (ASEF).

We particularly wish to thank the staff of UN Global Compact Poland that helped to facilitate and host thematic roundtables with experts in Warsaw, Poland.

This study mirrors the research conducted in Viet Nam on the same topic in 2015 titled Sustainable Development Goals and Indicators for a Small Planet- national case study: Securing Means of Implementation in Viet Nam (Vu et. al., 2015).

LIST OF ABBREVIATIONS

AGD	Household Appliances
ANR	Agricultural Property Agency
ARiMR	Agency for Restructuring and Modernisation of Agriculture
ARR	Agricultural Market Agency
BMI	Body Mass Index
CAP	Common Agricultural Policy
CCS	Carbon Capture and Storage
CDM	Clean Development Mechanism
CDR	Agricultural Advisory Centre
CO ₂	Carbon Dioxide
CO ₂ eq	Carbon Dioxide Equivalent
EC	European Community
ESF	European Social Fund
ESU	European Size Units
ETHOS	European Typology of Homelessness and Housing Exclusion
EU	European Union
GUS	Central Statistical Office
GW	Gigawatt
HDI	Human Development Index
HV/MV	High Voltage / Medium Voltage
IHDI	Inequality Adjusted Human Development Index
IJHAR-S	Agricultural and Food Quality Inspection
ILO	International Labour Organization
JI	Joint Implementation
KPRES	National Programme for Social Economy Development
ktoe	Thousand Tonnes of Oil Equivalent
kV	Kilovolt
MDGs	Millennium Development Goals
MPiPS	Ministry of Labour and Social Policy
MRiRW	Ministry of Agriculture and Rural Development
MW _e	Megawatt electric
NGOs	Non-governmental Organizations
NO _x	Nitrogen Oxides
NDP	National Development Plan
UN	United Nations
RES	Renewable Energy Sources

PFRON	State Fund for Rehabilitation of the Disabled
PGR	State Agricultural Farms
PIS	State Sanitary Inspection
PIT	Personal Income Tax
CI EQUAL	Community Initiative EQUAL
GDP	Gross Domestic Product
PO KL	Operational Programme “Human Capital”
PO WER	Operational Programme “Knowledge, Education, Development”
PROW	Rural Development Plan
SAPARD	Special Accession Programme for Agriculture and Rural Development
SDGs	Sustainable Development Goals
SO ₂	Sulphur Dioxide
SOP	Sectoral Operational Programme for Restructuring and Modernisation of the Food Sector and Development of Rural Areas
tCO ₂ eq	Tons of carbon dioxide (CO ₂) equivalent
USD	US Dollar
UR	Farmland
WODR	Voivodship Agricultural Advisory Centre

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RESEARCH OVERVIEW

With the approval of the SDGs by the United Nations General Assembly in September 2015, countries now need to integrate the goals with national priorities, identify and pursue necessary policy changes, and ensure the required institutional framework to implement and monitor the goals is in place. Thus, this report aims to support ASEM countries in their effort by offering a selection of thematic case studies based on practical experience. It seeks to provide strategic guidance for national-level SDGs implementation.

The approach for this report builds on the methodology developed and used in the Small Planet Part I and Part II study series (Pintér *et al.*, 2013 and Pintér *et al.*, 2014). An underlying hypothesis of the methodology is that the development of the SDGs and related targets and indicators needs to integrate high-level, global sustainability perspectives, and the specific contexts of countries. A schematic representation of the approach used for the selection of the goals and sub-goals in Part I is shown in Fig 1. The steps shown were implemented through an international experts based process.

The process began with Step 1, with the consideration of global priorities as agreed by the UN Member States at the Rio+20 Conference in 2012. Step 2 involved the selection of national priorities based on high-level national policy documents on sustainable development in the 14 countries within the research. In Step 3, a preliminary set of 11 illustrative goals and related sub-goals was selected – taking into account the global priorities from Step 1, common national priorities from Step 2, and perspectives offered by science and high-level advisory bodies on the SDGs. Once agreed, this draft set of goals and sub-goals was re-mapped in Step 4 on national priorities in the 14 countries to check their universal validity. Those that were universal were carried forward to Step 5, a dashboard of goals (presented in Small Planet Part I) and indicators (presented in Small Planet Part II) applicable to the global level.

This study focuses on the national level challenges relating to SDGs implementation based on three themes selected as relevant for Poland: poverty alleviation, agriculture, and climate change and energy. The starting point for this research was the system of goals and sub-goals relating to these three priority areas. Table 1 shows the goals and sub-goals as presented in the Small Planet Part I study. The Small Planet goals and sub-goals are “illustrative”, indicating that they preceded the draft SDGs agreed upon by the OWG. Nonetheless, they are comparable, and all three Small Planet SDGs selected for this study are represented in the OWG’s set.

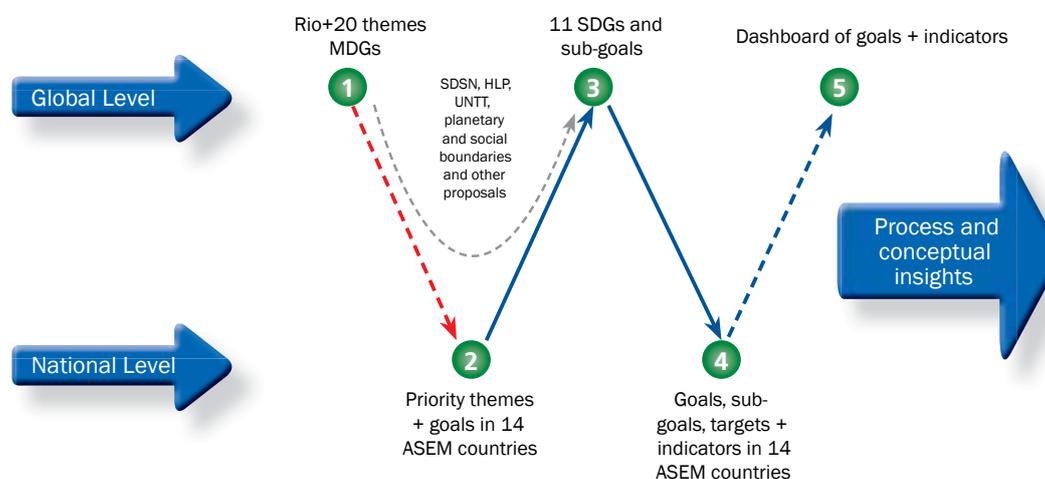


Figure 1: Integrated global-national approach taken in Part I’s goal formulation
 Source: Pintér *et al.*, 2013

Table 1: Goals and sub-goals from Part I of the Small Planet Report covered by the case study in Poland

Priority Themes	Goal Statements	Sub-Goal Statements
Goal 1. Poverty and inequality	Poverty and inequality are reduced.	1.1 Intra- and intergenerational social equity for all groups (e.g., women, youth, elderly, indigenous, minorities) is improved. 1.2 Everybody is above the national poverty line in 2015 by 2030. 1.3 Income inequality and risk of poverty have been significantly reduced with the social security system in place.
Goal 7: Food security, sustainable agriculture and fisheries	Sustainable agriculture, food security and universal nutrition are achieved.	7.1 Access to affordable, nutritious and healthy foods at sufficiency levels (tackling hunger and obesity and avoiding food waste) is ensured. 7.2 Productivity is increased via accelerated conversion to sustainable agriculture, fisheries and forestry. 7.3 Effective land-use planning and management are in place and assure equitable access to land. 7.4 The quantity and quality of agroecosystems are maintained without destroying natural ecosystems.
Goal 8: Energy and climate change	Climate change is effectively addressed while access to clean and sustainable energy is significantly improved.	8.1 Everyone has access to sufficient energy, and consumption is efficient and sustainable. 8.2 The generation of clean and sustainable renewables is increased. 8.3 The rate of increase in greenhouse gas (GHG) concentration in the atmosphere is reduced.

Source: Pinter et al., 2013

To assess the suitability of Poland's current governance mechanisms and institutions to implement the selected SDGs, a three-step process was followed:

- 1) Mapping of the national experience of EU policies implementation and existing governance framework for sustainable development with emphasis on the three priority themes above. This review covered existing governance mechanisms, including key sustainable development-related institutions and their relationships.
- 2) Examining existing governance architecture of the selected themes, taking into account key aspects associated with means of implementation.
- 3) Choosing a priority topic in each of the three issues: Poverty and Inequality, Sustainable Agriculture, and Climate Change and Energy.

The publication was reviewed through a thematic consultation organised in February 2015 in Warsaw, Poland. The process involved engaging thematic experts for the three sectors, including representatives of relevant governmental agencies and international organisations. Besides contributing to the substance of the research, the workshops also confirmed the increasing policy interest in the SDGs and the general importance of engagement in making sustainable development contextually relevant for stakeholders.

EXECUTIVE SUMMARY

The purpose of this report is to evaluate how Poland will cope in achieving SDGs in the selected areas: poverty eradication, sustainable development of agriculture, and climate protection. The primary goals in these areas include:

- To reduce the scale of poverty and social inequalities;
- To ensure access to an amount of food sufficient for a proper and adequate nutrition, as well as the sustainable development of agriculture;
- To take action against climate change and disruption, including the development of clean and sustainable forms of energy generation.

POVERTY AND INEQUALITY

In 2013, almost 10 million people in Poland (25.8% of its population) were at risk of poverty or social exclusion, according to Eurostat. While this figure was higher than the European Union average, it indicated progress from figures related to poverty prior to and during Polish membership in the EU (in 2005, 45.3% of Poles were at risk of poverty). The factors that contributed to this poverty reduction included both the transfer of public funding from the EU structural funds to Poland after 2004 and, primarily, the opening of the labour market to the other EU Member States. It is estimated that after 2004, 2.2 million people emigrated from Poland to look for employment opportunities.

This economic growth, among other factors, contributed to poverty reduction. However, the increase of income has not been distributed evenly. Income inequalities, measured by the Gini coefficient, have increased, and their growth was particularly dynamic in the 1990s and in the first years of the 21st century. During this period, the value of the Gini coefficient increased from 0.27 in 1990 to 0.345 in 2005 after EU accession, thereafter stabilising at 0.338 in 2012. What raises concern is the diverse nature of the expenditure-to-income ratio between the richest and the poorest Poles. Between 2010 and 2013, the expenditure-to-income ratio among the wealthiest Poles decreased, whereas among the poorest households, it increased (from 120% in 2010 to approx. 134% in 2013¹). This indicates that Poland's economic growth after 1989 has not been inclusive, despite the complex and multifaceted system that was set up to address poverty.

The strategic planning of public policies to address poverty has improved in recent years. A number of institutions were established in order to address the needs of the poorest. Poland is, to a great extent, already on a pathway aligned to meet the Sustainable Development Goals regarding poverty eradication and social inequality. Since 2004, poverty indicators have been decreasing, the value of the Gini coefficient has remained stable, and all sectors of the economy are covered by the mandatory social security regime.

However, this does not mean that the system has no gaps. Unemployment is still too high; gender pay gap remains an issue, and only a portion of the working population has employment contracts. Furthermore, Poland spends a smaller percentage of its GDP on social security than the EU average; the tax system is regressive, which prevents efficient levelling out of income differences; the pension system is unstable, questioning the certainty of future pension pay-outs; and there are a growing number of "working poor" whose income is not sufficient to ensure a dignified life. All these phenomena point to the need for the further active involvement of the state and public institutions in fighting poverty and social inequality.

The research that has been carried out in this paper indicates that poverty-related public policies focus on precisely defined indicators. While this system does make it possible to measure the impact of undertaken actions, it overlooks the broader context of poverty, which includes the necessity of an increase in the share of GDP devoted to social policy spending, and the need to introduce new measures to reduce social inequalities.

Nevertheless, one can view Poland's efforts towards meeting SDGs related to poverty and social inequality with moderate optimism. The strategic objective of the national policy in this respect for the year 2020 (to reduce the number of the poor and socially excluded by 1.5 million) was already achieved in 2013. There are ongoing discussions on updating this objective, which should help further activity in this area.

SUSTAINABLE AGRICULTURE

Polish agriculture is extremely diverse. Apart from large, efficient farm holdings, which typically generate high income, there are a significant number (about 80% of the total number of farms) of entities that are engaged in subsistence agriculture. The latter does not earn sufficient income, which is why it is almost impossible to provide an unequivocal assessment of the level of sustainability of Polish agriculture. This sector currently faces a choice in its development path. If the model of intensive high production farming is supported, the result will be a deepening rift between the necessity to preserve sustainable agricultural production and the environmental consequences that result from high-income farming activities.

Since 2004, the need for sustainable development of agricultural production has been reflected in public policies and strategies. However, these policies have not been treated as priorities. The institutions supporting the development of agriculture consider environmental issues to be of secondary importance. There is insufficient cooperation between these institutions and the public entities responsible for achieving environmental protection goals. This results in poor integration of the objectives of agricultural and environmental policies. Therefore, it can be concluded that sustainable development issues are taken into account in agricultural policy only as far as is required by the Common Agricultural Policy (CAP). In addition, because of the lack of vision regarding the place of the agricultural sector in the strategy for the social and economic development of the country, it is clear that the CAP is now the single biggest factor setting the direction for Polish agricultural policy and the development of the sector.

Polish accession to the EU, together with the substantial transfer of public funding to Polish farmers, has had a positive impact on the economic situation for the vast majority of agricultural producers. It is estimated that from 2004–2013, approximately 29.4 billion Euros were spent on the development of agriculture and rural areas, amounting to one-third of all the funding Poland has received from EU funds. Unfortunately, only some of those producers have used the funding to modernise and upgrade their farm holdings and improve the sustainability of their production. In many cases, especially in the case of small farm owners, these funds are treated as a social pension and used for raising living standards and/or for educating their children.

Poland is a country with a high level of food self-sufficiency. The agricultural sector and the food processing industry not only meet domestic needs but also produce surpluses that are exported. Poland's rapid economic growth in recent years has contributed to the reduction of the share of expenditure on food in household budgets: since 2009, this share has remained at around 25% of the household budget. Nevertheless, the scale of poverty and the issue of the limited access to food cannot be ignored, as this problem significantly affects children and young people. Other growing problems include obesity, as well as food wastage. It is estimated that every year, about 9 million tonnes of food is thrown away, which places Poland 5th in the list of EU Member States that waste the greatest amount of food. This indicates an important information and education gap in this area.

Thanks to the fact that organic farm production has been covered by agri-environmental subsidies, the number of farms with organic production grew eleven-fold (up to 26.6 thousand) from 2003 to 2013. Growth is also noted in the surface area used for other agri-environmental schemes. In 2013, the area of agricultural land where such schemes were applied amounted to 2,282,944 ha (approximately 13% of agricultural land in Poland) and was 103% bigger than in 2007. However, further development of organic farming may be hindered by the lack of knowledge about its benefits for the quality of food and by the consequent low domestic demand for organic products. Increasing the number of agri-environmental measures packages available to farmers and increasing the payments for their implementation could contribute to the development of a more sustainable model of farming. The strategies related to the awareness rising among consumers and exploring exports opportunities could be considered in order to strengthen the organic sector.

Another phenomenon is the reduction of the area of arable land as a result of its designation for non-agricultural purposes and the permanent abandonment of cultivation. From 1989 to 2012, the area of agricultural land in this category decreased by approximately 3.67 million hectares. A further loss of farmland at this pace may result in the reduced sustainability of agricultural production and a reduction in national food security. Therefore, it is necessary to enhance spatial planning as an instrument to protect agricultural land. Another threat to sustainable agricultural production, caused by inappropriate soil management, is the reduction in calcium fertilisation, which leads to rapid acidification of the soil and limited yield potential.

CLIMATE PROTECTION AND SUSTAINABLE ENERGY SECTOR

Over the past two and half decades, Poland's greenhouse gas emissions have fallen significantly – from approximately 565 million metric tonnes of CO₂ equivalent in 1988² to approximately 396 million metric tonnes of CO₂ equivalent in 2013. At the beginning of this period, this reduction was attributable to the transformation and modernisation of heavy industry. From the mid-1990s, the primary factor for emissions reduction was increasing efficiency in the use of resources and energy. However, emissions reduction does not cover all sectors. In the case of transport, emissions grew 2.25 times between 1990 and 2012 as a result of the strongly pro-automotive policy implemented by Poland.

Further reduction of greenhouse gas emissions is possible, but it will require the elaboration and consistent implementation of a comprehensive programme for shifting the country towards a low-carbon economy. The measures in question might include fiscal policy (e.g. reduction of taxes on labour and increase in taxes on the use of non-renewable resources), science policy, and public institutions acting as role models (e.g. by including environmental criteria in public procurement, improving energy efficiency, and using environmental indicators to evaluate the effectiveness of the undertaken measures). All sectors of the economy (particularly areas such as energy and agriculture) should be mindful of environmental considerations. Education policy has a significant role in this process as it has great potential to encourage more sustainable behaviour by consumers.

The research illustrates that the existing institutional system is sufficient to bring about such a change. There are a number of institutions that deal with climate protection and energy through various public policies and strategies. However, in spite of the current potential, there is not enough political will to support efforts for further reduction of greenhouse gases emission. This is a result of both sceptical attitudes towards the scientific research pointing to the anthropogenic causes of climate change, as well as the belief among politicians that actions to address climate change can bring only costs and no benefits to the Polish economy, which is why public institutions shy away from measures that would push businesses and other actors to adopt more climate-friendly practices. This is one of the main reasons why the energy sector in Poland is so unsustainable.

Poland is a country where the scale of energy generation is sufficient to meet current energy demands. The energy transmission system is also well developed. However, what is problematic is the condition of the power generating infrastructure as well as the transmission and distribution networks. Another problem is the coal-dominated energy mix (92% of electricity and 80% of heat is generated from coal). The quality of energy services is also small: the scale of disruptions in electricity supply to end users, expressed in minutes of black-outs, amounted to 411 minutes on average in 2012. The situation is particularly problematic in rural areas, where the poor quality of energy services has become one of the biggest barriers to their economic development. The situation may be improved by the modernisation of the existing network, and the development of a new model for the energy sector, with distributed energy and power systems based on renewable energy sources that at the moment account for only a small percentage of energy production, mostly generated by hydroelectric plants located on rivers. Wind farms are only beginning to be used on a major scale. The energy market changes are triggered by increased awareness of the environmental harms caused by conventional power and membership in the EU created an additional impulse for energy mix transformation. In spite of its high potential, the development of the energy sector based on renewable energy sources (RES) has been progressing very slowly. In 2013, the share of renewables in the final energy mix was only 11%. According to the National Action Plan concerning the renewable energy share, the share of RES in the final energy mix should reach 15.8% by 2020. The slow growth in the use of RES is primarily caused by the opposition of the politically influential coal-supporting lobby. The development of the renewable energy sector requires firm and coordinated legislative action to build its formal, legal, and financial foundations.

To sum up the above analysis, Poland has made significant progress in recent years, in both the economic and social spheres, as well as in improving and protecting the environment. Unfortunately, in spite of the numerous successes in the areas of analysis – poverty eradication, sustainable development of agriculture, and climate change and energy – there are still a number of factors that make it challenging to implement the Sustainable Development Goals. Identifying these factors should be the first step towards eliminating these obstacles and ensuring the sustainability of the country's social and economic development.

¹ GUS – Główny Urząd Statystyczny (Central Statistical Office)

² Base year for Poland from Kyoto Protocol.

STATUS OF POLAND AFTER 1989

ECONOMY

The collapse of the communist regime in 1989 marked the beginning of the democracy-building process and the development of a market economy in Poland, including essential reforms in property rights and to the structure of the economy. Accession to the European Union in 2004 significantly contributed to this process. After more than twenty-five years of building a market economy and more than ten years of membership in the European Union, Poland is a country that has made great achievements. Since 1989, labour productivity and real salaries of Poles have doubled. The GDP per capita in Poland has grown significantly from USD 5,976 in 1990 to USD 22,350 in 2012 (PPP)³ – a feat that has placed Poland highest in development among the countries of the former socialist bloc. Another consequence of the reforms has been a change in the structure of the economy. The share of agriculture in GDP decreased nearly threefold (to 3.2% of GDP), the share of industry also declined (to 25%), and the majority of GDP is now generated in the services sector (66%).

In spite of this extensive modernisation, most businesses still supply medium-technology products (furniture, food processing, manufacturing of household appliances, and radio and home electronics equipment) as well as simple services (transport, retail and catering). Relatively few companies operate in high-technology industries. As a result, the main source of Poland's competitive advantage remains to be simple factors of production, such as low costs of labour and locally extracted natural resources or energy. Increasingly, there are signs which indicate that it will be necessary for the Polish economy to undergo another transformation in the coming decades if it is to maintain its fast growth rate. The most significant challenges which need to be addressed include:

- The implications of an ageing society and the low labour force participation rate.
- The low savings rate, which makes it difficult to finance investment, and to reduce the growth rate.
- The poor condition of public finances, which requires further reforms.
- The reduced rate of labour productivity growth, related to the exhaustion of mere growth opportunities, and the low level of innovation.

It is necessary to take a balanced and sustainable approach to privatisation in order to increase the efficiency of business activity. Another important step is to improve competitiveness in sectors which are strongly regulated by the state, including the energy sector. It is of particular importance to recognise the role of innovation, especially eco-innovation, in the modernisation of the economy, together with essential support for the development of “green” products and services and the “greening” of the labour market.

SOCIAL PROBLEMS

The early 1990s – together with the opening of the market – brought a decline in the levels of extreme and relative poverty in Poland.⁴ However, five years later, the effects of free market reforms and restructuring were accompanied by negative social consequences and increasing poverty level. The situation changed after joining the EU, which offered broader access to labour markets and structural funds. Nevertheless, the accession to the EU has not changed the relatively low position: Poland is still below the EU average in the poverty rankings. This positive process was later overshadowed by the economic crisis, which led to a rising level of extreme poverty and unemployment. However, at the same time, these trends were accompanied by GDP growth, including *per capita* growth. The combination of the increase in poverty and social inequality and the growth in GDP indicates that the economic development of Polish society after 1989 has not been focused on sustainable development.

In the course of the transformation, the welfare system was substantially changed. It was designed to operate in accordance with the subsidiarity principle, which grants more political decision-making to local levels of authority. Social assistance tasks were separated at the central and local government levels. The competencies to run family assistance centres were delegated to the poviats (district) level. One of the most important measures was a regulation concerning the welfare contract, concluded between an individual seeking assistance and the social assistance centre. Currently, work is nearing completion on a system-level project entitled “*Creating and Developing Standards for Social Assistance and Integration Services*,” implemented through public-private partnerships by the Ministry of Labour and Social Policy. The purpose of the project is to standardise social assistance services in order to improve the effectiveness and to increase the professionalism in addressing social exclusion.

THE ECOLOGICAL CONTEXT OF TRANSFORMATION

Over the last 25 years, the issue of sustainable development has never gained prominence on the political agenda. At the same time, together with economic development and access to EU funding, anti-ecological lobbies have become much more visible, interested mainly in the implementation of big investment projects without any detailed analysis which examines the social advisability, economic effectiveness or environmental appropriateness of such solutions.

At the same time, Poland has taken advantage of the valuable opportunity to improve resource use efficiency in comparison to the inefficiency of the Polish economy before 1989. The introduction of market economy, along with the subsequent introduction of modern and more efficient technologies, have all contributed to the economic development of Poland with little increase in the use of resources, and between 2000 and 2012, resource productivity improved by 25%.⁵ However, in spite of the improved efficiency in the use of natural resources, resource productivity remains two to three times lower in Poland than in more affluent countries. Nevertheless, increased resource productivity has been accompanied by growth in the environmental protection infrastructure. From 1995–2012, sewage treatment plants were put into operation with a total capacity of 4.3 million m³ of sewage per day, as well as particulate pollutant capturing devices with a capacity of 2.2 million tonnes per year, and gaseous pollutant capturing devices with a capacity of almost 2 million tonnes per year. This investment has reduced the emission of pollutants and improved water and air quality in Poland.⁶

Apart from the aforementioned success in traditional environmental protection, the period of transformation bringing fast economic growth and building the foundations of a consumer society, has also brought new threats to the environment. These risks include:

- Large-scale growth of the automotive sector together with an increase in pollutants emissions and fragmentation of the landscape due to the construction of new roads.
- Increase in the volume of consumption waste, including packaging.
- Intensification of agriculture with larger farm holdings, which poses a threat to biological diversity.
- Rapid urban sprawl from 1990–2012, when the share of non-agricultural land and forests in the total area of the country grew from 12.7% to 22%.⁷
- Loss of biodiversity advancing from the west of Poland towards the east. The sectors that have contributed the most to this phenomenon include transport, agriculture and small and medium-size enterprises located in environmentally sensitive areas.
- Excessive, uncontrolled tourism (also in the legally protected areas).

In addition, even though 1990–2012 saw the reduction of the emission of many principal pollutants, since 2004, the rate of that reduction has been slower due to the exhaustion of simple solutions. Furthermore, Poland's greenhouse emissions 10 tCO₂eq, while marginal in the global carbon footprint, is higher than the benchmark of 2 tCO₂eq, the average global per capita emissions consistent with a 2°C rise in temperature.⁸

PUBLIC GOVERNANCE

After more than 25 years, the Polish democratic system is well-developed. Institutions have been established that guarantee the democratic character of the state and respects the rights of the citizen, and the state has devolved a significant part of its powers to the local government level, particularly to the level of municipality (gmina). However, the problems of low social capital and low-level citizen participation have not been solved.⁹ This coincides with the withdrawal of public authorities from the principles of deliberative democracy and limiting public consultation on procedural issues.

Reducing the principle of democracy to a routine procedure with no impact on decision-making becomes an ever-growing barrier to the implementation of sustainable development principles. Implementing the strategy of “catching up” with the more affluent and better-developed EU countries, Polish politicians are interested mostly in achieving economic goals whilst ignoring the social and environmental consequences of such a policy. Therefore, it can be assumed that without strengthening the social capital and democratisation of state governance, Poland will not be able to implement the principles of sustainable development in an effective manner.

³ The World Bank Databank; Retrieved from: <http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD>

⁴ Annex 1 contains information about the methodology of calculating the level of different types of poverty.

⁵ Retrieved from: <http://epp.eurostat.ec.europa.eu/tgm/refreshTableAction.do;jsessionid=9ea7d07d30db8bad194c13fb44629ac38aa1b66697b5.e34MbxSaxaSc40LbNiMbxNb34Ke0?tab=table&plugin=1&pcode=tsdpc100&language=en> (accessed: 29.07.2014)

⁶ Ochrona środowiska 2009. GUS Warszawa 2009; Ochrona środowiska 2010. GUS Warszawa 2010; Ochrona środowiska 2013. GUS Warszawa 2013

⁷ Ibidem.

⁸ World Bank. „Poland's Greenhouse Gas Emissions”. Retrieved from: <http://siteresources.worldbank.org/ECAEXT/Resources/258598-1256842123621/6525333-1298409457335/chapterA.pdf>

⁹ Ministry of Labour and Social Policy, Centre for Human Resources Development, 2014: Diagnoza społeczna 2013. Warunki i jakość życia Polaków. Report. Edited: Czapiński J., Panek T. MIPiS. Warsaw

1: GOVERNANCE ARCHITECTURE AND SDG IMPLEMENTATION OPTIONS FOR POVERTY ERADICATION

POVERTY AND INCOME INEQUALITIES – KEY ISSUES

In 2013, 7.4% of the population in Poland was classified as below the extreme poverty line and 16.2% below the relative poverty line, according to Central Statistical Office (GUS). Several groups have had a higher than average risk of poverty¹⁰. These groups (along with their at-risk-of-poverty rate) include:

- households with at least one unemployed person (14%) or two unemployed persons (33%);
- families with three children (10%) or four or more children (23%);
- young people including children under 18 years of age (10%);
- households with a person with disabilities (11%), or people with disability pensions (13.2%);
- farmers (13.4%);
- households living on non-earned income, (various social benefits) (21.5%);
- people with education level lower than gimnazjum [lower secondary school] (16.8%);
- people living in rural areas (11.6%), and in localities smaller than fifty thousand inhabitants (8.1%);
- people living in the warmińsko-mazurskie voivodship (13.2%) and podlaskie voivodship (11.2%) (North-eastern provinces in Poland).

This set of data should be supplemented with information about the group of *working poor* (people earning the equivalent of the minimum wage or less, who accounted for 13% of the total number of working population at that time¹¹). In 2012, there were 1.3 million people categorized as being part of the working poor. The changes in the poverty level from 1994–2013 are presented in Fig. 2.

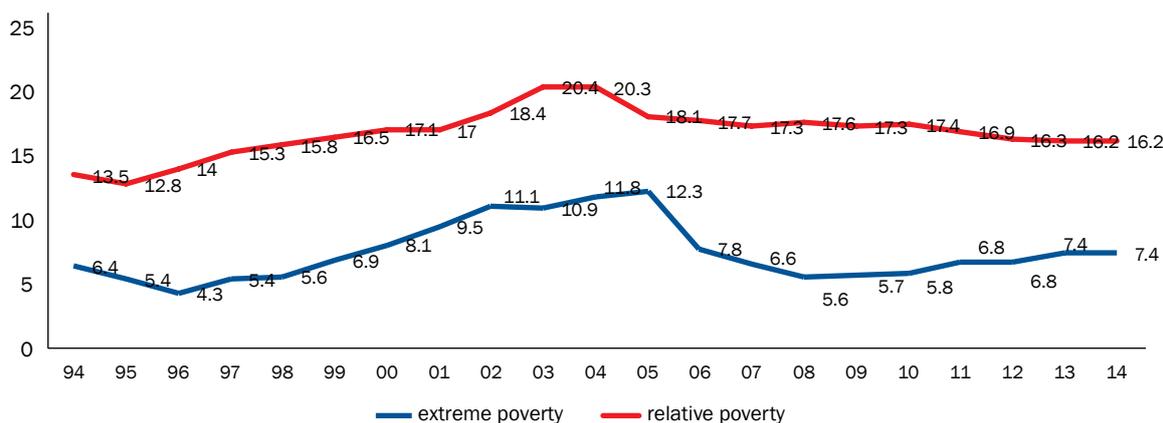


Figure 2: Poverty in Poland in the years 1994 –2013 (%)

Source: Authors' compilation based on GUS data

Income inequalities have grown over the last quarter of a century. In 1990, the Gini coefficient was 0.27 and, since then, grew at a steady pace until 2005. It stabilised at 0.338 in 2012¹² (Fig. 3). However, in recent years (2010–2013), income inequality has again been increasing, with the expenditure-to-income ratio among the wealthiest households (the upper quintile) decreasing from 73.9% in 2010 to 71% in 2013, while increasing among the poorest households (the lower quintile) from 120% in 2010 to 133.8% in 2013¹³. The average income of households in Poland in 2013 was 1,299 PLN *per capita* (approximately 310 Euros), and the average expenditure was 1,062 PLN *per capita* (approximately 253 Euros). Compared to other EU countries, Poland currently has one of the lowest GDP per capita, with USD 14,329 per capita¹⁴. This figure was lower only in Bulgaria, Romania, Croatia, Latvia, and Hungary.

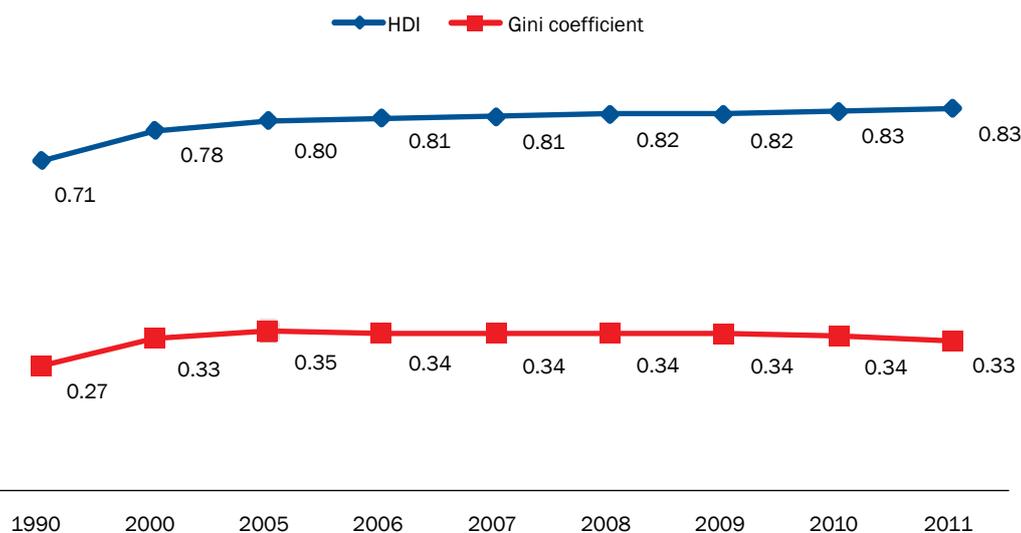


Figure 3: Inequalities and social development in Poland in the years 1990-2011 - values of the Human Development Index (HDI) and the Gini coefficient

Source: Human Development Reports and the on-line database of the World Bank. Compiled by Authors

A clear improvement is evident in changes in the Human Development Index, which in 1990 amounted to 0.714, and has been steadily growing since then. Poland ranks 35th in global HDI rankings, placing it in the group of the most developed countries. These changes were particularly dynamic in 1990–2000, when the average annual growth was 0.94%. When the value is discounted for inequality, the HDI falls to 0.751, a loss of 8.5% due to inequality in the distribution of the dimension indices.¹⁵

In terms of social security, the International Labour Organisation (ILO) states that Poland is one of the countries where all sectors are covered by the “*statutory social security programme*”¹⁶ in accordance with the ILO Convention on the minimum social security standards of 1952, No. 102, Geneva.¹⁷

To sum up, since 1989, poverty and social inequality became more prevalent – albeit with some fluctuations – until the moment of the Polish accession to the European Union in 2004 which significantly reversed this trend. This has taken the position of Poland closer to the EU average on the ranking lists of poverty and GDP in the European Union, but Poland remains lower than the EU average in these rankings. These tendencies have been accompanied by the clear growth of GDP per capita, which indicates that Poland has experienced a non-inclusive growth.

LEAD INSTITUTIONS AND THEIR ROLES¹⁸

The system of managing the fight against poverty in Poland is complex and multi-dimensional (Fig. 4). At the central level, the institution directly responsible for poverty issues is the Ministry of Labour and Social Policy (MPiPS)¹⁹. MPiPS, apart from shaping and implementing policies in the area of employment, social dialogue, pension system, family care, public benefit activity, and non-governmental organisations, has the following areas within its remit:

- Social assistance and welfare benefits for people and households in difficult social and financial situations;
- Programmes to address serious social problems;
- Government welfare programmes, in particular those addressed to people and households in difficult social and financial situation, and groups at risk of social exclusion;
- Welfare benefits, employment, social and occupational rehabilitation of persons with disabilities.

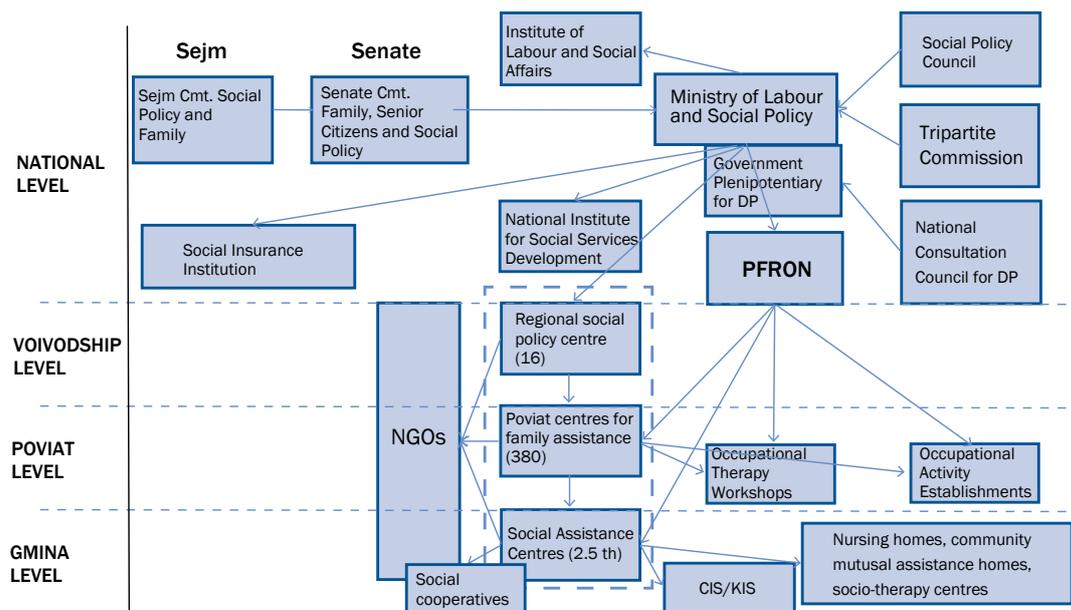


Figure 4: Institutions dealing with poverty in Poland
 Source: Authors' compilation

In the legislative sphere, the law-making role is played by the Parliament, which consists of two chambers: the Sejm (the lower chamber) and the Senate (the upper chamber). Poverty-related legislation involves the Sejm Committee for Social Policy and Family (together with its numerous sub-committees)²⁰ and the Senate Committee for Family, Senior Citizens and Social Policy.²¹ The mandate of both Committees includes matters related to shaping the state's social policy, social problems, welfare benefits, social assistance, municipal housing and problems of persons with disabilities, fighting unemployment, labour market, labour costs, employment, etc.

An advisory body to MPiPS is the Social Assistance Council. Its responsibilities include providing opinions on projects and initiating legislation changes with regard to social assistance, and preparing expert opinions on selected areas of social welfare.

Another consultation and negotiation entity is the Tripartite Commission for Socio-Economic Affairs²², composed of delegates from representative employer organisations, trade unions, and the government.²³ The Tripartite Commission has, among other powers, the ability to motion for the verification of the income thresholds for welfare benefits and to decide the amounts of family allowance and family benefits. In addition, each of the parties to the Tripartite Commission may submit for discussion or prepare positions on any social or economic policy issue, if solving such an issue is vital for preserving social peace.

In the area of activities for persons with disabilities, a key actor is the State Fund for Rehabilitation of Disabled Persons (PFRON)²⁴, funded from contributions paid by employers. PFRON transfers the benefits to local governments at the voivodship and poviat levels (second level of public administration), for the implementation of measures related to occupational and social rehabilitation, as well as employment of persons with disabilities.²⁵ It should be mentioned that pensions for work incapacity due to disability are paid by the Social Insurance Institution (through its local branches) after a disability certificate is issued by a certified medical examiner. An advisory body in the area of disability is the National Advisory Board for Persons with Disabilities operating at the office of the Government Plenipotentiary for Disabled People²⁶, which is composed of representatives of public

administration bodies, local governments and non-governmental organisations. Its role is mainly to consult and to submit proposals for measures aimed at meeting the needs of the disabled which result from their disability.²⁷ The Government Plenipotentiary for Disabled People is responsible for the supervision over the implementation of the statutory tasks.

At the central level, the Institute for the Development of Social Services should also be mentioned; its role is to monitor social services and provide training ensuring their professionalization. An important role is also played by the state analytical and research centre – Institute of Labour and Social Studies, which, apart from carrying out research, regularly sets the social minimum²⁸ and the subsistence minimum²⁹.

At the local government level, various institutions constitute the social assistance system. At the regional level there are 16 regional social policy centres, at the poviát level – around 380 poviát centres for family assistance³⁰, at the gmina (municipality) level – about 2,500 social assistance centres³¹. These institutions work directly with poor people at the local level. Their work is supported by units specialised in performing specific tasks (e.g. nursing homes, community mutual assistance homes, occupational therapy workshops, social integration centres, etc.)

One must not forget about the significant role of non-governmental organisations in fulfilling the social assistance tasks at the gmina and poviát level or about the organisations' own activities in this area, which are either voluntary or funded from other sources (organisations' own funds or grants – mainly from structural funds or other funds). Numerous non-governmental organisations work not only in the area of direct social inclusion, but also engage in advocacy or analytic work at the central level.

KEY POLICIES INITIATIVES

In the last decade, the key government documents addressing poverty in Poland were the Social Policy Strategy for 2002–2005 and the Social Policy Strategy for 2007–2013³², which covered the entire field of social policy in Poland.

In connection to the change in the strategic management of the country in 2009³³, a system of interlinked strategic documents was created. The leading role is played by the Long-term Country Development Strategy (2013–2030) and the Mid-term Country Development Strategy (by 2020), with the details included in nine thematic strategies. Two of the thematic strategies are important for the area of poverty: the Human Capital Development Strategy by 2020³⁴ and the Social Capital Development Strategy by 2020. In the former, which is more relevant from the point of view of fighting poverty, the following objectives are included:

- Objective 1: to boost employment;
- Objective 2: to extend the period of working life and to ensure better quality of life for elderly people; and
- Objective 3: to improve the situation of people and groups at risk of social exclusion.

In the Social Capital Development Strategy by 2020³⁵, it is emphasised that the problem of poverty and social exclusion is an obstacle to the development of social capital in social cooperation and participation, as well as to access to culture. The document also mentions digital exclusion, which shows high correlation with economic poverty and social exclusion. In addition, among the horizontal principles we can also find the principle of ensuring equal opportunities for groups and communities that are socially excluded or at risk of marginalisation. The implementation of Objective 2, Priority 2.3 – Strengthening social integration and solidarity – seems to be the closest to the issues of poverty and social exclusion.

Currently, the key document setting out the country's policies for fighting poverty, which is directly subordinate to both the Human Capital Development Strategy and the social Capital Development Strategy, is "The National Programme for Fighting Poverty and Social Exclusion by 2020 - The New Dimension of Active Integration"³⁶. The main goal of the programme, adopted in 2014, is to permanently reduce the number of people at risk of poverty and social exclusion by 1.5 million and to increase social cohesion by 2020. This goal stems directly from the Europe 2020 Strategy, which was adopted for all EU Member States³⁷. The National Programme document is divided into six priorities:

- Priority I Counteracting social exclusion of children and young people.
- Priority II Ensuring the cohesion of educational activities.
- Priority III Active integration in the local community.
- Priority IV Security and activity of elderly people.
- Priority V Preventing housing insecurity.
- Priority VI Management and structural changes in the social integration system.

The Programme activities are to be financed both from the state budget funds, local government units' funds, private funds and EU funds, especially the European Social Fund as part of the national operational programme and regional operational programmes. It is assumed that in the period 2014–2020, in total, almost 178 billion PLN (43.4 billion Euro) will be spent on the implementation of the National Programme. Of this amount, almost 123 billion PLN (30 billion Euro) will come from the state budget, more than 45 billion PLN (11 billion Euro) – from local governments' funds, almost 5 billion PLN (1.2 billion Euro) from earmarked funds and more than 3 billion PLN (0.7 billion Euro) from private funds.

Another key document regarding the financing of public activities in fighting poverty and social exclusion is the Operational Programme Knowledge, Education, Development (PO WER)³⁸. It is one of the national operational programmes implemented in Poland as part of the European Cohesion Policy in the programming period 2014–2020³⁹. It mainly serves the purpose of allocating the financial resources to the pre-defined priorities. On the other hand, the priorities are closely linked with the "Europe 2020" strategy and the "National Programme for Fighting Poverty and Social Exclusion by 2020". In the previous EU funds' programming periods, the PO WER's equivalent was the Operational Programme – Human Capital (PO KL) implemented in 2007–2013 (more than 11.4 billion Euro), and before that, the Community Initiative programme EQUAL (CI EQUAL) in the years 2004–2008 (almost 180 million Euro). The particularly important priorities of the PO WER related to the issue of poverty are the following:

- Priority I – Young people in the labour market.
- Priority II – Effective public policies for labour market, economy and education.
- Priority IV – Social innovation and transnational cooperation.

It should be noted that this programme is primarily focused on vocational activation, assuming that integration into the labour market will eventually solve the problem of poverty. This assumption fits well with the workfare policy, that is, social integration through work, implemented by this programme. More than 4.4 billion Euro from the European Social Fund (EFS) and 252.4 million Euro from the special budget initiative will support the employment of young people; that is, almost 4.7 billion Euro in the entire programming period 2014–2020 will be available for the implementation of this programme.

At this point, it is worth listing a number of other documents that influence efforts to eradicate poverty but are of lower importance. They include: the National Programme for the Development of Social Economy (KPRES)⁴⁰, which focuses on vocational and social integration of people at risk of social marginalisation through the operation of social economic entities such as: cooperatives, social cooperatives, social integration centres, social integration clubs, occupational activity establishments, occupational therapy workshops, mutual insurance companies, foundations and associations that meet the criteria of the a social economic entity.⁴¹ It is expected that in the period 2014–2020, in total, more than 2.7 billion PLN (684 million Euro) will be spent on the activities under KPRES. Another document is the Programme “Solidarity of Generations”⁴², which focuses on increasing working activity of people aged 50+. The Polish Migration Policy⁴³ should also be mentioned, as it refers to the risk of social exclusion of migrants (relevant chapters include “Counteracting illegal immigration” and “Integration of foreigners”).

There are also strategies in place at the local government level for solving social problems, which are of key importance to the implementation of the national public policies described above. It is the action at the local level that determines the quality of the implementation of the national strategies. The strategies for solving social problems are developed at all levels of the local government: regional (voivodship), poviast and gmina.

EVALUATION OF INSTITUTIONAL ARRANGEMENTS AND KEY POLICIES

The evident improvement in the quality of strategic planning with regards to fighting poverty in Poland should be recognised. The introduction of this system is a consequence of the European Union’s influence on the Polish public policies and it has clearly improved the consistency of strategic management at the national and the EU level. It can therefore be stated that the issue of poverty is addressed, in terms of political initiatives, in a proper and comprehensive manner. In addition, the programmes that are developed are adapted to the competencies of individual institutions. There is a broad range of institutions, especially at the local level, which have the right profile and are able to adapt flexibly to the diverse needs of the social assistance clients. There are also some innovative initiatives, such as the National Programme for the Development of Social Economy, which try to address the issue of poverty by applying the principles of social solidarity, empowerment and inclusion in the social mainstream by offering opportunities for equal access to labour market, education, etc.

The financing of the programmes discussed above also looks impressive. Nevertheless, it should be stressed that an important part of the funding comes from the community funds and has been granted for a definite time. Therefore, it is a great challenge to use these funds effectively, not to spend them on “consumption,” but on building social infrastructure and addressing structural social problems and their causes. In comparison to other EU countries, Poland spends less on social policy. In 2012, Poland spent 16.1% of GDP on social policy, while the EU average was 19.9% of GDP⁴⁴.

The transformation of the social assistance system solely from welfare to workfare can be risky. Making participation in the labour market a prerequisite for most of the state’s support for poor people may lead to a situation where the marginalised who are unable to work have to rely only on the support of their relatives. In addition, being part of the labour market in Poland does not guarantee overcoming poverty (1.3 million of working poor in 2012). Moreover, in an environment with a deficit of jobs, public investment in activation of the unemployed may not be very effective.

Nevertheless, the trends illustrating the change in the scale of poverty in Poland make it possible to be moderately optimistic about the future. It should be emphasised that the strategic goal (reduction of the number of the poor and socially excluded by 1.5 million) was achieved in 2013, and there is now an ongoing debate on updating this target for the year 2020.

It is important to note, that analysed policies don't address the issues stated in SDGs. The issue of simultaneous GDP growth and high levels of poverty and social inequalities, as well as the value of Gini coefficient or HDI index, are all beyond the immediate scope of these policies. The situation is similar with respect to the issue of the tax system and the distribution function of the state, which are of key importance to the emergence of social inequalities and access to resources (education, healthcare, culture). Similarly, they do not contain a reference to the issue of poverty of working people or any proposals how to address this problem. A clear gap is visible in the area of wage development: collective bargaining has minimum impact on wage setting because of the advanced decentralisation (no sector-level collective agreements), low level of unionisation (at the level of 13%⁴⁵), which translates into lack of wage pressure. Additionally, the public discourse (both within the government and among experts) is dominated by the view that social policy spending in Poland is both too high and ineffective. Criticism is also directed at the level of tax and social security burden in comparison with other EU Member States. An opinion also prevails that poor and unemployed people are themselves responsible for their difficult situation and should take responsibility for getting out of it. All the factors listed above contribute to the fact that both a lack of thinking in terms of sustainable development and a lack of real reduction of social inequalities constitute the greatest barrier to having policies that would be truly effective in improving the quality of life of the most vulnerable groups.

SUSTAINABLE DEVELOPMENT GOALS – CAPACITY NEEDS FOR IMPLEMENTATION, MAJOR GAPS AND MONITORING FRAMEWORK

This section will draw on the proposed Sustainable Development Goal on poverty and inequality presented in Sustainable Development Goals and Indicators for a Small Planet, Part I: Methodology and Goal Framework⁴⁶. They are replicated below:

Goal Statement	Sub-Goal Statements
1. Poverty and inequality are reduced	1.1 Intra- and intergenerational social equity for all groups (e.g. women, youth, elderly, indigenous, minorities) is improved. 1.2 Everybody is above the national poverty line in 2015 by 2030. 1.3 Income inequality and risk of poverty has been significantly reduced with social security system in place.

Poland's progress in each goal and sub-goal statement will be evaluated, followed by the identification of gaps between the goal statements and Poland's current state with regards to poverty. Recommendations will be provided to bridge the gap between the goal statements and Poland's current situation.

POVERTY AND INEQUALITY ARE REDUCED

Poland is an example of a country where, over the last quarter of a century, economic growth has not been accompanied by poverty reduction. The period of the most dynamic GDP growth in the 1990s was at the same time a period of increasing poverty (Fig.5). The level of poverty grew continuously at a stable rate until 2004. Then, following the Polish accession to the European Union, a clear and equally consistent, although not so dynamic decline in the level of poverty was observed – regardless of the dynamics of GDP growth. These are clear examples of the lack of balanced socio-economic development in Poland in the last quarter of a century.

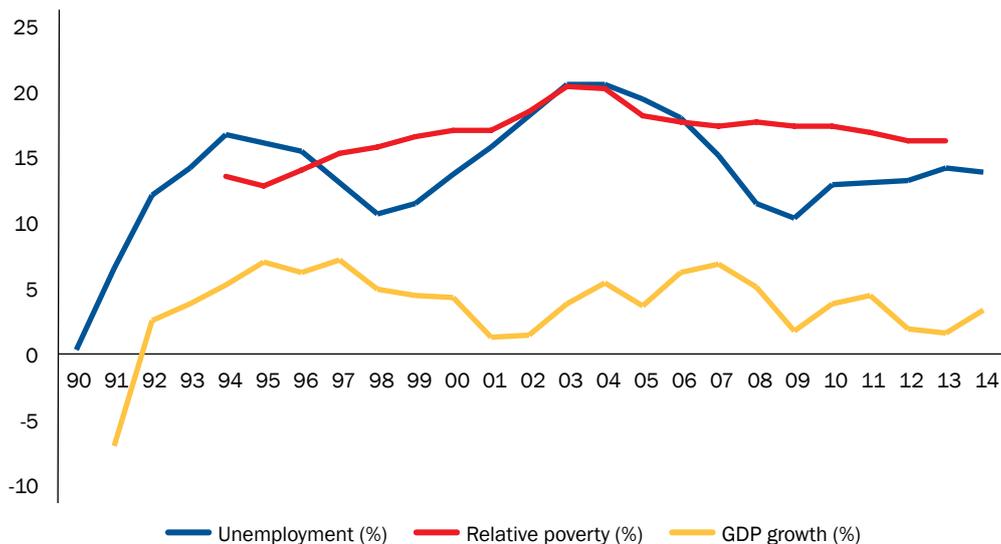


Figure 5: Relative poverty, registered unemployment and GDP growth in Poland (1990-2014)

Source: Relative poverty – GUS, Registered unemployment – GUS, GDP growth – World Bank, Authors' compilation

Moreover, the increase of the Gini coefficient from 1994 to 2004 indicates that the effects of economic growth in that period were not distributed equally: the poverty rate grew, while at the same time the most affluent people grew richer. After 2004, the Gini coefficient stabilised, while the percentage of the poor decreased and the GDP increased, which may suggest better redistribution of economic resources.

However, stabilisation of the Gini coefficient had nothing to do with the introduction of a more progressive income tax rate in the country. In fact, since 2009, the tax rates were lowered from 19% to 18% and the distinction of income thresholds of 30% and 40% were abolished and replaced with one threshold of 32%. The stabilisation of the Gini coefficient was rather related to social transfers under the EU cohesion policy (mainly the Community Initiative Programme EQUAL 2004–2008 and the Operational Programme Human Capital 2007–2013). It may therefore be assumed that it was EU funding that was the main factor stabilising the socio-economic growth in Poland in the last decade. In addition, the EU contributed to better regulation and improvement in strategic planning in coordination with European strategies.

Furthermore, another factor influencing the reduction of poverty was not only the social transfers from the EU, but also migration from Poland to more affluent countries. In 2004, about 1 million Poles resided temporarily outside the country, of which 750 thousand resided in EU countries⁴⁷. This figure has risen to almost 2.2 million Poles residing outside the country in 2013 (including almost 1.8 million to EU countries). Remittances sent to families in Poland made it possible to maintain the decreasing trend of the poverty level. However, it is difficult to treat the phenomenon of such mass migration leading to a drop in unemployment as a sign of sustainable development.

The area of poverty is seemingly the weakest element of the socio-economic growth of Poland after 1989 – particularly in the period prior to the accession to the EU. While noting failures in poverty reduction, it is important to note Poland's notable GDP growth during this period, a performance that placed it as the best performing economy of the former soviet bloc. The World Bank even writes about the Polish golden age⁴⁸, and The Economist, about the second Jagiellonian age⁴⁹. However, it is important to note that economic growth did not go hand in hand with the equal improvement in the quality of life for all social groups.

However, the country still needs to deal with numerous problems which effectively hamper the reduction of poverty in Poland. The group of problems with the strongest impact is related to the labour market, which also illustrates the lack of sustainability in Polish development. Its symptoms include not only a low employment level (about 65% in the years 2008–2014⁵⁰), but also wages that are too low – the lowest in the EU besides Bulgaria and Romania – which are then treated as a key competitive advantage. Low internal aggregate demand, caused by low wages, is indicated in the quarterly reports of the National Bank of Poland as a barrier to the economic development of Poland⁵¹. Furthermore, Poland has the highest percentage of fixed-term contracts, which are not protected by the Labour Code, in the EU (27.4% of all contracts, compared to the EU average of 14.4%).⁵² The European Commission recommends that this percentage be lowered in the near future. Precarisation⁵³ of employment translates directly into the experience of poverty and social exclusion. It contributes to reducing economic stability – particularly of the youngest workers, who leave their parents at a later age and start a family later, which exacerbates the demographic problem and reduces the stability of the social security system because the value of the contributions paid to the system is lower.

The data quoted above bring us to a conclusion that the social policy with respect to fighting poverty is a neglected element of Polish policy and slows down the country's economic growth and advancement of wellbeing. There is no doubt that neglecting this area is the reason why Poland's development cannot be described as sustainable. It is, however, comforting that the positive trends in reducing the level of poverty and unemployment over the last decade have brought Poland closer to the EU average with regard to these indicators. One can also hope that further integration of Poland within the EU and the gradual recovery of Europe following the global crisis will make it possible not only to maintain but also to accelerate these positive trends.

If one were to take into account only the last decade it should be stated that the main goal: "Poverty and inequality are reduced" is being achieved to a certain extent – particularly with regards to reduction of poverty, which has evidently decreased in the years 2004–2014. The level of inequalities measured with the Gini coefficient shows some positive signs, although showing on a slight downwards tendency. The scale of this decrease, however, does not make it possible to claim that inequalities have been definitely reduced over the last decade. One should rather say that inequalities have remained at a steady level after 1990–2004, a period in which they grew considerably.

Gaps and recommendations

Low priority of the SDGs in public policies in the area of poverty

Recommendations:

- It will be necessary to increase the priority level of the SDGs and include them in the political agenda – e.g. in the strategic documents concerning the fight against poverty.
- It is of key importance to ensure cohesion between SDGs and the currently implemented policies, which are primarily subordinated to planning at the EU level (Europe 2020 strategy, European Platform against Poverty and Social Exclusion). Thus, action should be undertaken both at the national and the EU levels (particularly that of the Directorate General for Employment, Social Affairs and Inclusion).

Narrow definitions of poverty and policies to counteract it

Recommendations:

- The need for a broader definition of solving the problem of poverty and social inequalities could be addressed by extending the scope of the current policies to include other areas of key importance for sustainable development, such as
 - Linking poverty reduction with economic growth and other policies in the process of levelling out social inequalities;
 - Improving the tax system, regional development, education system and early childhood care, pension system, labour market policies, integration of the social assistance system with the system of activating the unemployed.

Individualistic discourse prevailing in public debate, which points to the causes of poverty and overcoming poverty as lying in the individual character features of poor people

Recommendations:

- Inform the public debate with a clear message about the true reasons for the poverty that exists in society. Research on this subject shows that the impact of individual character on poverty is smaller than it is suggested in the discourse.
- It is also necessary to change the view that welfare is too expensive and ineffective – and to talk, instead, about social investment which will bring tangible effects in the future, influencing the entire society and economy. An example of such measures may be the innovative solutions of social economy and social entrepreneurship.

Intra- and intergenerational social equity for all groups is improved

In the last decade, in case of all groups, we can say that the above sub-goal has been implemented. In 2012, the at-risk-of-poverty rate and the material deprivation index still remained above the EU average in Poland^{54,55} (Table 2). However, during the last ten years, there has been a clear decrease in the value of the two indicators. In 2005, the synthetic poverty and social exclusion indicator was 45.4%, which decreased to 25.8% in 2013. A similar trend can be observed in the dynamics of the material deprivation index: it decreased from 33.8% in 2005 to 11.9% in 2013. The dynamics is slightly different for the low work intensity indicator. Although from 2005–2008, a decrease from 14.3% to 8% was observed, an upwards trend was noted in 2013.

Table 2: Measures of poverty and social exclusion in Poland compared to the EU average in 2012⁵⁶

	At-risk-of-poverty and social exclusion indicator	At-risk-of-poverty rate	Material deprivation index	Low work intensity indicator
EU (%)	24.7	16.9	9.9	10.3
Poland (%)	26.7	17.1	13.5	6.9

Source: Eurostat, EU-SILC

A very important dimension of poverty is its regional distribution. The at-risk-of-poverty rate, material deprivation index, and low work intensity indicator vary in different voivodships (Annex 2). In addition, the highest values of the at-risk-of-poverty rate and material deprivation index are found in the rural areas and in localities with up to 20 thousand inhabitants. The low work intensity indicator reaches above-average values in areas with populations between 100 thousand and 200 thousand.

The value of the at-risk-of-poverty and social exclusion indicator is higher depending on the number of children in the family. Single parents (mainly mothers) with dependent children are at the highest risk, even though this indicator has slowly been going down in the recent years from 51.9% in 2008 to 45.7% in 2012. In the case of families with three or more dependent children, the indicator has remained at a similar level: 45.4% in 2008 and 43.4% in 2012. Significantly, the value of the at-risk-of-poverty rate (after the social transfers) shows that both the families' own efforts and the state aid in the form of benefits and services do not provide any meaningful protection from exclusion for large families or single parents.

In addition, 2.1 million children aged 0–17 were poor or socially excluded, which constituted 30% of children of that age group. Here too, a clear downwards trend can be observed: in 2005 there were as many as 3.8 million such children, and 288,000 in 2011. It is significant that the high value of this indicator is not caused by the level of low work intensity in the family. This means that work does not guarantee escape from poverty, and that the reason for poverty is the deep material deprivation of these families.

The issue of poverty and exclusion particularly affects children and young people with various degrees of disability. Families with more than one disabled child should be provided with special support, as such families have difficulty in ensuring proper rehabilitation for all the children, and the failure to meet these needs aggravates the risk of poverty. In the area of education, disabled children are excluded from the integration schools system and schooling for special needs remains poor in quality. Remaining outside the education system, disabled individuals have difficulty finding jobs after attending lower secondary schools or vocational schools (notably after special needs schools).

In Poland, the relative poverty of retired people aged over 65 is still rather low, but a clear upwards tendency has been observed, which is reason for concern. The EU average trend in this area has been negative, while in Poland, the poverty level of the retired grew by 8% from 2005–2011. It should be added that during this period, the average rate of relative poverty of retired people in Poland was lower than the same average value for the EU by approximately 9%.

Persons with disabilities remain, to a great extent, below the poverty line. Data has already shown that the extreme poverty rate among people in households with at least one disabled person was about 11% in 2013. In the same year, the percentage of people at risk of poverty in households without any disabled persons was 6%.⁵⁷ There are approximately 4.7 million persons with disabilities with different degrees of disability, which constitutes about 12% of the population, of which about 30% are people with certified severe disability.

We can also talk about the feminisation of poverty. Poverty indicators of all types are higher for women compared to men. Women account for 70% of applicants for social assistance. Groups of households particularly vulnerable to poverty are predominantly women. There is still strong inequality between the gender groups in performing care-related work and housework, which, in most cases, is performed without pay. The main burden of fulfilling these tasks is on women, which in the case of less affluent households means that they slide below the poverty line.

The housing aspect of poverty should also be considered. In 2011, among the group of people at risk of poverty or social exclusion, as many as 35.7% spent more than 40% of their income on housing. For the entire population, this indicator was 12.1%. According to the European Typology of Homelessness and Housing Exclusion (ETHOS), housing exclusion affects, among others, people threatened with eviction, experiencing violence, or living in substandard or overcrowded dwellings. 14% of Poland's population live in substandard conditions. The situation is particularly hard in the rural areas, where 20.8% of the total rural population⁵⁸ live in bad conditions. In addition, almost half of municipal flats and more than 30% of cooperative flats are in debt. The debt, in turn, is the most important factor in eviction proceedings and loss of accommodation, and is listed by

homeless people as the main reason for homelessness. The lack of the system-level solutions aimed at the reduction and repayment of debt in Poland poses a great difficulty for people with financial problems as well as for homeless people who want to take up work.

It is also worth mentioning a newly recognised phenomenon of fuel poverty, which means difficulty in ensuring an adequate level of warmth in one's home at a reasonable price. It may result from the bad technical condition of the building or poor energy efficiency, but also from the lack of sufficient funds to pay the energy bills. An important factor increasing fuel poverty may also be inefficient use of energy sources (e.g. opening windows to ventilate the rooms with the heaters on). This phenomenon increases the risk of falling ill with various diseases and, in extreme cases, may lead to death caused by hypothermia or operating energy sources which have not been properly secured. On the basis of the existing estimates, even as much as 40% of households may be at risk of such difficulties.⁵⁹

Gaps and recommendations

The unemployment rate is too high, with unemployment being the main cause of poverty

Recommendations:

- Implementing a more effective employment policy and activating the unemployed. Inclusion in the labour market is particularly important for vulnerable groups (e.g. women, young people, elderly people, the disabled, the long-term unemployed, single parents).
- Active employment policy also has other advantages, such as increased government revenue from taxes, economic growth and a decrease in the number of welfare benefits and unemployment benefits. Employment and decent earnings of the parents also help avoid poverty of children in large families or those with a disabled person.

Labour market segmentation is too big, which leads to precarization of some of the employed (that includes differences in pay between men and women)

Recommendations:

- Decreasing the share of fixed-term contracts and in particular, of civil-law contracts
- Imposing the social insurance obligation on all forms of employment, in proportion to the earnings
- Increasing the share of high and medium quality jobs and simultaneously decreasing the share of low quality jobs
- Introducing the recommended “decent pay”
- Promoting the policy of equal pay for men and women with the same experience and education in individual workplaces
- Implementing an economic policy focused on innovation in key sectors (including the energy sector) so as to increase the share of highly productive jobs. This is related to abandoning the strategy of building Polish competitiveness on low labour costs and low-skilled labour

Insufficient support and care for persons with disabilities

Recommendations:

- More generous financial support for persons with disabilities who are unable to work and more effective policy supporting the employment of persons with disabilities who are able to work. Currently, the financial support for persons with disabilities and their carers is not enough to reach the subsistence minimum.
- It is also particularly important to have an active anti-discrimination policy in place, encouraging employers to take on persons with disabilities.

Feminisation of poverty

Recommendations:

- Implementing a policy to reduce the wage gap
- Evening out the burden of care and domestic duties between women and men
- Replacing the informal care over dependants with formal care financed from public funds
- Splitting the pension insurance contributions between married couples if a woman does not work
- Providing greater support for single mothers

Poverty rate among children and young people under 18 is too high

Recommendations:

- Children's poverty is usually a consequence of the parents' poverty; therefore, steps should be taken primarily to help families get out of poverty.
- Measures of particular importance are the ones that address the current experience of hardship by:
 - Increasing the amount of family benefits
 - Providing food and healthcare free of charge in schools to all children that need it
 - Other measures connected with the education system (see below).

System of education and early childhood care sustain social inequalities

Recommendations:

- Ensuring access to early childhood care at the level of the Barcelona targets (covering 33% of children under 3 years of age and 90% of children over 3 years of age with institutional care), which will enable parents to work, will help reduce inequalities and may contribute to an increase in the fertility rate and help address the demographic problem;
- Ensuring access to genuinely free of charge, high quality education until the age of 18, which would help to level out the educational opportunities and ensure an equal start on the labour market as well as to reduce the scale of outflow of the wealthier parents' children to private schools (greater social integration).
- Including disabled children in the education system.

Lack of a housing policy, including a policy to counteract fuel poverty

Recommendations:

- Sorting out the municipal housing policy
- Construction of social housing
- Larger support for affordable housing and construction of housing for rent
- Development of an efficient system of renovation of the municipal housing so that it meets dwelling quality standards and energy standards.

Regional development policy implemented in a form of an innovation and diffusion model instead of a policy of sustainable regional development

Recommendations:

- Implementing a policy of sustainable regional development with particular attention paid to stimulating the development of rural areas and small towns and villages up to 50 thousand inhabitants and voivodships with high poverty and social exclusion rates.

Everybody is above the national poverty line in 2015 by 2030

For obvious reasons, it is difficult to review the implementation of the Subgoal “By 2030 everybody is above the national poverty line set in 2015”, as it refers to the future. If, however, we refer to the previous decade, it must be said that the values of various poverty indicators have decreased over that period: the poverty and social exclusion indicator – by 19.6 percentage points (2005–2013), deep material deprivation indicator – by 21.9 percentage points (2005–2013), low work intensity indicator by 7 percentage points (2005–2013), relative poverty indicator – by 4.1 percentage points (2004–2013), legal-poverty-line indicator – 6.4 percentage points (2004–2013), and extreme poverty rate – by 4.4 percentage points (2004–2013). It is a matter of interpretation how to understand the “national poverty line”, above which – according to Subgoal 1.2. – all citizens should be by 2030. It seems that the extreme poverty line should be treated as such a line, since it is defined by the value of the basket of goods necessary to sustain the biological existence. If such interpretation is adopted, it must be recognised that Subgoal 1.2 is still not achieved in Poland and since 2008 we have even seen an upwards trend in the value of this indicator. Thus, this Subgoal is still valid in Poland and its achievement requires intense efforts.

According to Eurostat’s data we know that poverty also affects the households of working people. In 2011, 11.1% of working people were at risk of poverty (60% of the median income in the country). Among people working outside agriculture this indicator was 7.4%. In the group of people employed on the basis of a contract with an employer, 4.5% were at risk of poverty, and among the rest of the working people, 26.5%. If we consider different types of households, then among single-working-person households, 12.7% were at risk of poverty, and among single parents with minor children, 15.9% were at risk. The presence of children in the household makes the risk of poverty higher – 13.1% compared to 8% in households with no children. The situation is similar in the case of households with unemployed persons. In 2011, poverty in households where at least one person was unemployed was 43.7%, whereas in the working households, 11.2%. In addition, those working on the basis of an indefinite time employment contract are at a lower risk of poverty (5.5%) than people employed for a fixed term (11.8%).

Gaps and recommendations

State support in the form of benefits that do not enable the beneficiaries to go below the extreme poverty line / social minimum line

Recommendations:

- Setting the amount of the financial support for the poorest at a level which enables them to get above the extreme poverty line – with particular attention paid to families with several children, pensioners and persons with disabilities. The aim of the social policy should be to eradicate extreme poverty through financial support and activation and integration programmes. However, this process will take a long time and will be possible only if work eliminates poverty and the wages earned make a decent life possible. Recently, wages are too low in Poland to motivate people to work. Poor people often decide to live on welfare benefits combined with unregistered employment.
- Another good solution is an option to combine welfare benefits with earnings from work for a definite time so as to ensure stable and sustained move over the poverty line.
- In Europe, the concept of “basic income” has been discussed (some political parties in Europe already have its introduction in their programmes), which would provide an effective protection against extreme poverty. The first studies have appeared examining a possibility of introducing this instrument in Poland. It should, however, be stated that it is only at an early stage of the debate and Poland is still far from having political parties include it in their agendas.

The share of working poor in the labour market is too high

Recommendations:

- A change in the mechanism of setting the minimum wage to base it on the actual costs of living or define it as 50% of the average salary, increasing the role of collective bargaining and unionisation, which support the workers who earn the least. These measures will allow a slow growth in salaries and will shift them closer to the EU average.
- It is also necessary to change the profile of the Polish economy to be more innovative and highly productive, which is linked with an increase in wages.

Income inequality and risk of poverty has been significantly reduced with social security system in place

Positive trends can be observed with regard to the subgoal above. The Gini coefficient has not experienced an upward trend in the last decade, poverty indicators have gone down and all the sectors of the economy are covered with the mandatory social security contribution. It should, however, be emphasised that the effectiveness of the social policy in achieving this goal is far from satisfactory.

The pension system in its current shape does not guarantee that pensions will be paid within the next few dozen years (which is connected both with the demographic problem and with the commercialisation of a part of the mandatory pension contributions). The nature of the tax system is in fact regressive rather than progressive or even flat-rate; the tax-exempt amount is also too low.

As a result, the distributive function of social policy is not properly performed; unemployment benefits are collected only by approximately 20% of unemployed people; the level of different types of welfare benefits (including care-related benefits, disability pensions) is not sufficient to ensure income at the level of subsistence minimum. In addition, workfare measures are being adopted in Poland, where poor and unemployed people are activated through ineffective attempts to include them in the labour market, which currently faces a significant deficit of jobs. It should be added that the current social policy is based, to a great extent, on external funding (EU funds), which will be significantly reduced after 2020. This poses a real threat to the stability of those programmes.

Gaps and recommendations

The share of expenditure on social security in the GDP is too low compared to the EU average

Recommendations:

- To increase the share of expenditure on social security to the level of the most developed EU Member States, that is, to approximately 20% of GDP. The increase of this expenditure should be treated as social investment that will yield return in future.

The social policy expenditure is based too much on the EU social cohesion funding and the share of domestic funding in social policy expenditure is too low

Recommendations:

- To increase domestic expenditure for social policy purposes and to prepare for post-2020, when the availability of the EU cohesion policy funding will be significantly limited.

A risk that the state is withdrawing too much from protection instruments for the unemployed and the poor for the sake of support contingent upon employment (transition from welfare state to workfare state)

Recommendations:

- To balance the proportions between protection and conditional support instruments.

Incoherent tax system, effectively acquiring the form of a regressive taxation system

Recommendations:

- To reform the tax system
- To facilitate the redistribution of capital in the society
- Introduction of an effectively progressive income tax
- Abolition of the flat rate tax for economic entities
- Higher tax on capital with the simultaneous reduction of tax on labour (i.e. progressive income tax)

A pension system which does not guarantee that pensions will be paid to all people at the age of 67+ at a level which will make it possible to eradicate poverty and a risk that the system will collapse because of the demographic problem (in 2050, the number of people paying pension contributions will equal the number of those collecting their pensions)

Recommendations:

- Reforming the pension system to eliminate the market risk connected with the capital part of the pension, to promote individual pension savings
- Implementing an effective demographic policy focused on increasing the number of births (mainly thanks to improving the stability of young people on the labour market)
- Increasing the availability of affordable homes, availability of the institutional early childhood care)
- A policy of increased employment, and immigration policy attracting immigrants with high professional skills to settle in Poland and enter the Polish labour market

SUMMARY

If the downwards trend in the poverty level, noticeable since 2004, is maintained in the near future, we can be optimistic about achieving the Sustainable Development Goals in Poland. Positive assessment should also be given to the fact that the increase in social inequalities has slowed. Nevertheless, this issue should become a subject of public policies so that it can be addressed with appropriate instruments. If these processes are accompanied, as has been the case so far, by stable economic growth, the chances for achieving the balance between the social development and advancement of wellbeing in Poland will grow.

In spite of these bright prospects, there are still numerous challenges, which have been described above in the list of gaps and recommendations. In Poland, the problems that seem to be particularly serious in the context of poverty and income inequalities are connected with the limitations of the labour market, significant scale of poverty among children and women and increasing poverty of the elderly, which is a result of demographic changes. The social policy still seems underfunded and the social security system is unable to curb poverty effectively. However, some innovative measures do appear, for instance, the development of the social economy or social work (welfare contract, community social work), which facilitate effective work with socially excluded people in the area of soft skills (empowerment, motivating to get out of poverty, social inclusion). It is necessary to think about sustainable social development in a comprehensive manner, engaging various sector policies. Besides the social policy but also the tax system, education system and regional policy should be integrated and focused on increasing social cohesion.

¹⁰ The data quoted after Ubóstwo ekonomiczne w Polsce w 2013 roku, GUS, 2014

¹¹ GUS Communication, January 2013

¹² GUS data based on the households' budgets study in subsequent years.

¹³ Households' budgets in 2013, Report GUS, 2014.

¹⁴ Data from an on-line database of the International Monetary Fund, 2014.

¹⁵ Human Development Reports, UNDP. Retrieved from: <http://hdr.undp.org/en/content/table-3-inequality-adjusted-human-development-index>

¹⁶ Behrendt, C., Bonnet, F., Cichon, M., Hagemeyer, K. (2010) Social Security. Three Lessons Form the Global Crisis, report of the International Labour Organisation

¹⁷ Retrieved from: http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::p12100_instrument_id:312247

¹⁸ Administrative status as of June 2015

¹⁹ Full division of responsibilities between the levels of public administration. Retrieved from: <http://www.mpips.gov.pl/pomoc-spoeczna/system-pomocy-spoecznej-w-polsce/podzial-zadan-miedzy-administracje-publiczna/>

²⁰ Retrieved from: http://www.sejm.gov.pl/komisje/www_psr.htm

²¹ Retrieved from: <http://www.senat.gov.pl/prace/komisje-senackie/komisja,8,komisja-rodziny-polityki-senioralnej-i-spoecznej.html>

²² Retrieved from: <http://www.mpips.gov.pl/en/social-dialogue-institutions/tripartite-commission-for-socio-economic-affairs/>

²³ Act dated 24 July 2015 on the Social Dialogue Council and other social dialogue institutions

²⁴ Retrieved from: <http://www.pfron.org.pl/>

²⁵ Full scope of responsibilities is described here: <http://www.pfron.org.pl/pl/pfron/1,PFRON.html>

²⁶ Full scope of responsibilities is described here: <http://www.niepelnosprawni.gov.pl/p,133,the-government-plenipotentiary-for-disabled-people>

²⁷ Full scope of responsibilities is described here: <http://www.niepelnosprawni.gov.pl/p,134,the-national-advisory-council-for-persons-with-disabilities>

²⁸ The social minimum indicates a particular threshold needed for a household to lead a decent life and is based on the cost of a 'basket of goods' considered necessary for this

²⁹ The subsistence minimum is based on a more restricted 'basket of goods' considered necessary for survival, i.e., to sustain one's vital functions and psychophysical capabilities.

³⁰ More details, e.g. <http://www.pcpr.info/>

³¹ More details, e.g. <http://ops.pl/>

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- ³² Retrieved from: <http://www.mpips.gov.pl/analizy-i-raporty/raporty-sprawozdania/polityka-spoeczna/strategia-polityki-spoecznej-na-lata-2007-2013/>
- ³³ Mainly on the basis of the Act of 6 December 2009 on the principles of implementing development policy and „The Outline of the system for managing the development of Poland” adopted by the Council of Ministers on 27 April 2009.
- ³⁴ Retrieved from: <http://www.mpips.gov.pl/praca/strategie-i-dokumenty-programowe/strategia-rozwoju-kapitalu-ludzkiego-srkl--projekt-z-31072012-r/>
- ³⁵ Retrieved from: <http://ks.mkidn.gov.pl/pages/strona-glowna/strategia-rozwoju-kapitalu-spoecznego.php>
- ³⁶ Retrieved from: <http://www.mpips.gov.pl/bip/akty-prawne/programy/krajowy-program-przeciwdzialania-ubostwu-i-wykluczeniu-spoecznemu-2020-nowy-wymiar-aktywnej-integracji/>
- ³⁷ In the Europe 2020 strategy it is assumed that the population at risk of poverty or social exclusion will be reduced by 20 million people across the EU. It is worth noting that for Poland this target is relatively high (1.5 m), the highest after Italy (2.2 m) and France (1.9 m). This shows the scale of the problem in Poland as compared to the other EU Member States.
- ³⁸ Retrieved from: http://www.mir.gov.pl/aktualnosci/Fundusze_Europejskie_2014_2020/Strony/POWER_zatwierdzony_18122014.aspx
- ³⁹ The basic information about the programmes and the allocation of structural funds as part the EU cohesion policy. Retrieved from: http://www.mir.gov.pl/fundusze/Fundusze_Europejskie_2014_2020/strony/start.aspx
- ⁴⁰ Retrieved from: <http://www.pozytek.gov.pl/Krajowy,Program,Rozwoju,Ekonomii,Spoecznej,3495.html>
- ⁴¹ Retrieved from: <http://www.ekonomiaspoeczna.pl/x/435452>
- ⁴² Retrieved from: <http://www.mpips.gov.pl/seniorzyaktywne-starzenie/program-solidarnosc-pokolen/>
- ⁴³ Retrieved from: <http://bip.msw.gov.pl/bip/polityka-migracyjna-po/19529,Polityka-migracyjna-Polski.html>
- ⁴⁴ Retrived from: http://ec.europa.eu/eurostat/statistics-explained/index.php/Evolution_of_government_expenditure_by_function
- ⁴⁵ Związki zawodowe i prawa pracownicze, Communication of the Public Opinion Research Centre (CBOS), No. 106/2014, July 2014
- ⁴⁶ Retrieved from: <http://asef.org/pubs/asef-publications/3182-sustainable-development-goals-and-indicators-for-a-small-planet>
- ⁴⁷ Informacja o rozmiarach i kierunkach emigracji z Polski w latach 2004-2013, GUS Report
- ⁴⁸ Piątkowski, M. (2013) Poland’s new golden age: shifting from Europe’s periphery to its center, Policy Research working paper; no. WPS 6639. Washington, DC: World Bank. Retrieved from: <http://documents.worldbank.org/curated/en/2013/10/18347962/polands-new-golden-age-shifting-europes-periphery-center>
- ⁴⁹ The Second Jagiellonian age, *The Economist*, 28 June 2014. Retrieved from: <http://www.economist.com/news/special-report/21604684-first-time-half-millennium-poland-thriving-says-vendeline-von-bredow>
- ⁵⁰ Retrieved from: <http://ec.europa.eu/eurostat>
- ⁵¹ This refers to the quarterly reports „Informacja o kondycji sektora przedsiębiorstw ze szczególnym uwzględnieniem stanu koniunktury” National Bank of Poland
- ⁵² Retrieved from: <http://ec.europa.eu/eurostat>
- ⁵³ Precarization (from: precariat) – the term popularized by Guy Standing in his publication „The Precariat: The New Dangerous Class”, Bloomsbury Academic, 2011, it refers to a social class which experiences permanent insecurity of its economic situation because of employment based on fixed-term contracts, with limited social protection or because of intermittent employment.
- ⁵⁴ The data presented in this part come mainly from Eurostat and the National Programme for Fighting Poverty and Social Exclusion by 2020
- ⁵⁵ The themes of the individual subgoals overlap to a great extent. Therefore in this section the main part of the data illustrating the monitoring of poverty in Poland will be presented. This data applies also to the remaining subgoals and for this reason they will not be quoted again when those subgoals are discussed.
- ⁵⁶ Explanation of the definitions of the measures presented in Table 2 is included in Annex 1.
- ⁵⁷ Data quoted after *Ubóstwo ekonomiczne w Polsce w 2013 roku*, GUS, 2014
- ⁵⁸ After the national Programme for Fighting Poverty and Social Exclusion by 2020, p. 21
- ⁵⁹ Kurowski, P. Zagrożenie ubóstwem energetycznym. Próba ustalenia zjawiska (na podstawie danych GUS). Newsletter of the Energy Regulatory Office No. 1/2012

2: GOVERNANCE ARCHITECTURE AND SDG IMPLEMENTATION OPTIONS FOR FOOD SECURITY AND SUSTAINABLE AGRICULTURE

SITUATION IN AGRICULTURE

The current situation of agriculture is a consequence of three main processes: the development of agriculture in 1945–89, the transformation of the political system in 1989–1993 and the Polish accession to the EU.

After the introduction of the socialist system, Polish farmers retained private ownership of land (in 1945–89, only about 20% of agricultural land was owned by the state). However, this came at a price: infrastructure backwardness of the rural areas and agricultural production, as well as the fragmentation of farm holdings. Agricultural production was unsustainable - farmers' household incomes were low, the production potential of the sector was under-utilised, and environmental regulations were lacking. The environmental impact was varied – on the one hand, this system of farming helped preserve the traditional agricultural landscape and supported high biological diversity. On the other hand, the lack of environmental criteria of agricultural production was noticeable, contributing to the low quality of water and soil.

Both farmers and the public institutions responsible for the development of the sector were not prepared for the changes that took place after 1989. The abolition of all subsidies on agricultural and food products⁶⁰, with the lack of control over the influx of food products from abroad, led to flooding of the domestic market with imported products and subsequent difficulties in selling the domestic products. The situation was aggravated by the high inflation rate, which hiked the cost of production loans and led many producers into excessive debt.⁶¹ This resulted in a number of negative phenomena:

- Pauperisation of family farm holdings and a slump in their production output (in 1992, the income of family farm holdings constituted only 53% of their income from 1989 and were the lowest of all sectors in the Polish economy⁶²),
- Uncontrolled collapse of the State Agricultural Farms (PGR) and farming cooperatives, simplification of farming technology leading to the degradation of soil, disregarding environmental and quality criteria in agricultural production and collapse of the existing agricultural markets.

Those problems were noticed only in the early 1990s. The response was to create agricultural agencies whose role was, primarily, to improve the economic situation of agriculture. At that time, this issue was dominant in agricultural policy, which is the reason why the sector did not develop in a sustainable manner. For example, the privatisation of State Agricultural Farms completely ignored nature-related issues.⁶³

The need for a more sustainable approach to the development of agriculture and rural areas in agricultural policy was noticed only in the mid-1990s, when it became clear that Poland would aspire to membership of the EU⁶⁴. The accession negotiations concerning the agricultural sector emphasised introducing solutions that would ensure an increase of farmers' income (the area payments), and devoted much less attention to other issues. However, the necessity to harmonise the law with the EU legislation on environmental protection and sustainable development and the

obligation to implement the requirements of the Common Agricultural Policy forced Polish farmers to implement more sustainable practices. Since 2004, it has been the Common Agricultural Policy and its instruments that have had the biggest impact on the way in which the agricultural sector in Poland has developed. This led to a number of positive changes. Key changes include⁶⁵

- Improvement of the economic situation of most of farmers' families;
- Improvement of technical, social and economic infrastructure in rural areas;
- Increased awareness and ecological knowledge among farmers and employees of the institutions supporting the development of the sector;
- Dissemination of knowledge about animal welfare and taking action to improve this welfare.

Among other advantages of subjecting Polish agriculture to EU rules that should also be mentioned are: the need to apply the Code of Good Agricultural Practice, to maintain the land in good agricultural condition and to implement the Cross Compliance requirements. This enabled the reduction of the pressure exerted by agricultural activity on the natural environment and made agricultural production more environmentally sustainable.

From the point of view of sustainable development, another important development was the introduction of funding for agri-environmental programmes and subsidies for organic farming. This brought a significant increase in the area for which agricultural production was compliant with environmental regulations. Nevertheless, in recent years, a negative trend can be observed with farmers becoming less interested in implementing such programmes. These results from the large number of obligations for implementing agri-environmental programmes, the complexity of the mandated procedures in organic farming methods, as well as the attractiveness of other agricultural programmes and ease with which funds can be obtained for those activities.

That is why the positive changes described above do not mean that Polish agriculture is already sustainable. A number of problems remain unsolved (e.g. a predominance of farm holdings producing only for their own needs), while the EU membership brought about some new issues (e.g. spread of industrial-scale animal production). The loss of agricultural land and using agricultural and forest land (including that of the highest soil quality) for non-agricultural and non-forest purposes should be considered a particular threat.

A problem that may affect the stability of agricultural production in the long term is the progressing specialisation of production, including the separation of crops and animal production – which is the result of the need to enhance hygiene of animal production – replacing the system of keeping animals on bedding with the slatted floor system⁶⁶. That resulted in the reduction of the production of manure, the most valuable natural fertiliser for the infertile, sandy soil in Poland. As straw is also more and more often utilised, the volume of organic matter in the soil of agricultural land in Poland is constantly decreasing.

The impact of the changes in agriculture on the preservation of biological diversity, one of the fundamental Sustainable Development Goals, is equivocal. At the end of the 1980s, Poland was one of the European countries with the highest level of biodiversity, which had been, to a great extent, an effect of the certain backwardness and fragmentation of agriculture. The intensification of agricultural production and the subsequent simplification of the agricultural landscape had a negative impact on biological diversity. This diversity will be threatened by further intensification of production, both because of the increased use of artificial fertilisers and pesticides and because of the simplification of the landscape (elimination of field margins, creating big single-crop farming areas) and simplifying or abandoning of crop rotation.

LEAD INSTITUTIONS AND THEIR ROLES⁶⁷

The political platform for agreeing the agricultural policy objectives are the parliamentary forums — the Sejm and the Senate Committees for Agriculture and Rural Development.

The most important executive institution, which shapes and coordinates the agricultural policy, is the Ministry of Agriculture and Rural Development (MRiRW). Apart from creating the strategy for the development of agriculture and preparing relevant analyses in the area of agricultural production, MRiRW also deals with issues such as food safety, agricultural markets, and payments for farmers. The Ministry also coordinates activities related to the development of rural areas and the farmers' social security, social and occupational activation of people living in rural areas, development of entrepreneurship, labour market, occupational health and safety, agricultural education, protection of rural cultural heritage and cooperation with trade unions, social and professional farmers' organisations and farmers' self-government.

With regard to food safety, MRiRW cooperates with the Ministry of Health, which sets the food quality standards. Compliance monitoring is carried out by the State Sanitary Inspection (PIS). At the local level PIS operates through its poviats inspectorates.

The implementation of the agricultural policy is supported by three state agencies established in the 1990s, supervised by MRiRW. The first, the Agricultural Market Agency (ARR) was established in 1990 in response to the collapse of the existing agricultural market to market stabilising measures. Initially, ARR implemented buffer-stock schemes through buying and selling stocks of surplus agricultural goods, and granted guarantees for loans taken for purchase of agricultural products. With time, ARR, apart from the purchase and sale of agricultural products, introduced subsidies for storage and export of such products, and began to issue permits for import and export of agri-food products. In 2001, ARR was designated as the paying agency after the Polish accession to the European Union. Currently, ARR manages the resources coming from the EU funds, the state budget and the funds for promotion of agri-food products. Its activities supporting the agri-food market cover more than 20 product groups, and it manages more than 50 support instruments and mechanisms.

The second agency, the Agency for Restructuring and Modernisation of Agriculture (AriMR) was founded in 1994. Since the very beginning, its aim has been to support activities that contribute to the development of agricultural and rural areas. Since the late 1990s, the Agency has been implementing assistance from domestic funds and instruments co-financed from the European Union budget, initially under pre-accession programmes and after 1 May 2004 — from EU funds. The beneficiaries of the Agency's assistance are farmers, residents of rural areas, and entrepreneurs who develop their businesses in rural areas and local governments. AriMR operates at three levels, has 16 voivodship branches and 341 poviats offices.

The third agency, the Agricultural Property Agency (ANR) was established in 1991 as the Agency for Agricultural Property of the State Treasury. It was entrusted with the assets left after the liquidation of state agricultural farms (totalling about 18 million ha), which the Agency was expected to manage reasonably, and which it gradually privatised. While having the entrusted assets at its disposal, the Agency carries out activities, for instance, to improve the area structure of family farm holdings, both through increasing their area and consolidating the used agricultural land.

A number of institutions supervise organic farming. Agricultural and Food Quality Inspection (IJHAR-S) is responsible for oversight of certification units and organic production. The Trade Inspection cooperates with IJHAR-S in the oversight of certification units and organic farming with regard to placing products with organic farming certificates on the market. Veterinary Inspectorate cooperates with IJHAR-S in the oversight of certification units and organic farming in the area of animal production. Main Inspectorate of Plant Health and Seed Inspection cooperates with IJHAR-S

in the oversight of certification units and organic farming with regard to plant production. All these institutions also have their own responsibilities as regards the support for conventional farming.

The system of agricultural advisory service comprises public institutions – The Agricultural Advisory Centre in Brwinów (CDR) together with its 3 branch offices as well as 16 Voivodship Agricultural Advisory Centres (WODR). These institutions employ about 3700 agricultural advisers operating at the local level. Apart from the public advisory service, national legislation also grants advisory powers to other non-public entities and organisations, such as private advisory entities or economic self-regulatory organisations – Agricultural Chambers. CDR is responsible for the control of the quality of the services provided by these organisations.

Another important set of organisations are agricultural cooperatives. In November 2013, 2622 cooperatives operated in and around the agricultural sector. It was significantly fewer than before the social and economic changes of the late 1980s. Before 1989 the share of cooperatives in the market of services for farm holdings was more than 60%. In 1989, there were more than 6 340 agricultural cooperatives.

In Poland, support for the distribution of agricultural products produced in the sector is provided by commodity exchanges and the wholesale market. The process of legal regulation of wholesale markets began in the early 1990s. The implementation of the “Programme of building wholesale markets and commodity exchanges” began in 1994. This programme included the construction of 8 cross-regional markets, 6 regional markets, 7 border region markets and 17 local markets.

The self-regulating agricultural organisations in Poland are Agricultural Chambers. Polish law guarantees full independence to agricultural self-regulating bodies in performing their tasks. In accordance with the law, the Chambers can influence the shape of agricultural policy and participate in its implementation. They also carry out activities aimed at creating agricultural markets, development of agricultural and rural areas, improving the quality of agricultural products, promoting the export of agricultural products, providing advisory services with regard to agricultural activity as well as cooperation with public administration, environmental protection, and rural health and cultural heritage. The representative of the agricultural self-regulating organisations is the National Council of Agricultural Chambers. It is composed of the chairmen of agricultural chambers and delegates, one from each chamber, elected by general assemblies of their chambers. The National Council of Agricultural Chambers has legal authority.

The institutions that act to support agriculture, farmers and inhabitants of rural areas also include farmers’ trade unions, including Machinery Rings, and non-governmental organisations (NGOs), both of these groups formally organised associations, foundations and informal organisations. They implement numerous programmes aimed at improving farmers’ financial situation, supporting the multipurpose development of rural areas, preserving the cultural heritage of rural areas or supporting development of sustainable agriculture and organic farming. A simplified organisational chart of the institutions responsible for the development of agriculture is presented below (Fig. 6).

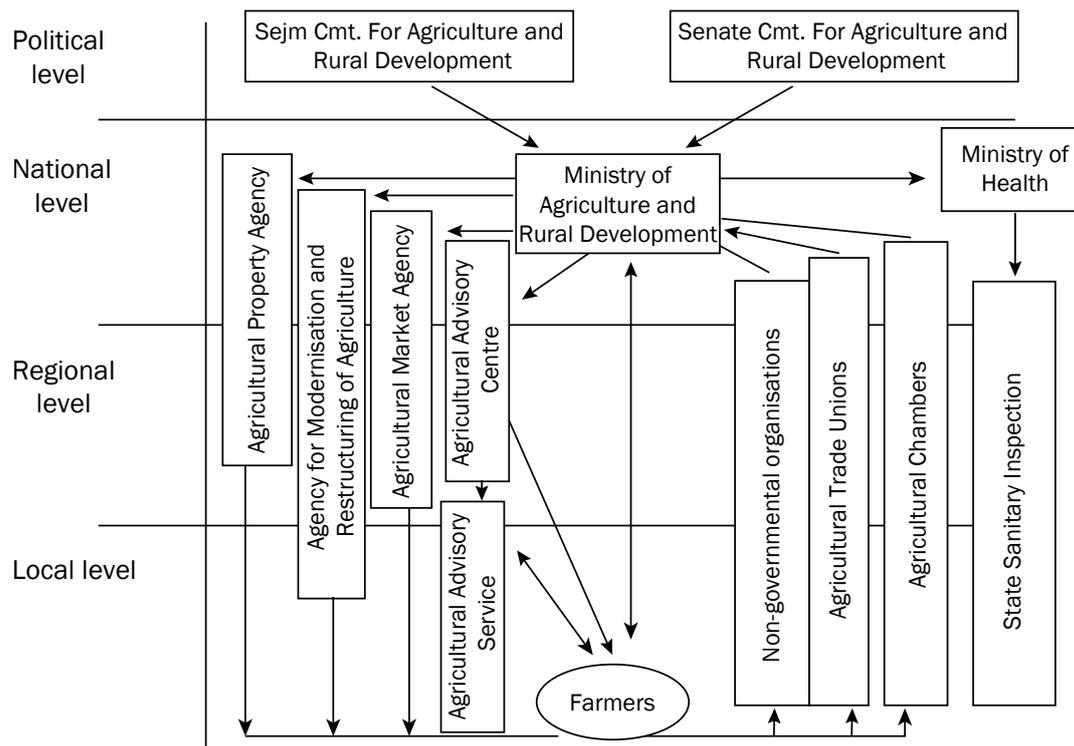


Figure 6: A simplified organisational chart of the institutions responsible for the development of agriculture

Source: Authors' compilation

Even though, as the above description shows, the institutional system supporting the development of agriculture is well developed, it is not sufficient to ensure that the development of this sector is sustainable. For most of the aforementioned institutions, sustainable development is not a priority. Their cooperation with public bodies responsible for the management of environmental protection is not sufficient, as a result of which environmental protection issues are treated as an addition – they are not considered as important goals that must be achieved. Cooperation between public institutions and non-agricultural organisations, whose aims go beyond supporting agricultural producers, is also too weak. However, it is not only the fault of public institutions. Most ecological organisations do not seem to be actively involved in supporting the directions of agricultural development and agricultural policy that are desirable from the point of view of sustainable development. That is why creating platforms for such cooperation is one of the most important recommendations to strengthen the sustainable development of agriculture.

KEY POLICY INITIATIVES

From the mid-1990s, when Poland began to aspire to EU membership, the Common Agricultural Policy was the main factor shaping the direction of the national agricultural policy. One of the first documents announcing that change was the Cohesive Structural Policy for Rural Areas and Agriculture Development, adopted in 1999, which pointed to the necessity to integrate agricultural policy with the development of rural areas. It formulated three main goals:

1. To develop the conditions for work and life of the rural population that would be compliant with adequate living standards and would allow inhabitants of rural areas to pursue their economic, educational, cultural and social goals.

2. To change the structure of the agricultural sector so as to create conditions for adaptation of agriculture to the changing economic and social situation.
3. To develop conditions for sustainable development in rural areas, protection of natural resources together with the rural cultural heritage.

These not only became the guidelines for expenditure of funds allocated for the support of agriculture and rural development under the pre-accession programme SAPARD, but also set the main direction for agricultural policy after the Polish accession to the EU.

The first document prepared for the purposes of the Polish membership in the EU was the National Development Plan 2004 – 2006 (NDP). Its strategic goal was “... to develop the competitive economy based on knowledge and entrepreneurship, capable of long-term harmonious development to ensure employment growth and improvement of social, economic and spatial cohesion with the European Union at regional and national level”⁶⁸. NDP became the fundamental guideline for setting the direction for the development of rural areas in two documents: Sectoral Operational Programme for Restructuring and Modernisation of the Food Sector and Development of Rural Areas (SOP) and the Rural Development Plan for the years 2004–2006 (PROW). Those documents contained the most important goals for the development of agriculture and rural areas, financed from EU funds⁶⁹:

1. Improvement of the competitiveness of agri-food economy;
2. Sustainable development of rural areas;

The EU’s priority from a financial perspective from 2007–2013 was to ensure the sustainable development of agriculture and rural areas. In the document adopted by the government in 2005, Strategy for the development of agriculture and rural areas for the years 2007–2013 (with elements of forecast for the period until 2020)⁷⁰, the goals and the priorities of this policy were described. The three main goals included:

- Goal 1 – Supporting sustainable development of rural areas;
- Goal 2 – Improving the competitiveness of agriculture;
- Goal 3 – Supporting agri-food processing to improve food quality and safety;

These goals were implemented through the Rural Development Plan for the years 2007–2013.

On 25 April 2012, the Council of Ministers in Poland adopted another document, Strategy for the sustainable development of rural areas, agriculture and fisheries for the years 2012–2020⁷¹. It is one of the development strategies referred to in the Act of 6 December 2006 on the principles of implementing development policy.⁷² The main purpose of this document was to set the priorities for the development of rural areas, agriculture and fisheries by the year 2020. It contains the long-term goal: to improve the quality of life in rural areas and to use effectively their resources and potential, including the agriculture and fisheries, for the sustainable development of the country. This goal is to be achieved by working towards the following objectives:

1. Improvement of the quality of human capital, employment and entrepreneurship in rural areas;
2. Improvement of living conditions in rural areas and improving their spatial accessibility;
3. Food security;
4. Increase of the productivity and competitiveness of the agri-food sector;
5. Protection of the environment and adaptation to climate change in rural areas.

The goals set by the Strategy for the sustainable development of rural areas, agriculture and fisheries for the years 2012–2020 will be implemented under the Rural Development Programme 2014–2020. This Programme is expected to implement all the priorities set in the EU rural development policy for the years 2014–2020, namely:

1. Fostering knowledge transfer and innovation in agriculture, forestry and rural areas.
2. Enhancing competitiveness of all types of agriculture improving the viability of farm holdings.
3. Promoting food chain organisation and risk management in agriculture.
4. Restoring, preserving and enhancing ecosystems related to agriculture and forestry.
5. Promoting resource efficiency and supporting the shift toward a low-carbon and climate-resilient economy in the agriculture, food and forestry sectors.
6. Promoting social inclusion, poverty reduction and economic development in rural areas.

Implementation of these activities in 2014–2020 will be co-financed from national funds and the EU funds available in this period. Even though they will contribute to the improvement of food security in Poland, these issues are not directly mentioned in the documents described above as ensuring food security is a part of the national security strategy and not the agricultural policy. Therefore, there is a separate document prepared in 2008 by the Ministry of Agriculture and Rural Development: Sectoral strategy for food security in central government departments of agriculture, rural development, agricultural markets, and fisheries⁷³. It focuses on ensuring food security (availability of food) and food safety (food free of contaminants) during times of peace and war. In the document, food security was defined as a situation in which all households have actual access to food needed for all its members and are not at risk of losing it. There are three criteria describing this access:

1. Physical accessibility of food. This criterion is, in fact, a proposal for the country's food self-sufficiency, where the amount of food products produced and distributed should be sufficient to satisfy the minimum biological demand.
2. Affordability of food. This means that the economically weakest social groups are able to satisfy their basic food-related needs.
3. Food safety. This means that food products are free of contaminants and food rations are nutritionally balanced.

The quality of agricultural products depends also on the way in which they are produced. Organic products are the highest quality. The document that provides the detailed directions for the development of organic farming is the Framework Action Plan for Organic Food and Farming for the years 2014 – 2020,⁷⁴ developed in 2014. According to this document, the development of organic farming and the organic food market will be achieved by pursuing the following objectives:

- Improving the competitiveness of organic farming and increase in the supply of organic food in the market;
- Stimulating the development of organic food processing;
- Diversification and enhanced distribution channels for organic products;
- Enhancing consumer knowledge about organic farming and food;

- Enhancing the cooperation between entities operating in the organic farming sector;
- Involving central and local government bodies in the development of the organic farming sector;
- Maintaining high quality of the organic food control and certification system.

The document provides for maintaining the support for organic production methods in agriculture, both from domestic and the EU funds.

An analysis of the aforementioned strategic documents shows that they refer to a short-term perspective. They do not attempt to formulate any long-term vision for the place of agriculture in the economic structure of the country, nor do they try to propose a desirable form of the sector. As a result, Polish agricultural policy only responds to the signals and proposals formulated at the EU level. This also means that support for the sustainable development of agriculture will be favoured only in as much as it is proposed by European policy.

A certain weakness of the Polish policy is the fact that it is predominated by social and production-related issues. Environmental issues, including the preservation of the natural basis for sustainable agricultural production, are considered less important.

SUSTAINABLE DEVELOPMENT GOALS – CAPACITY NEEDS FOR IMPLEMENTATION, MAJOR GAPS AND MONITORING FRAMEWORK

This section will draw on the proposed Sustainable Development Goal on food security, sustainable agriculture and fisheries presented in Sustainable Development Goals and Indicators for a Small Planet, Part I: Methodology and Goal Framework⁷⁵. They are replicated below:

Goal Statement	Sub-Goal Statements
7. Sustainable agriculture, food security and universal nutrition are achieved	<p>7.1 Access to affordable, nutritious and healthy foods at sufficiency levels (tackling hunger and obesity and avoiding food waste) is ensured.</p> <p>7.2 Productivity is increased via accelerated conversion to sustainable agriculture, fisheries and forestry.</p> <p>7.3 Effective land-use planning and management are in place and assure equitable access to land.</p> <p>7.4 The quantity and quality of agro-ecosystems are maintained without destroying natural ecosystems.</p>

Poland's progress in each sub-goal statement will be evaluated, followed by the identification of gaps between the goal statements and Poland's current state with regards to sustainable agriculture and food security. Recommendations will be provided to bridge the gap between the goal statements and Poland's current situation.

Access to affordable, nutritious and healthy foods at sufficiency levels is ensured

Polish agriculture, both because of the area covered by agricultural land and because of its advancement and modernisation in recent years, is not only able to ensure Poland's food self-sufficiency but also to produce surplus agricultural products that can be exported. Since 2003, Poland has become an important exporter of fruit, eggs and dairy and meat products. Production growth, however, is achieved, to a great extent, at the expense of the pressure on the natural environment.

Polish agriculture is highly diversified⁷⁶. While in the west and north west of the country, big farm holdings prevail with intensive agricultural production, in central and southern Poland the majority are small, mainly subsistence farms. This leads to various levels of production sustainability depending on the location:

- While agricultural production is environmentally more sustainable, it generates low productivity, smaller output and lower income.
- While big farm holdings prevail, with intensive or industrial production, it negatively impacts the environment, but yields positive economic results and generates surplus of agricultural products.

In order to address this discrepancy, diversification of agricultural measures has been supported under voivodship (regional) operational programmes. These programmes operate by diversifying the possibility to use agricultural policy instruments depending on the location of a farm holding, and by creating special programmes for underdeveloped areas (e.g. the Operational Programme Eastern Poland co-financed by the EU).

However, food security depends not only on productivity level but also on the level of household income. The economic transformation and the fast economic growth of recent years have resulted in the systematic decrease of the share of expenditure on food and non-alcoholic drinks in the total expenditure of households, which since 2009, has remained at around 25%⁷⁷. The relatively low value of this indicator does not mean, however, that all Poles have equal access to food. The level of consumption for most food products depends on the income of a household. The consumption of some products (e.g. beef, fruit, fish, vegetables, cheese) grows two to threefold with the level of household's affluence. By comparison, in the lowest income households, the consumption of bread, potatoes, sugar and margarine and other vegetable fat was higher⁷⁸. The volume of individual products' consumption is also different in cities and in rural areas (Fig. 7).

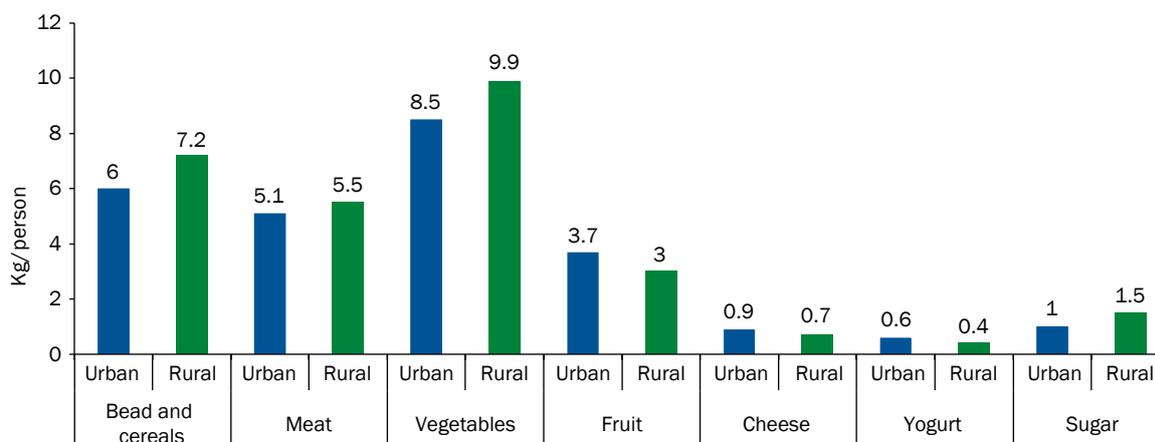


Figure 7: Average monthly consumption of selected food products in 2013 per person in rural and urban households

Source: Central Statistical Office, Social Surveys and Living Conditions Department, 2014

Moreover, an analysis of the Body Mass Index (BMI) shows that the frequency of obesity in the adult population of Poland is increasing. Every second Pole's body mass is too high. In order to reduce the problem of obesity among children, in 2014 the Parliament introduced a ban on sale of "junk" food in schools.⁷⁹

Apart from surplus food⁸⁰, another important element for food security is the quality of food. High level of food quality is confirmed by the high ranking of Poland in the Global Food Security Index. In the food quality and safety category, Poland ranked 28th globally and received 100% score in subcategories such as: presence of food safety net programmes, nutritional standards or food safety⁸¹. Poland has also improved its position in the Food Affordability Index – to 27th in 2014. The indicator on food consumption as a share of household expenditure has improved even more. Nevertheless, the material deprivation survey in 2010 of the ability of a household to provide a meal containing meat every other day showed that this deprivation affects 15% of families in Poland and 25% of families within the poverty zone⁸².

That is why the problem of poverty and limited access to food cannot be ignored. The surveys indicate a significant and persistent scale of undernourishment among children in Poland. The first comprehensive report in Poland on the undernourishment of children entitled, “Undernourishment of children in Poland – facts, challenges and initiatives aimed at addressing the problem” was published in 2003⁸³ and showed that, in total, 2,270,742 people were covered by assistance, of which 1,332,383 were children who had not completed upper secondary school. This has direct implications on nourishment, as assistance could be used to support adequate nutrition in daily diets.

As the above description suggests, Poland is a country of high sustainability with regard to access to food. The country is self-sufficient food-wise and access to food is not a problem for the majority of people. This does not mean, however, that there is no room for improvement.

Gaps and recommendations

Increased volume of industrially produced agricultural products, caused by the increasing pressure of generating agricultural products at the lowest possible cost.

Recommendations:

- Strict compliance with animal welfare standards and the requirements of ordinary good agricultural practice. Amendments should be made to the legislation, which currently enables large commercial farms to circumvent the provisions requiring them to obtain integrated permits.
- The Polish model of agriculture based on medium-sized family farm holdings (50–100 ha.) and sale directly from farm holdings should be supported.

Food wastage

Recommendations:

- Intensive educational activities are necessary to promote the model of responsible shopping and sustainable consumption.
- Support from public funds for the creation and promotion of food banks should be considered. Such banks could accept food with short expiration dates from people and businesses (restaurants, shops), and distribute it among the needy.

Growing problem of obesity, including obesity among children and young people

Recommendations:

- In this area, educational activities are needed, addressed both to parents and to children and young people themselves.

- It will be necessary to establish an effective system of control and enforcement of the provisions banning the sale of “junk” food at schools.
- A need to limit advertising of such food (crisps, candy bars, sweets) during programmes for children and young people should be considered.

Limited possibilities for farmers to produce and sell their own products

Recommendations:

- Many small subsistence or semi-subsistence farms lack the legal authorisation to sell their own food products (e.g. meat products, cottage cheese, etc.), which constitutes a barrier to engaging in agricultural production. In order to produce food products, farmers need to register a business, thus losing the entitlements as farmers. Farm yields are too small to sell in the market. Allowing farmers to process yields on their own and turn them into food products would not only provide an incentive for farming, but would also generate jobs and be a source of additional income. Subsistence and semi-subsistence farmers also face the challenge of meeting rigorous food safety standards, which also hinders their ability to fully engage in food production.

Productivity is increased via accelerated conversion to sustainable agriculture, fisheries and forestry

Organic farming, considered to be the most environmentally friendly and sustainable form of production, began to develop dynamically in Poland after the accession to the European Union (thanks to the relatively high subsidies to this form of production) – between 2003–2013, the number of organic farms increased approx.. 11-fold (from 2.3 thousand in 2003 to almost 26.6 thousand in 2013 – Fig. 8) the area of land under such production also grew (from 61 thousand ha. in 2003 to almost 670 thousand ha. in 2013)⁸⁴. However, the share of agricultural land with organic production is still relatively small and accounts for less than 4.8% of all arable land in Poland.

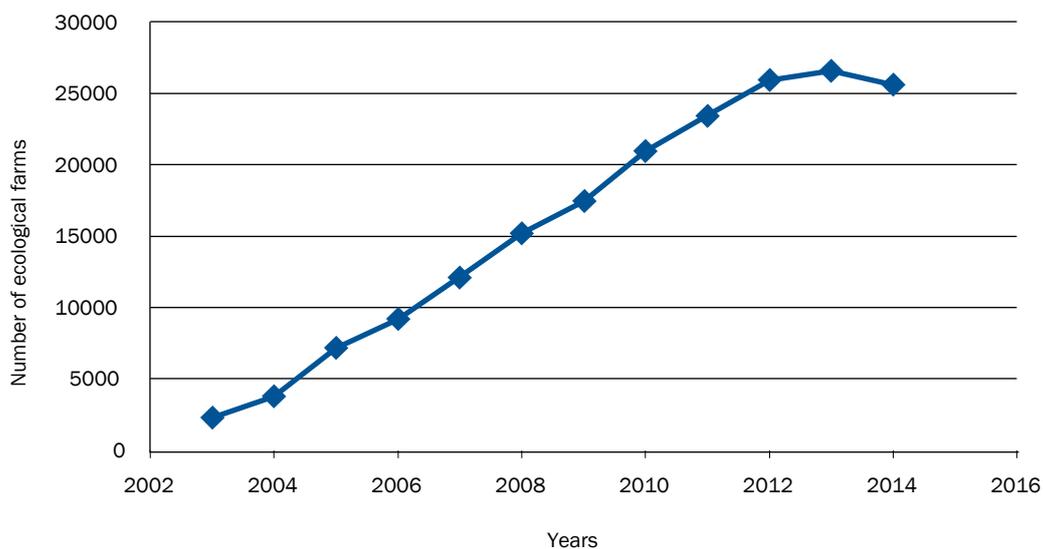


Figure 8: Increase in the number of organic farms in Poland in the years 2003–2014

Source: <http://www.minrol.gov.pl/Jakosc-zywnosci/Rolnictwo-ekologiczne>

The dynamic development of organic farming became possible thanks to the introduction of subsidies for this type of farming. According to EUROSTAT data, in 2012, Poland ranked third in the European Union with regard to the number of organic farms.

The development of organic farming also led to increased interest in processing of its yields. Between 2003 and 2013, the number of organic food processing plants increased more than 18-fold; from 22 in 2003 to 407 in 2013 (however, their number is still very low compared to the number of organic food processing plants in Western Europe). Organic food processing plants operating in Poland are mostly engaged in processing of fruit and vegetables (31.6% of all plants) and milling of cereals (23.6%). The share of meat processing was much lower (7%) as was the share of milk processing (4.7%)⁸⁵.

The increase in the number of organic farms has a positive impact on the sustainability and the balanced character of agricultural production not only because this mode of production is compliant with the principles of sustainable development, but also because organic farms have a positive influence on the entire natural system, improving its resilience to adverse external factors and supporting the diversification of the agricultural landscape.

For the further development of organic farming, action will be necessary to promote organic products. Currently, the demand for such products is limited because of the low level of knowledge about the benefits of organically produced food products. This contributes to the lower level of interest among farmers in using this type of production methods.

To ensure the security of agricultural space, apart from organic farming, other issues are also important, such as the model of integrated farming (seeking to minimise the use of fertilisers and pesticides) currently undergoing development, as well as the implementation of agri-environmental programmes. With regards to the latter, the problem is that there are too few implementation schemes available for Polish farmers. Extending the range of available options, simplifying the farming procedures and a greater promotion of the programmes may have a positive impact on popularising a more sustainable mode of agricultural production.

The sustainable model of agriculture assumes that farmers' production will bring appropriate income. This may be measured by evaluating the value of the final production of agriculture and the added value generated by it. The changes in this indicator with regards to Polish agriculture have been presented in Fig. 9. It shows that in the first half of the 1990s, the final production of agriculture and its value added fluctuated strongly, which was caused by the great difficulties in adapting to the free market conditions that the sector experienced. In the second half of the 1990s, the economic indicators improved until the collapse of 2000, which was caused mainly by the Russian embargo on Polish agricultural products. However, an increase in the final production and in the added value of agriculture occurred only after 2000, which was related to the adaptation of Polish agriculture to participate in the EU market.

In spite of these positive phenomena, Polish agriculture is not fully balanced in terms of its productivity. Only 20% of farm holdings produce for the market. The rest either do not produce at all, or engage only in subsistence farming. As a result, there are significant differences in the intensity of production between individual farm holdings. What begins to be a problem is the growing specialisation of these farm holdings resulting from simplification of production methods (i.e. measures aimed at achieving maximum productivity of land resources and labour)⁸⁶. Even though the specialisation contributes to greater competitiveness among producers, it often involves implementing industrial methods of agricultural production, that is, of a very unsustainable model of agricultural development. This can lead to a situation where, for instance, the area under crop production grows among farm holdings without any farm animals, therefore depriving land of organic fertilisers, which, in the short-term, may lead to reduced soil productivity from a negative balance of organic matter in the soil. In effect, regions with low-intensive production have lower agricultural

production potential, whereas regions with high-intensive production experience a greater pressure on the natural environment. This pressure is manifested mainly in the form of higher doses of nitrogen fertilisers and concentration of animal production in big farm holdings⁸⁷.

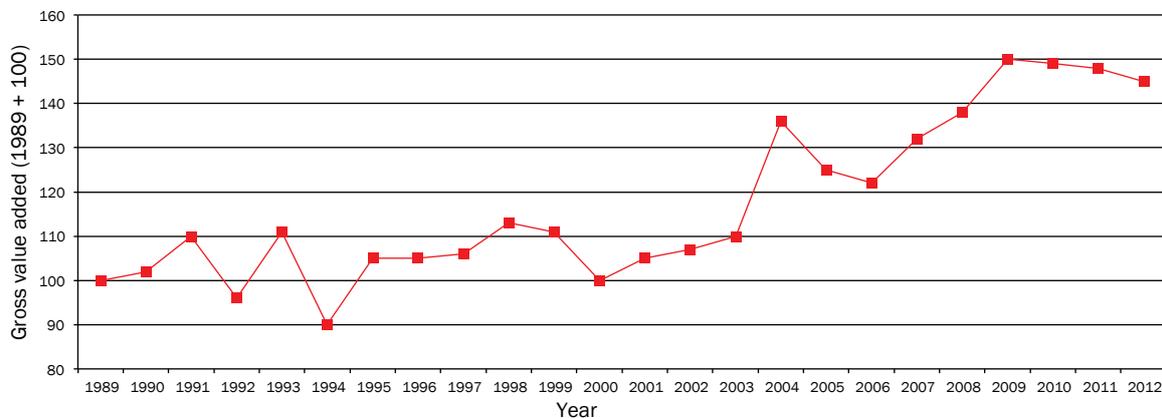


Figure 9: Dynamics of gross value added in Polish agriculture in the years 1989–2012 (1988 fixed prices =100)

Source: GUS, 2014: *Statistical Yearbook. Agriculture 2014*. Published by GUS. Warsaw

An important problem in Polish rural areas is the very low level of cooperation between farmers. Despite the financial incentives for farmer cooperation, the number of producer groups is growing very slowly, and the number of farmer cooperatives is much lower than it was before 1989. This is a very undesirable phenomenon because creation of producer groups and cooperatives would certainly contribute to reducing production costs for cooperating farmers, and would increase their chances of selling their products without intermediaries. Another negative factor is the low level of storage infrastructure for most agricultural products, and the fact that almost only unprocessed products are sold.

Gaps and recommendations

Maintaining interest of Polish farmers in organic farming and implementing agri-environmental programmes

Recommendations:

- The range of agri-environmental programmes that can be used by Polish farmers should be extended so that interested producers have a greater choice of programmes to implement.
- Increasing the amount of subsidies for implementing such programmes should also be considered, so that such subsidies are not just a compensation for the lost profit, but also provide financial incentive for the producers who implement the programmes.
- Educational activities are also necessary to promote the benefits of organic products to improve the recognition of the labelling of products produced with these methods. An option should be considered to introduce support for food producers that use organic farming products, so as to encourage them to extend the range of such food available on the market.

Low level of cooperation among farmers

Recommendations:

- Activities that are aimed at encouraging farmers to cooperate within producer groups and other such cooperatives are needed. These activities should both educate and promote good examples and should also have system-wide impact, such as extending the range of instruments supporting agricultural producers who have decided to cooperate with others.

Effective land-use planning and management are in place and assure equitable access to land.

From the point of view of sustainability and proper balance of agricultural production, one of the most important factors is to provide proper protection of agricultural land against its designation for other purposes. Even though modern technology makes soil-less cultivation possible, this type of farming does not have the features of sustainable production, while the open-field farming system in Poland is the main element ensuring the food security of the country.

Agricultural and forest land in Poland is protected under the Act on protection of agricultural and forest land⁸⁸. On this basis, it is primarily wasteland or land of the lowest utility for agricultural production that may be designated for non-agricultural and non-forest purposes. Designation of the highest quality agricultural land for non-agricultural purposes requires the consent of the Minister of Agriculture and Rural Development, and designation of forest land for other purposes requires the consent of the Minister of Environment (in case of land owned by the State Treasury) or the voivodship Marshal (in case of private forests). A person who has received permission to exclude the land from production shall pay a fee and annual charges and – for forest land – a one-off compensation payment.

Despite protective legislation agricultural land has been designated every year for non-agricultural purposes since 1989 (Fig. 10). In the opinion of experts, what raises particular concern is the permanent designation of the best quality soils (from I to III class) to non-agricultural use. In 2010, 31% of agricultural land whose status was permanently changed to non-agricultural production was made up of the best quality soils⁸⁹.

Designating agricultural land for non-agricultural purposes, its forestation and permanent abandoning of cultivation resulted in the decrease of the area of agricultural land in the years 1989–2012 by 3,677,000 ha (from approx. 18.7 million ha. in 1989 to 14 million ha. today). The area of arable land diminished to a similar degree (by 3.4 million ha.)^{90,91}. This translates to a 20% decline in the production potential of Polish agriculture over less than 25 years. Further loss of agricultural land at such pace, especially those with the highest quality classes of soil, may entail reduction of the sustainability of agricultural production and loss of Poland's food security. Therefore, from the point of view of sustainable agricultural production, introduction of stricter requirements for protection of agricultural land from non-agricultural designation should be prioritised, especially by improving the spatial management policy.

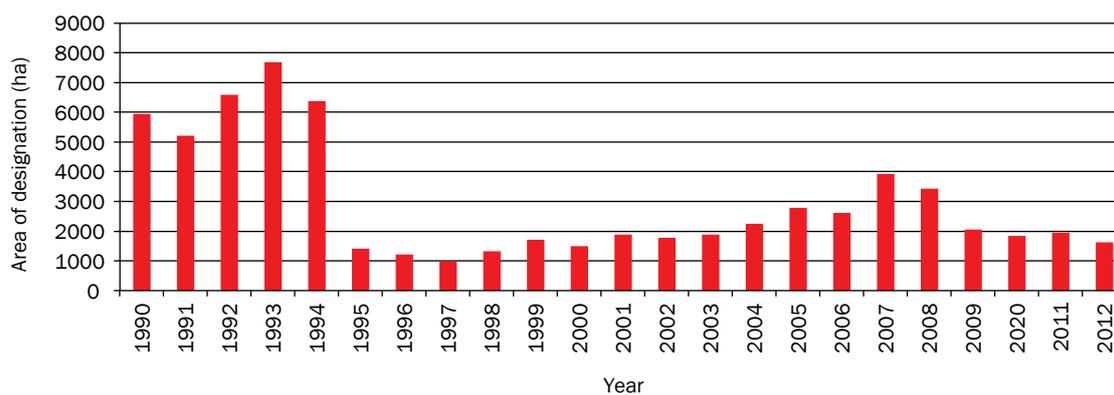


Figure 10: Area of agricultural land designated for non-agricultural and non-forest purposes in the years 1990–2013 (ha)

Source: After: GUS, *Statistical Yearbook: Environmental protection (years 2000, 2005 and 2014)*.
Published by GUS Warsaw

Nevertheless, the area of the agricultural land maintained in good agricultural condition stabilized in recent years (Fig. 11). The loss of agricultural and forest land is, to a great extent, caused by the collapse and lack of order in the spatial planning system⁹². Most of the country's area does not have local spatial development plans and investment decisions are taken on the basis of individual planning. This not only limits the ability to protect the most valuable agricultural land, but also prevents more comprehensive evaluation of the impact of an investment project to carry out sustainable agricultural production in its vicinity.

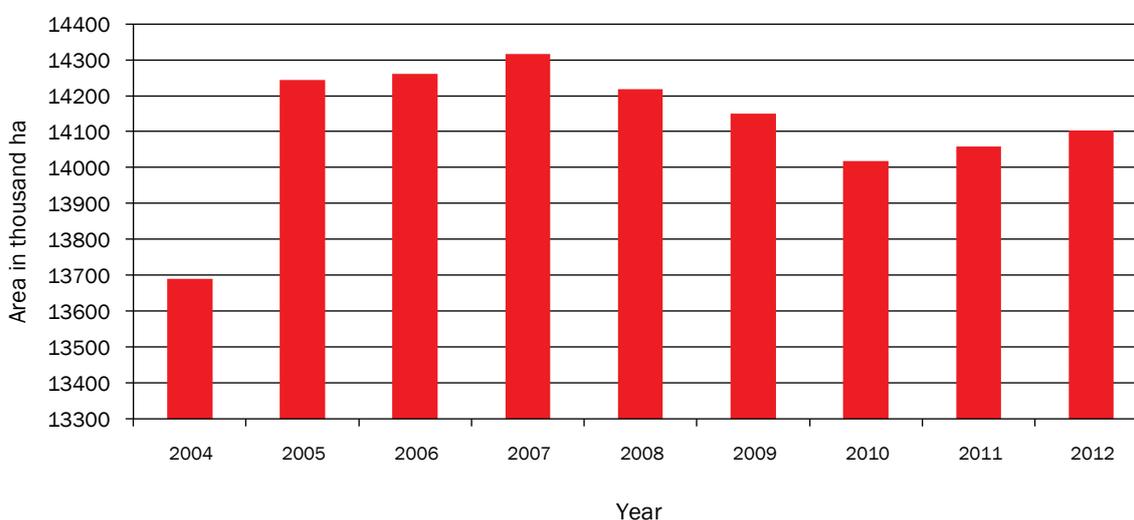


Figure 11: Area of agricultural land in good agricultural condition in the years 2004–2012

Source: Kozyra J., Siebielec G., 2014

Apart from the protection of agricultural land from its designation for other purposes, another important initiative that could impact the effectiveness and sustainability of agricultural production is the existence of a land market on which the producers interested in extending their production could purchase new land for cultivation. Unfortunately, such markets are very limited in Poland. These markets are limited because ownership of agricultural land, even with only minimal efforts in keeping it in good agricultural condition, guarantees subsidies from EU funds as well as tax and pension privileges. This results in relatively high prices of agricultural land. Since the end of 2004, the prices of agricultural land in Poland have increased by 380% (Fig. 12), and agricultural lands are currently priced at 6,500 Euro/ha. However, it is difficult to determine whether this increase is caused by real land value growth and the expected benefits from its agricultural use (theoretical value of agricultural products and subsidies per hectare of land in Poland is approx. 1,600 Euro/year), or it is caused by other factors (i.e. speculation and the lack of real land trading on the land market)⁹³.

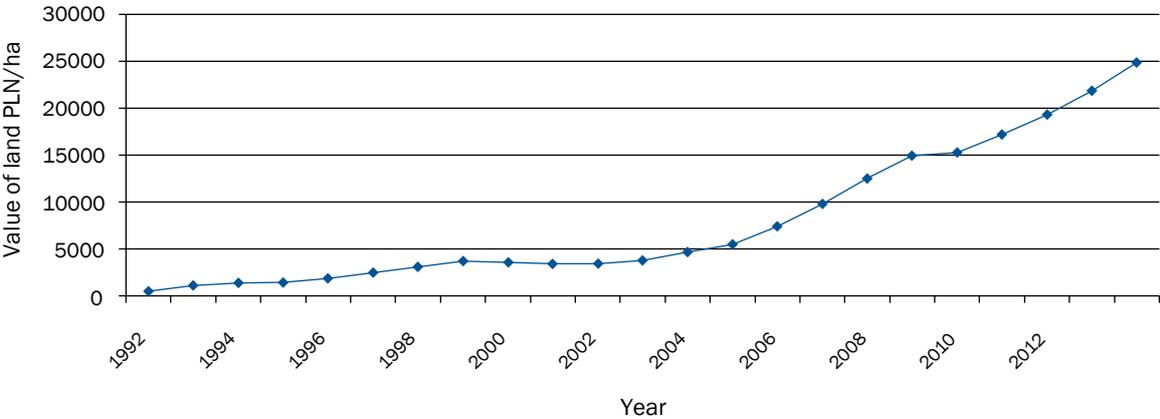


Figure 12: Changes in land prices (PLN/ha) in the years 1992–2014 (in current prices)
Source: Polish prices of agricultural land chasing Europe, 2014

The lack of a proper land market is one of the barriers to productivity growth in agricultural production, as it prevents concentration of land in farm holdings that produce for the market. Changes in this respect take place very slowly (Table 3) – still almost 50% of agricultural land is owned by farm holdings with an area smaller than 15 ha. In 2012, 1.8% of the biggest farm holdings owned about 22.3% of total agricultural land⁹⁴. The fragmentation of production is aggravated by the fact that most farm holdings own agricultural land in a few separate plots, sometimes located far away from one another.

Table 3: Farm holdings by area groups 1988-2012

	Year				
	1988	1990	1996	2007	2012
Number of farm holdings (thousand).	2 167,6	2 137,5	2 041,4	1 804,1	1 476,7
1 – 2 ha (% of total farm holdings)	18,7	17,7	22,6	23,4	20,2
2 – 5 ha (% of total farm holdings)	34,8	35,1	32,7	34,0	32,6
5 – 10 ha (% of total farm holdings)	29,3	29,8	25,5	22,2	23,8
10 – 15 ha (% of total farm holdings)	11,2	11,3	10,6	9,2	9,8
15 – 20 ha (% of total farm holdings)	6,0	6,1	4,4	4,3	5,0
20 – 50 ha (% of total farm holdings)	N/A	N/A	3,7	5,7	6,8
> 50 ha (% of total farm holdings)	N/A	N/A	0,5	1,2	1,8

Source: Bear-Nawrocka A., Poczta W., 2014: *Przemiany w rolnictwie [d] Polska wieś 2014. Raport o stanie wsi. Nurzyńska I., Poczta W. (d). Published by FAPA. Warsaw*

The significant fragmentation of farm holdings may be considered to be beneficial for biodiversity. However, excessive fragmentation of agricultural production makes the cultivation costs increase quickly, which may lead to the simplification of production and the failure to comply with the principles of good agricultural practice. That is why more active measures are required that would contribute to land consolidation in farm holdings with good development prospects. However, this process should be carried out so as to ensure that the eventual structure of agriculture incorporates more medium-sized family farms. Measures are also necessary to support cooperation among farmers and formation of different forms of cooperative activity.

Gaps and recommendations

Too much of agricultural land is designated for non-agricultural purposes.

Recommendations:

- It is necessary to strengthen the spatial planning system. Agricultural land should be designated for other purposes only if there is a local spatial management plan adopted for a given area, where the environmental links of the designated land are specified, together with its impact on the neighbouring areas.
- Introduction of legislation should be considered to restrict the designation of the most valuable agricultural land (I – III soil quality class) for non-agricultural purposes by including a provision that such land can be designated for non-agricultural purposes only in case of an investment project for public purposes.

High level of fragmentation of farm holdings

Recommendations:

- Consolidation of agricultural land should be supported, however, by defining the target model of a farm holding (specifying its size), the achievement of which will be supported by agricultural policy instruments.

Lack of a long-term vision of agriculture and its place in the economy

Recommendations:

- It is necessary to launch a wide public debate on the place of agriculture in the social and economic policy of Poland with the next few decades in mind. The purpose of this debate should be to develop national priorities for agricultural policy so that it would be better placed to pursue the interests of the country rather than be responsive to the aims and objectives of the CAP. As a result of increased national ownership in developing agricultural priorities, Poland would be able to engage in shaping the European policy in this area to a greater extent.

The quantity and quality of agro-ecosystems are maintained without destroying natural ecosystems

Sustainable agricultural production is characterised by the use of fertilisers adapted to the nutritional needs of crops. The total consumption of mineral fertilisers in Poland has remained at a similar level since 2005 (about 2 million tonnes) and is almost 30% lower than it was in the 1980s and in 1990s, but almost twice as high as it was in the middle of the 1990s (Fig. 13). This increase can be easily tracked with reference to the average consumption per unit of cultivated land, which increased twofold between 1991 and 2012. In 1991, consumption per unit of cultivated land was approximately 62.1 kg/ha, and in 2012 it was already about 125 kg/ha. This figure was, however, about 20% lower than it was in the 1980s.

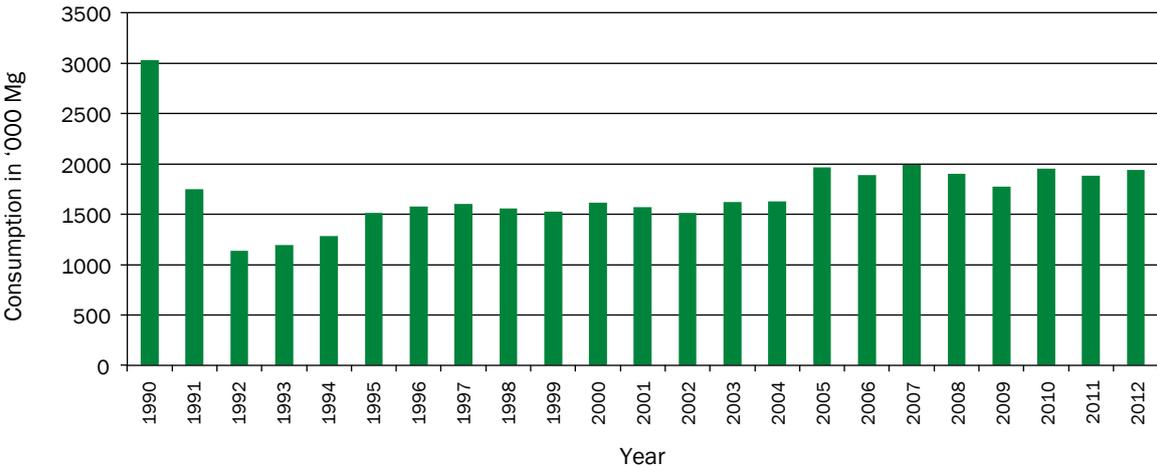


Figure 13: Changes in the consumption of mineral fertilisers in Poland in the years 1990 – 2012 (thousand tonnes)

Source: GUS, Statistical Yearbook: Environmental Protection (for the years 2000, 2005 and 2014). Published by GUS Warsaw

Furthermore, the way that many farmers use fertilisers is problematic. It diverges from the principles of sustainable agriculture. Only the biggest, commercial farms regularly monitor the need for nutritional substances in the soil, and on this basis, prepare and apply annual fertilising plans. The rest use fertilisers in a random and poorly controlled manner. The inappropriate use of fertilisers is the reason why agriculture is the main source of eutrophication of water in Poland.

A phenomenon that causes concern is the decline of calcium fertilisation (for soil de-acidification), from 117.2 kg/ha to about 34 kg/ha. This poses a significant threat to the stability of agricultural production in Poland because of the high percentage of acidic soil in Poland. Acidic environments make pollutants contained in the soil have more impact on crops – this applies particularly to heavy metals and pesticide residues. Acidic soil has limited production potential, which leads to decline in the volume of yield obtained from such soils. Acidification of soil also has an adverse impact on biological diversity of the organisms residing in it.

In spite of the wide-range educational campaigns carried out by agricultural advisory services, the problems of improper use of fertilisers and reduction of calcium fertilisation are increasing. It seems that the impact of these campaigns may be limited unless more farm holdings begin to produce for the market.

Another worrying phenomenon is the increased use of pesticides, which occurred after Polish accession to the EU (Fig. 14).

Even though the data presented above does not fully represent the use of plant protection products, as it shows the volume of sales of such products on the Polish market, it can be assumed, with great probability, that they show accurately the growing trend in the use of pesticides in Polish agriculture. According to this data, the current consumption is three times higher than in the beginning of the 1990s. It seems, however, that in reality, the increase has not been as high, but that the data for earlier years was underestimated, which resulted from the different statistical research methods adopted at that time⁹⁵. Even though precise data

confirming such a claim is not available, the increase in the consumption of pesticides might be a consequence of the progressing specialisation of farm holdings and introduction of more demanding varieties and species of crops. In this context, a positive phenomenon has been the introduction of new standards for the use of pesticides and training for people who use them. This reduces the risk of contamination of the natural environment and the risk to the health of consumers resulting from improper use of these substances.

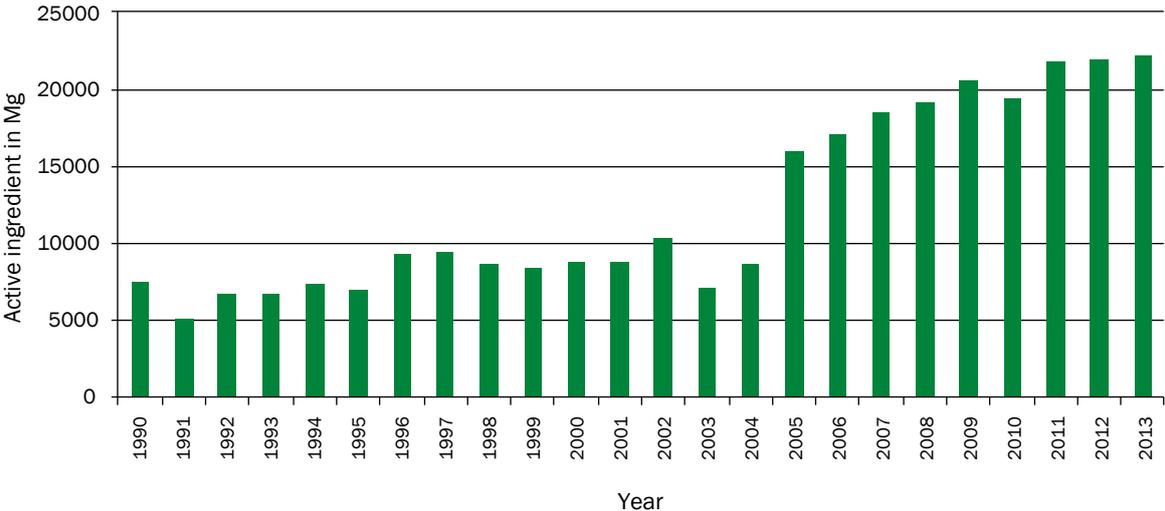


Figure 14: Purchase of pesticides in Poland in the years 1990 – 2013 (Mg of pure ingredient)
 Source: After: Statistical Yearbook: Environmental Protection (for the years 2000, 2005 and 2014). Published by GUS Warsaw

Gaps and recommendations

Most farm holdings apply fertilisers in an improper manner, without fertilising plans and without analysing the nutritional needs of crops.

Recommendations:

- Basing fertilising process on fertilising plans and analysis of nutritional needs of crops should be a requirement of the ordinary good agricultural practice.
- It is necessary to continue the education of farmers, showing them the benefits (including the economic benefits) of proper fertilising methods. Education programmes facilitating the use of appropriate fertiliser doses should be promoted.
- The farmers' compliance with the requirements concerning the periods in which the use of fertilisers (mineral and organic) is forbidden should be strictly monitored. It should also be monitored whether the buffer zones along water courses and banks of water reservoirs (where fertilising is not allowed) are maintained.

Reduction of organic fertilisation, simplification of crop rotation, lack of legume plants in crop rotation

Recommendations:

- Educational action is needed to point out the risks of lack of organic fertilising and simplification of crop rotation.
- Options should be considered to extend the agricultural policy instruments so that they can support, to a greater extent, introduction of legume plants in crop rotation, the use of catch crop and ploughing of post-harvest residue.

Increased use of pesticides, low level of knowledge about pesticides application

Recommendations:

- Educational activities are needed to develop farmers' knowledge about methods of pesticide use that are safe for the environment (choosing the right time for treatment, selection of the appropriate product and dose, complying with withholding periods, including withholding periods set for the sake of pollinating insects).
- Action is needed to support proper planning of agricultural space so as to strengthen the resilience of agro-ecosystems to disease and insects harmful for agricultural production.

Introduction of modern advisory methods with respect to sustainable use of chemical substances supporting agricultural production

Recommendations:

- There is a need to increase the engagement of the resources of agricultural advisory centres (ODR) with respect to appropriate use of chemicals in agriculture, taking into consideration the environmental protection requirements and to provide advisory services related to this issue, with the use of modern telecommunications.

SUMMARY

The evaluation of the level of sustainability of Polish agriculture is equivocal. On the one hand, the economic situation of farmers has improved, and the productivity of agriculture is growing, as is the value added generated by the sector. Thanks to the use of EU assistance funds, rural infrastructure (including environmental protection infrastructure) has improved, the number of farm holdings connected to water supply and sewage systems has increased, and companies responsible for waste management have begun to operate in rural areas. EU programmes have made it possible to make farms better equipped with machinery and other equipment necessary for effective production. Introduction of new technology and modern machines has increased the effectiveness of agricultural production – both in the yield on the cultivated crops and in animal production, which has led to higher incomes for farmers.

However, negative phenomena have also appeared. One of these is the ageing of the rural population and abandoning of the countryside by young people. The latter phenomenon has grown to a mass scale migration after the Polish accession to the EU and the opening of labour markets in the EU Member States (United Kingdom and Germany in particular). It is estimated that since 2004, more than 1.8 million people have left Poland for other EU Member States⁹⁶, many of whom have moved permanently. Although this process has, to a great extent, helped prevent unemployment in rural areas, in many places it has also led to problems with succession in running farm holdings. In spite of this, the land market has not developed, which makes it difficult for the effectiveness of agricultural production to improve.

Rural income stratification is a major problem. There are many more subsistence or semi-subsistence farms than there are small, medium or large scale farm holdings. This creates important dilemmas in agricultural policy – should it support farm holdings with good production prospects? Or should it counteract poverty and social exclusion? In the opinion of some experts, only about 100 thousand farm holdings (whose income exceeds 16 ESU⁹⁷) have the opportunity to develop and gain parity income. In addition, 100–150 thousand farm holdings with lower income may engage in commercial production, but their profitability depends on the ability to gain additional off-farm income⁹⁸. The question is then raised: will a reduction of the existing 1.5 million farm holdings to approximately 200–250 thousand farm holdings support sustainable agriculture?

Polish agricultural policy seems to lack long-term vision and the independent strategy for agricultural development instead of almost entirely following the goals and instruments of the CAP. It might be more beneficial for Poland to pay more importance to set goals that allow better utilising available funds to trigger desirable changes in the agricultural structure of the country. At the moment, farmers' income grows, but the chance to carry out profound modernisation of the sector is being lost.

That is why it is difficult to conclude in favour of Polish agriculture to be either sustainable or unsustainable. The process of European integration and the introduction of the instruments of the CAP provided the foundations to support a sustainable model of agriculture, underpinned by medium-size farm holdings, engaged in agricultural production that is not too intensive. Creating such a model will, however, require a lot of educational activity and redirecting all the instruments applied by the state to agriculture to achieve this particular goal.

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3: GOVERNANCE ARCHITECTURE AND SDGS IMPLEMENTATION OPTIONS FOR CLIMATE CHANGE AND ENERGY

SITUATION IN THE ENERGY SECTOR AND IN TRANSPORT

Energy sector

The status of the Polish energy sector is challenging to analyse. After 25 years of changes, the sector, protected by the state in different ways, is outdated and requires some fundamental reform, which means that some strategic decisions need to be taken and then consistently implemented over the next decade or so. These solutions can no longer be postponed. The main problems of the Polish energy sector are the following⁹⁹:

- Low productivity and low efficiency of energy use,
- Very poor diversification of sources and fuels, with the still predominating position of coal in electricity generation, reaching 90%, and too slow change/diversification of the electricity generation structure, with very negative economic conditions for coal extraction, especially hard coal¹⁰⁰,
- High level of emissions, resulting from low efficiency of electricity generation (efficiency of about 35% with the capability for 50%) and predominance of coal, especially lignite, in its generation,
- Low share of energy from renewable sources and their anachronistic structure (predominance of the inefficient technologies of biomass combustion for energy purposes and large-scale hydropower),
- Still low energy efficiency, in spite of significant improvement over the last 25 years. Energy intensity improved from 423 ktoe/1000 Euros of GDP in 2001 to almost 300 ktoe/1000 Euros of GDP in 2012, which, however, is still twice as much as the EU28 average¹⁰¹.
- In the years 1990–2012 coal mining and the coal-based energy sector generated additional cost for the society in the form of subsidies and external costs (such as lost health and environmental damage) of close to 900 billion PLN (approx. 208 billion EUR).¹⁰²

Considering the current situation and the challenges both for the next decade or so and until the year 2050, it seems that Poland's energy policy adopt a fundamental change of the model from the pro-coal to a pro-efficiency model, promoting energy from renewable sources.

Transport

In recent years, fundamental changes have taken place in the Polish transport system, which can be described as moving toward an unsustainable direction.¹⁰³ The key trend has been the priority of road transport over the previously dominant rail transport. The share of cars in passenger transport has changed from almost 42% in 1991 to 85% in 2012¹⁰⁴. Since 1990, the total number of vehicles has increased threefold; the number of cars per 1000 inhabitants has grown from 160 in 1991 to 482 in 2012¹⁰⁵. Since accession to the EU, Poland has imported as many as 1 million old cars per year (the average age of a car in Poland is about 15 years). Out of 67 billion Euro allocated to Poland for transport projects in the years 2007–2013 from EU funds, almost 70% has been used for transport which poses a risk for the environment¹⁰⁶.

SITUATION IN THE AREA OF CLIMATE PROTECTION

The system transformation since 1989 and the Polish accession to the EU have had enormous impact on the change in the greenhouse gases emissions. The emissions have declined from more than 564.2 Mt CO₂eq in 1988 to 396.0 Mt CO₂eq in 2013, which means a decrease by more than 29%¹⁰⁷. In spite of such significant reduction, emissions are still at the level of almost 10.3 t CO₂eq per capita and the economic development is accompanied by a very high carbon intensity index value, one of the highest in the EU¹⁰⁸, which results primarily from the coal-oriented energy generation structure. Poland's annual emissions level, according to the European Environmental Agency reaches almost 0.6 kg CO₂eq/1 EURO of GDP, that is, almost 1.7 times more than the EU28 average¹⁰⁹. Between 1988 and 2012, no essential changes took place in the structure of the emitted gases. Carbon dioxide predominates, accounting for more than 80% of all gas emissions. Whereas there has been a significant reduction of emissions (by more than 40%) from fuel combustion in stationary sources as well as from a number of industrial processes and from agriculture – from enteric fermentation (caused by significant decline in the cattle and sheep population). However, the rapid growth of emissions has been observed in the transport sector (accounts for almost 12% of total emissions).¹¹⁰

In the 1990s, Poland did not pursue any coordinated climate policy and the organisational structures of the bodies responsible for climate protection were poorly developed. At the beginning of the 21st century the climate protection issues began to appear more often in documents concerning the state's environmental policy. These planning efforts were crowned with the adoption by the government of the Climate Policy by 2020.

Right now, the strongest factor shaping Polish policy seems to be the process of Europeanisation, understood as the impact of European policy on the national reality. The stereotypical way of treating European climate policy as entirely unfavourable for Poland, leads to a situation where, even if EU proposals are deemed favourable, they are still criticised. In effect, the climate policy measures adopted by the European Union, for a big part of the Polish political and economic class, mean depreciation of the success achieved in meeting the targets of the Kyoto Protocol. For a country that was a leader in emissions reduction, Poland has become a “black sheep” of the European climate policy¹¹¹. This not only takes away from Poland the position of a leader in CO₂ emissions reduction, but it also forces politicians to justify the need for further action on the domestic scene. This results in growing frustration and favours attitudes such as¹¹²:

- Scepticism towards the results of scientific research indicating that human activity is responsible for the currently observed climate changes,
- View that action for the protection of climate can only generate costs for the Polish economy and will not bring it any benefits,
- Reluctance to take risk related to political consequences of yet another transformation and the real social problems related to the necessity to reduce the use of coal in Poland.

As a result, Poland has vetoed both the 2050 EU climate policy and energy policy targets. The discussion on emphasising the EU climate-energy policy goals until 2030 has also raised a lot of concerns from some politicians as well as entrepreneurs or experts that the 40% reduction on the 1990 level is very unfavourable for Poland. Eventually Poland has accepted the targets for 2030, obtaining several different derogations or compensations related to the coal-oriented character of its economy.

KEY INSTITUTIONS¹¹³

In Poland, the competencies in the sphere of climate and energy are split among various institutions, both at the central and at the regional or local level.

The energy policy, in a broad sense, is the responsibility of the Ministry of Economy, which has the following departments that deal with the issues discussed¹¹⁴: energy, nuclear energy, renewable energy, mining, innovation and industry and strategy and analyses department. The key role is played by the Department of Energy, and its remit includes:

- Drafting of Polish energy policy and the legal and regulatory environment with respect to electricity and heat sectors and coordination of the implementation of government policy;
- Ensuring the security of the operation of the national power system and implementation of clean coal technologies;
- Environmental protection with respect to reduction of greenhouse gases emissions.

The climate protection issues are the responsibility of the Ministry of Environment through the Department of Sustainable Development,¹¹⁵ which deals, among others, with:

- Carrying out climate protection policy, including the coordination of the process of negotiations at the forum of the United Nations Framework Convention on Climate Change, work on preparing the mid and long-term European policy in this area as well as work on the implementation of the Strategic Plan for the Adaptation of Sectors and Areas Vulnerable to Climate Change by 2020 with a Perspective until 2030;
- Carrying out resource efficiency policy, programming and implementing the instruments supporting eco-innovation and the development of environmental technology.

In addition, an important role for climate and energy issues is played by the Department of Forestry and Nature Protection, whose remit includes tasks such as formulating and carrying out forestry policy, nature protection, protection of forests and forest land; it also oversees a very important climate protection instrument, namely environmental impact assessments¹¹⁶.

Both in the area of energy policy and climate policy, other ministries also fulfil important tasks:

- Ministry of Agriculture and Rural Development, which is responsible for tasks such as: the use of renewable energy sources, including biomass, for energy purposes¹¹⁷.
- Ministry of Infrastructure and Development¹¹⁸, which coordinates the programming and the use of the EU funding, which, in significant amount, in the years 2014–2020, will be allocated for the implementation of projects in the area of energy and climate protection. In addition, the Ministry is responsible for:
 - Transport policy;
 - Preparation of technical and construction-related regulations concerning the technical conditions of buildings and their location (including the energy aspect) and matters related to energy performance of buildings.
 - Matters related to government programmes and strategies covering housing issues, implementation of instruments to support housing construction as well as renovation and thermal upgrading of housing resources;

- Preparation, implementation, monitoring of implementation and updating of the documents pertaining to the government concepts of the spatial development of the country and the national urban policy;
 - The area of planning and coordination of tasks related to crisis management, protection of critical infrastructure, including the risks and effects of weather extremes.
- Ministry of Foreign Affairs¹¹⁹, and within it, the Committee for European Affairs, which coordinates preparations for the European Council and the General Affairs Council. It takes part in the work of sectoral Councils concerning, for instance, environmental protection, climate and transport.
 - Ministry of National Education¹²⁰ with respect to raising environmental awareness and the Ministry of Science and Higher Education¹²¹ also with respect to raising environmental awareness and implementing policy on scientific and implementation research concerning energy and climate protection.
 - Ministry of State Treasury¹²², which, among other things, oversees the state enterprises for which the Minister of State Treasury is the founding body and performs other functions of a founding body. It is worth noting that a significant part of electricity generation is owned by the State Treasury as is the majority of coal and lignite mining sector.

The ministries leading on energy and climate protection issues have additional agencies to deal with the problems in question. The most important ones include:

- Energy Regulatory Office¹²³, established to perform tasks related to regulation of fuel and energy management and promotion of competition.
- National Centre for Emissions Management¹²⁴ established to ensure the proper operation of the national system of balancing and forecasting emissions and supervision of the implementation of the other flexible mechanisms of the Kyoto Protocol (JI and CDM).
- General Directorate for Environmental Protection¹²⁵, which is responsible, among others, for implementation of the principles of the environmental impact assessment system in the process of spatial planning and in the investment process.
- National Fund for Environmental Protection and Water Management¹²⁶ is an institution dealing with financing environmental protection and water management, including support for renewable energy, energy efficiency, climate change adaptation and financing ecological education as well as implementation research regarding these spheres.

Energy and climate policy issues, at the regional level, are within the interest of Marshal and voivodship offices, and at the local level – District Starost’s Office and city halls and municipal offices. There are a number of environmental non-governmental organisations, industry and self-government associations dealing with these issues, such as:

- Polish Climate Coalition¹²⁷, an association of 23 non-governmental organisations engaged in climate protection activities.
- Renewable Energy Employers Association¹²⁸, which aims is to create conditions for increasing the share of renewable sources of energy in the Polish energy mix for the development of green technology.
- Association of Municipalities Polish Network “Energie Cités”¹²⁹, a non-governmental non-profit organisation that cooperates with local governments on shaping local policies.

- The Polish Electricity Association¹³⁰, an association of the electrical power sector; activities focus on issues related to the functioning of the industry in a modern market economy.

The entire institutional structure is crowned with an important role played by the Parliament, that is, by both chambers – the Sejm and the Senate as well as the President and his office, who actively take part in approving the legislation that shapes the conditions for the development of the energy sector and the efforts for the protection of the climate (Fig. 15).

Assessing the entire institutional picture of the system managing the energy sector and the climate protection efforts, on the one hand – it seems to be an almost complete structure, but on the other hand it is partly fragmented, not fully coordinated. An illustration of this can be seen in the separation of climate negotiations within the Climate Convention, that is, a UN structure, from negotiations within the EU structures. The former are carried out by the Ministry of Environment, whereas in the latter, the Ministry of Foreign Affairs is the leader, with significant contribution from the Ministry of Economy. In the latter, the Ministry of Environment plays only a service role, in spite of the fact, that it is formally responsible for Polish climate policy. This leads to situations where the narrowly understood current economic interests, primarily of state owned companies, win over the long-term climate goals.

In the energy sector, even though the energy policy is in the hands of the Ministry of Economy, some of the issues related to RES, as well as energy efficiency, are situated beyond its powers. In addition, Polish energy policy, because of the necessity to care for coal-energy sector companies, which are owned by the State, is shaped, even in the long-term, more in the interest of those companies than in the interest of the entire economy and society. There is also a mismatch between the implementation of energy policy and the needs of climate protection, where the needs of climate protection definitely lose. Unfortunately, civil society and progressive business organisations as well as local government organisations seems to be politically weak and both energy and climate policies are constructed partly with a political agenda in mind. An important role, not always positive, is played here by trade unions, especially miners' trade unions.

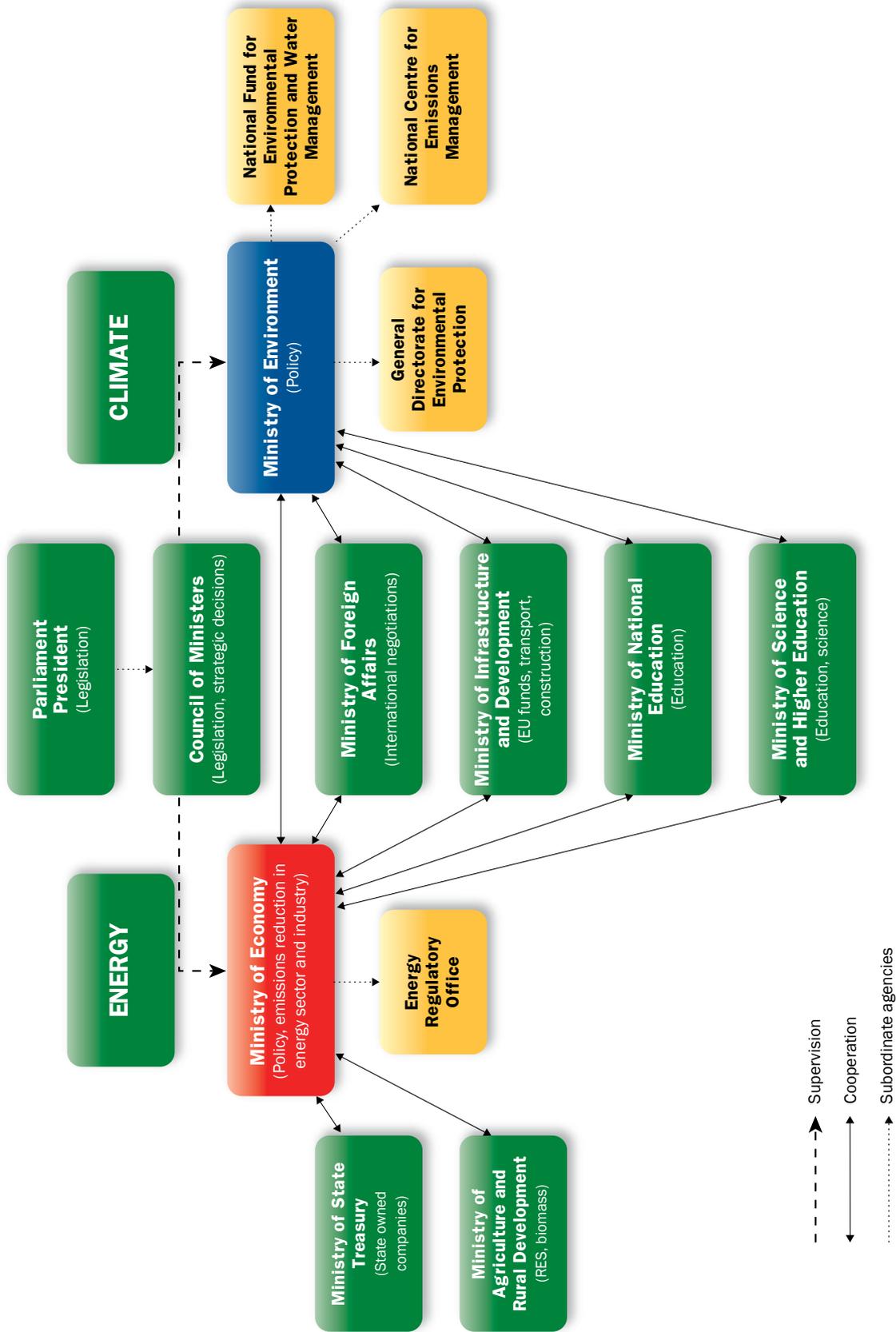


Figure 15: Organisational chart of the management of energy and climate issues at national level

KEY POLICY INITIATIVES

At the national level, a number of government planning documents were created concerning energy and climate issues, EU documents also address these themes. They cover either the development of the country in a comprehensive way or refer to individual themes; some papers have a horizontal character.

Economic strategies, including those concerning sustainable development

The main documents at the EU and national level addressing sustainable development are:

- Europe 2020. Strategy for smart and sustainable development and inclusive growth¹³¹. It defines an important priority: support for more resource efficient, environmentally friendly and competitive economy.
- The 2030 energy and climate package¹³². It includes the following targets:
 - 40% reduction of CO2 emissions below the 1990 level;
 - Share of RES at least at the level of 27% by 2030;
- Poland 2030. The Third Wave of Modernity. Long-term Strategy for the Development of the Country.¹³³ It is important to note that according to this document, renewable energy sources will be the second most important source for the power sector, after coal – 19% in 2020.
- National Development Strategy 2020¹³⁴ including the selected goals related to energy security and environment.
- An important role in building spatial structures that are energy and transport efficient and also resilient to climate change are outlined in the National Spatial Development Concept by 2030¹³⁵. The vision for spatial development is based on the five desirable features of space: competitiveness and innovation, internal cohesion, biological wealth and diversity, security and spatial order.
- A document closely related to the National Spatial Development Concept by 2030 is the National Strategy for Regional Development – Regions, Cities, Rural Areas¹³⁶.
- Innovation and Economic Efficiency Strategy “Dynamic Poland 2020”¹³⁷. One of its objectives is the sustainable use of natural resources and raw materials.

Low carbon economy and climate protection policy

The main documents at the EU and national level addressing the issue of low carbon economy and climate protection policy are the following:

- Poland’s Climate Policy. The strategies for greenhouse gas emission reductions in Poland until 2020¹³⁸. The strategic goal of Climate Policy is “...for Poland to join the efforts of the international community for the protection of the global climate ...” by achieving a 30% reduction of greenhouse gases emissions (with respect to the base year 1988).
- Road Map 2050, Action Plan for Transition to Competitive Low-Carbon Economy by 2050¹³⁹. It includes, among others, a cost effective path for the entire EU to the 80–95% reduction of greenhouse gases emissions by 2050.

- Environment Action Programme to 2020 ‘Living well, within the limits of our planet’. One of the priorities is to transform the EU into a resource efficient, green and competitive low carbon economy.
- A document that tries to combine the energy and climate aspects is the Strategy for Energy Security and Environment. Perspective 2020.¹⁴⁰
- Priorities of the National Programme for the Development of Low Carbon Economy¹⁴¹, the main objective of which is the development of a low carbon economy, at the same time as ensuring sustainable development of the country.
- Draft of the National Urban Policy¹⁴², where one of the objectives is to enable cities to seek spatial order, shift towards low carbon economy, protect the environment and adapt to climate change, in a coordinated manner.
- In reference to the White and Green Papers of the European Commission on adaptation to climate change, the government adopted a Strategic Plan for the Adaptation of Sectors and Areas Vulnerable to Climate Change by 2020 with a Perspective Until 2030¹⁴³. It sets objectives and directions for adaptation activities that should be undertaken in the most vulnerable sectors and regions by 2020.

Energy policy

The main documents at the EU and national level addressing the issue of energy policy are the following:

- Energy Road Map 2050 containing proposals for 10 structural changes in the transformation of the EU energy system¹⁴⁴.
- European Energy Security Strategy¹⁴⁵.
- The basic document on energy policy, formally still in force, is the Energy Policy of Poland by 2030¹⁴⁶. The directions of Polish energy policy, the objectives and tasks related to it include:
 - To improve energy efficiency;
 - To enhance security of fuel and energy supplies;
 - To diversify the electricity generation structure by introducing nuclear energy;
 - To develop the use of renewable energy sources;
 - To develop competitive fuel and energy markets;
 - To protecting the poorest electricity customers from the effects of electricity price increase;
 - To reduce the environmental impact of the power industry.
- Work is currently underway on a new document titled Energy Policy of Poland by 2050¹⁴⁷. It proposes creating conditions for sustainable and balanced development of the energy sector, contributing to the development of the national economy, ensuring energy security of the state and satisfying the energy needs of enterprises and households.

- National Action Plan for Renewable Energy¹⁴⁸ sets the national goals for the share of renewable energy use in the transport sector, power sector, heating and cooling sector in 2020.
- IIIrd National Energy Efficiency Action Plan for Poland¹⁴⁹. This document includes a number of measures to improve energy efficiency by 2020.

Transport policy

The main documents at the EU and national level addressing the issue of transport policy in the energy context are the following:

- White Paper – Roadmap to a Single European Transport Area. Seeking the creation of a competitive and resource efficient transport system¹⁵⁰.
- Transport Development Strategy by 2020 (with 2030 perspective).¹⁵¹ One of its objectives is to reduce the negative impact on the environment.

EVALUATION OF INSTITUTIONAL ARRANGEMENTS AND KEY POLICIES

In the Polish planning system, the energy and climate protection issues appear in a number of strategic documents. In fact, all the general and detailed points are covered in various papers. On the one hand, it seems that both strategic goals and operational objectives are formulated in this area, as well as the systems proposed for their implementation by setting directions for action and suggesting specific solutions, are all worth recognition. On the other hand, however, such abundance of planning documents leads to duplication of certain issues, to discrepancies between individual documents. This is combined with the lack of cohesion among those documents with regard to their subject matter. An example of that may be the provisions contained in the EU documents concerning the scale of greenhouse gases emissions reduction, the proposed share of RES in the energy mix and the level of energy efficiency improvement as compared to the provisions contained in the national documents. The approach to the issue of transport development is also an example of such discrepancy. The attempts to sort out the planning system in Poland have not been successful. It is significant that full assessment of the extent to which individual national policy documents are implemented is not carried out (the assessment that does take place is rather formal), and in particular, the reasons why the adopted objectives or targets have not been achieved are not specified.

SUSTAINABLE DEVELOPMENT GOALS – CAPACITY NEEDS FOR IMPLEMENTATION, MAJOR GAPS AND MONITORING FRAMEWORK

This section will draw on the proposed Sustainable Development Goal on energy and climate change presented in Sustainable Development Goals and Indicators for a Small Planet, Part I: Methodology and Goal Framework¹⁵². They are replicated below:

Goal Statement	Sub-Goal Statements
8. Climate change is effectively addressed while access to clean and sustainable energy is significantly improved.	<p>8.1 Everyone has access to sufficient energy and consumption is efficient and sustainable.</p> <p>8.2 The generation of clean and sustainable renewables has increased.</p> <p>8.3 The rate of GHG concentration increases in the atmosphere has been reduced.</p>

Poland's progress in each sub-goal statement will be evaluated, followed by the identification of gaps between the goal statements and current state with regards to energy and climate change. Recommendations will be provided to bridge the gap between the goal statements and Poland's current situation.

Everyone has access to sufficient energy and consumption is efficient and sustainable

The key problem for Poland is the power sector, which is based on hard coal and lignite, which account for 80%, and in the commercial power sector even 92% of all electricity generation (Fig. 16). This has some significant economic, social and environmental consequences. In August 2014, the Ministry of Economy presented a draft of the Energy Policy for Poland by 2050, which has been discussed above. Out of the three scenarios are proposed in the document, the so called sustainable scenario (still maintaining a significant share of coal in the energy mix) is the one that is most probable and bears the lowest risk of costs in case of taking wrong decisions. The direction proposed in the draft does not adequately correspond to the EU energy and climate policies, has been criticised by a number of experts and would contribute, significantly, to consolidating the monopoly of coal in Poland for the next 50–60 years.

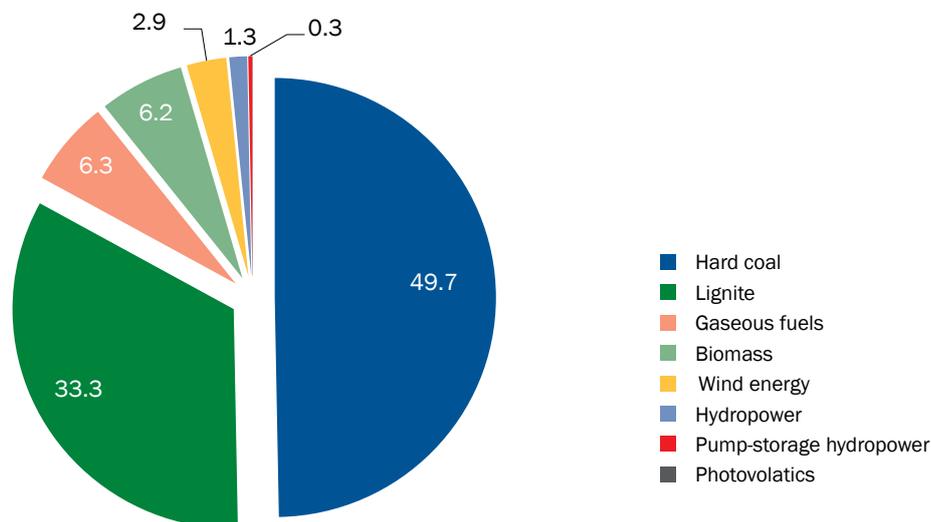


Figure 16: Electricity generation by energy sources in 2012

Source: <http://www.rynek-energii-elektrycznej.cire.pl/st,33,207,tr,75,0,0,0,0,0,podstawowe-dane.html>

In a sense, the situation is unique, because the power sector in Poland requires fundamental reform and restructuring, and now is the time when a significant change could be made from a coal-oriented model to an efficiency-oriented model with a substantial share of renewable energy. Almost 45% of the power generating equipment is more than 30 years old and about 77%, more than 20 years old. Since the forecast operation period for coal-fired generating units is 40–45 years, modernisation of the existing potential alone requires, according to the government, construction of sources with total capacity from 13 to 18 GW in the short term, which is practically impossible¹⁵³. Because of the old power stations, in Poland there is a risk of a recurrent shortage of the capacity to meet the electricity demand. This risk is not caused by the condition of the transmission grid, although blackouts may occur as a result of extreme weather conditions, but by the necessity to shut down the old generating units. Such situations may take place in the periods of the intensive planned renovation of those units. The existence of this risk is confirmed by the forecasted capacity shortage in the power sector in connection with planned shutdowns of power generation units.

This is combined with serious problems with the density, deterioration and capacity of the power grid, even though the electricity transmission system covers the entire country. The highest density of the grid is in the south of Poland, with the lowest in the north-east. Most transmission lines were constructed in the 1970s and the 1980s, and the technical condition of the lines, facilities and equipment depends on their age. The high and extra-high voltage networks are generally in good condition. Some of the facilities may continue to be operated for a decade or so. However, the 220 kV lines (total of 7,800 km) urgently require modernisation and conversion to 400 kV. With regards to the power distribution network, the 110kV lines have the highest degree of wear. About 50% of those lines were constructed more than 30 years ago and since then, because of legal obstacles and lack of resources, in most cases they have not been replaced or modernised, but have only undergone the required maintenance inspections and repairs. The situation is similar with regard to HV/LV transformer substations (more than 40% are 30 years old or older) equipped with outdoor devices directly exposed to factors causing more frequent breakdowns and faster wear and tear.^{154,155} An issue related to electricity distribution are power cuts resulting either from planned operations or unplanned and unexpected events. They are measured in minutes, as the total time of power outage per customer per year. In this regard, Poland's situation compared to its neighbours is very bad. In 2012 this indicator was 411 minutes per customer, while in Germany it was 14 times less¹⁵⁶.

Gaps and recommendations

Lack of a clearly defined energy policy of the country referring to the EU targets and ensuring sustainable development of the sector by 2050

Recommendations:

Preparation of a document defining the energy policy of Poland by 2050 in a broad public debate, accepted by the main political forces and focusing on¹⁵⁷:

- Ensuring sufficient generation/supply of electricity after 2015, when substantial shortages are expected.
- Enforcing equal treatment of energy generation and energy saving.
- Creating equal market conditions, including the external costs and subsidies, for distributed energy generation based on renewable sources as compared to commercial energy generation based on non-renewable fuels.
- Meeting the requirements of the energy and climate packages by 2020 and 2030 and further reduction of greenhouse gases emissions in the energy sector at the level of 93–99% by 2050 (clear message and stimulus for current action).
- Ensuring high quality energy services and significant reduction of fuel poverty all over the country.
- Including consumers in the process of energy generation and distribution as prosumers (customers).
- Using the energy sector to gain competitive advantage for the Polish economy while at the same time creating a great number of sustainable, environmentally friendly jobs.

Imminent risk of shortages in electricity generation

Recommendations:

Preventing the growing crisis in energy management should be treated as a priority; therefore the action should focus on the following:

- Modernisation and extension of power grid, creating so called smart grids and development of transmission infrastructure so as to enable the development of energy generation and distribution. This action should be taken as soon as possible.
- Significant increase of energy efficiency (e.g. by recognising that the public sector should play the role of a model in improving energy efficiency, by fully introducing the white certificates system, implementing new energy standards for buildings – they should not use more energy than 25 kWh/m² per year, etc.). These measures can be implemented immediately and within 2-3 years, reduce the demand for electricity equal to the output of a 3000–3500 MW power plant.
- Stimulating the growth of RES as the basis for distributed energy. Significant progress in this respect can be achieved within 2–3 years. In their current condition, the potential of RES amounts to approx. 22% of domestic energy demand.
- In emergency situations, apply the solution being prepared by PSE Operator S.A., that is, a procurement procedure for the so called “negawatts” that is, reduction in the off-take of electricity from the grid by big customers in a situation of power shortage in return for financial compensation.

Low quality of energy services, resulting mainly from the poor quality of power networks, especially distribution networks.

Recommendations:

- As in the previous recommendation, the starting point is the modernisation and extension of the power grid, creating so called smart grids and development of transmission infrastructure.
- It will be insufficient to focus only on transmission infrastructure, as planned in the programme prepared by the government, which in the years 2010–2016 plans to modernise or construct 2,800 km of high voltage lines (routes).¹⁵⁸ A significant extension of the network is necessary as a result of the appearance of new generation sources, especially renewable ones, many of them being distributed sources.
- Another solution could be a change in the way of building energy security by adopting a bottom-up approach. The creation of relatively self-sufficient local energy systems based on energy cooperatives is a solution that works well in Germany and in Denmark. Local energy groups make it possible to:
 - set energy prices at the level that is close to the cost of its generation and transmission by those groups,
 - make sustainable investments in energy, as well as the development and implementation of innovative solutions and renewable energy,
 - learn and influence the energy policy to take into account the objectives of local communities, such as the green environment,

- protect cultural heritage or the needs of future generations,
- develop local economies, including promoting green jobs and creating local energy sources to become independent from external supply.¹⁵⁹

The generation of clean and sustainable renewables has increased

Between the years 2000 and 2013, the volume of energy generated from renewable sources grew slowly. The share of renewable energy in the gross final energy in 2013 exceeded 11%, and Poland ranked 19 among EU Member States. In renewable energy, biomass predominates, but the dynamics of the wind and solar power development is high (Fig. 17).

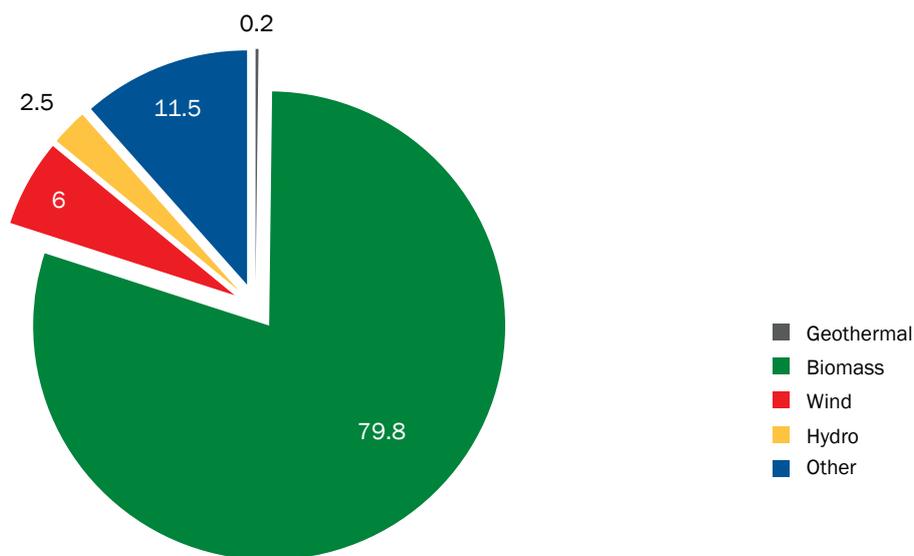


Figure 17: Share of different types of renewable energy in energy generation in Poland in 2013 (%)

Source: *Environmental Protection - 2014. Central Statistical Office. Warsaw 2014*

The main driver for the development of RES in Poland is commitments resulting from the 2020 Climate Package, according to which Poland must achieve 15% share of RES in energy consumption. In accordance with the targets adopted for 2030, the RES share in the EU shall reach 27% but the commitment has not been split among individual Member States. They are expected to volunteer their targets for 2030. If this turns out to be insufficient to achieve the required 27% for the whole EU, the European Commission will undertake efforts to ensure that the commitment is met.

On 7 December 2010, the Council of Ministers adopted the document National Action Plan for Renewable Energy. It sets the national targets for the share of renewable energy in the transport sector, the power sector, and the heat and cooling sector in 2020. The document provides that by 2020 the share of renewable energy will exceed 15% (Fig. 18).

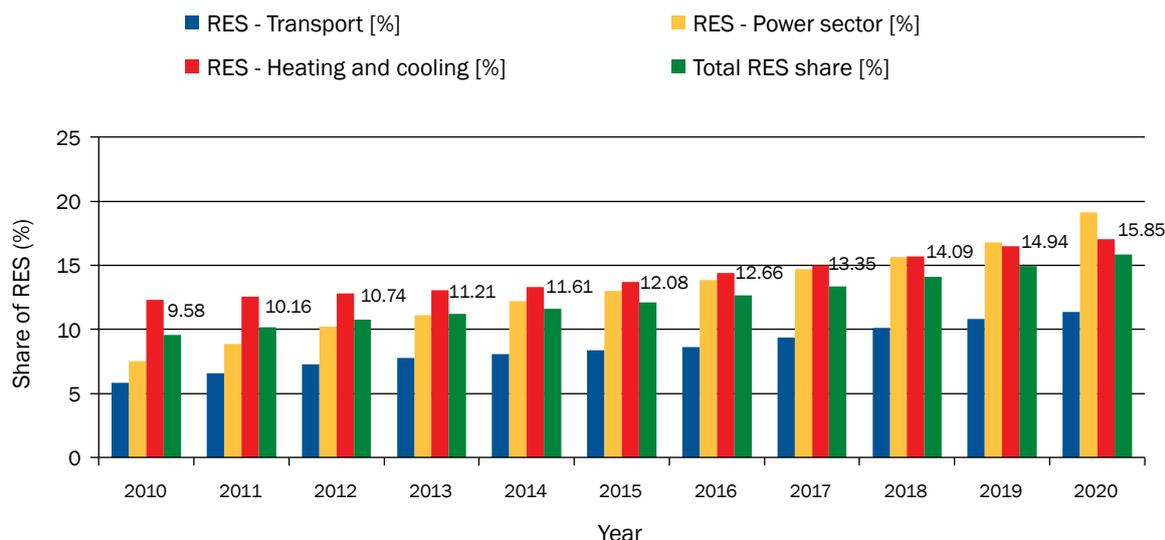


Figure 18: National target for share of RES by 2020.

Source: Supplement to the National Action Plan for renewable energy dated 2 December 2011.
Ministry of Economy

Recently efforts have been undertaken to promote renewable energy, including green certificates system, support systems offered by the National Fund for Environmental Protection and Water Management and the Renewable Energy Act, which provide the foundations for the development of the prosumer movement (customers who buy electricity from retailers, but also produce electricity themselves) in Poland. However, this is not enough to set large scale development of renewable energy in motion, including installation manufacturing. It is estimated that today, the renewable energy sector could, technically, satisfy about 50% of the demand. Its investment costs keep falling, so that soon they will be low enough for the sector to develop without any significant support. However, a problem still remains as to how to store the energy generated from such fluctuating sources as solar or wind energy. Finding solutions to this problem will open huge opportunities for the development of renewable energy. The countries that focus on this area today will be in a very good position in the future.

Gaps and recommendations

Insufficient legal, formal and financial support for RES development in Poland, particularly for small and micro-installations

Recommendations:

- Increasing the share of prosumer energy sources in the country's energy production balance, especially electricity. The high cost of such investment requires the use of appropriate support systems that would guarantee their systematic development. Such support could include:¹⁶⁰
 - Administrative procedures for civic energy should be made simple, fast and affordable.
 - One-stop shops should offer guidance to small investors from the feasibility/planning stage through to deployment.
 - Electricity from renewable sources should be granted feed-in priority over fossil fuel and nuclear power.
 - Feed-in tariffs should be the main form of support for civic renewable energy. It provides a simple and reliable way for producers to calculate their investments and returns accurately.

- In order to address supply fluctuations and their dramatic effect on peak electricity prices, the system of feed-in-tariffs could be complemented by energy management mechanisms to deal with fluctuations (e.g. net metering, smart grids and the development of storage capacity).
- These measures should apply also to the manufacturers of micro and small installations as well as to companies deploying and supervising such installations.¹⁶¹

The rate of GHG concentration increases in the atmosphere has been reduced

Poland reduced greenhouse gases emissions compared to the baseline year of 1988 by almost 30% (by 16% compared to 1990). The requirements imposed within the EU mean that Poland must look for ways to further reduce emissions, even though in recent years, their level has remained unchanged, about 400 m t CO₂eq. The current EU targets provide for reduction of emissions by 20% in 2020, 40% in 2030 and 80–95% in 2050 compared to 1990. This is a serious challenge for Poland, particularly because of the coal-based structure of the energy sector and the dynamically developing automotive sector.

From the point of view of meeting the EU emissions reduction targets, it is of key importance to depart, in an evolutionary but consistent manner, from using coal in the energy sector. This applies both to hard coal and to lignite. Because of the difficult geological conditions, high exploitation costs and low market prices, the hard coal mining sector faces a period of deep restructuring. The resources of hard coal, which can be extracted with relatively effective methods, are also shrinking and even the most optimistic experts forecast the deepening decline in coal mining. In 2030, the volume of coal extraction will be smaller than the volume of necessary import, and in 2050 the volume of coal extraction will be 28 million tonnes compared to the current 70 million tonnes. Can Poland found its energy security on such resources?¹⁶²

With regards to lignite, the situation does not look good because of the low calorific value of this fuel and the very serious social and environmental consequences of its exploitation. Currently, Poland extracts about 60 million tonnes of lignite. The maximum available capacity of power plants fired with lignite reached the highest level at the end of 2011 (9,563 MWe), and according to the current Energy Policy for Poland by 2030¹⁶³, the capacity of lignite-fired power plants will increase to 10,884 MWe. As M. Wilczyński, Poland's former chief geologist writes, "over 60 years of mining activity of this sector, more than 20 billion tonnes of rock has been moved, including almost 2.4 billion tonnes of coal, and 14.5 billion m³ of water has been pumped out. This aggressive interference with the natural environment has contributed to several serious earthquakes. It should also be remembered that extracting 1 million tonnes of lignite leads to occupying 6 to 8 ha of new land". A solution to the problems of the energy sector in Poland is the low carbon economy. As M. Wilczyński writes, the main arguments for Poland's to enter the long path of transformation right now are the following:

- The lignite resources already available to maintain the full capacity of the existing lignite-fired power plants will last until 2035, and making new lignite resources available will incur huge losses;
- The inhabitants of the Lubin region strongly oppose the construction of a new mining and power plant complex and a formal resolution against this investment project has been adopted by the Dolnośląskie Voivodship Assembly;
- As a result of the irrational management, the reserve of hard coal shrank four times between 1990 and 2010, to less than 3 billion tonnes; in 2030 they will amount to 0.39 billion tonnes;
- Extraction of hard coal in 2050 may reach 28 million tonnes¹⁶⁴;

- Low profitability of underground coal extraction in Poland and the falling prices of imported coal from the East, South Africa and the US pose a threat to the existence of Polish coal mines over the next few years;
- According to the decision of the European Council No. 2010/787/EU, all uncompetitive coal mines in the EU must be closed before 31 December 2018;
- The necessity to part with the myths of “clean coal burning” and underground storage of CO₂;
- It will be very difficult for Poland to comply with the provisions of the new Directive 2010/75/EC, which introduces stricter air quality requirements and control, if it plans to continue its coal-oriented energy policy;
- Growing environmental awareness of the civil society in a democratic state will not allow further tolerance for pollution of soil, air and water.

Adopting a low carbon strategy makes it possible to reduce the energy sector emissions (by 70% compared to 1990) and it can be achieved at the cost comparable to the reference scenario (business as usual) even without emission charges. If the emission reduction target were higher (90%) it would be necessary to use the relatively costly and socially controversial carbon capture and storage (CCS) technology, whose economic viability would depend on the future level of emission charges.¹⁶⁵

Apart from the significant change of the energy mix towards the renewable and gas-fired energy sector, an important path to emissions reduction is higher energy efficiency. As it has been written in the National Action Plan for Energy Efficiency for Poland – 2014, the country has made significant progress in efforts to achieve the national target to save by 2016 at least 9% in final energy compared to the average national use of final energy in the years 2001–2005. GDP has grown at a faster rate than energy consumption, resulting in a decline in energy. In the years 2006–2009, the rate of improvement exceeded 5%. Industry is the sector of the economy where the demand for final energy is the highest, although its demand decreased from about 38% in 2000 to 30.5% in 2011. At the same time, the demand for energy increased significantly in the transport sector – from 16.8% to 25.4%. The share of household consumption fluctuates within the range of 27–29%, whereas the share of energy consumption in agriculture fell from 7.7% to 5.2%. The gap between Poland and the European average with regards to the most important energy efficiency indicators shrank to more than 10%.

However, with respect to the most efficient economies, it is still considerable. The reduction of primary energy consumption adopted by the government in the document “Energy Policy for Poland by 2030” leads to the reduction of energy consumption by 12% compared to the “business as usual” scenario.¹⁶⁶ However, it is necessary to undertake bold, systematic and coordinated action to pursue the modernisation scenario for the Polish economy so as to build and maintain its competitiveness for the forthcoming decades. A properly constructed climate policy should have a chance to permeate into all aspects of the social and economic life and lay solid foundations for a modern, ecological, developed Poland.

It is worth noting that an increase in energy consumption is not necessary to sustain economic growth. In spite of a significant improvement in the energy efficiency of the economy after 1989, efforts supporting such improvement still have a lot of potential to bring about even more energy savings and to reduce the harmful impact on the environment and human health.

Gaps and recommendations

Lack of a comprehensive programme for building a low carbon economy and improving energy efficiency

Recommendations:

- If comprehensive modernisation were undertaken, first of all in construction and transport sectors, it would be possible to maintain the historic rate of energy efficiency improvement also in the coming decades, thanks to which the final use of energy in Polish economy might even fall to the current level, in spite of the fact that the wealth of the Polish society during the same time would grow threefold.
 - The main measures that would allow this to happen should include thorough thermal upgrading of existing residential and commercial buildings and a gradual shift towards passive buildings for new construction.
- Apart from the significant increase in heat and electricity conservation, there is a considerable potential for the low carbon agenda in transport, mainly in three areas – behaviour, spatial planning and technology.
 - In behaviour, the point is to promote and develop ecological forms of passenger transport – especially rail transport, providing a convenient, “green” alternative to cars and aircraft. Behaviour changes also include improvement of local transport effectiveness, specifically, increasing the share of public transport, walking and bicycle use in everyday urban travel as well as more effective use of cars in medium-distance travel.
 - This approach requires support from spatial planning to assist the creation of less energy- and transport-intensive spatial structures.
 - Apart from changes in behaviour and spatial planning, there is a lot of potential in technological changes:
- In the construction of cars and their engines, reducing the weight of cars and improving their aerodynamic characteristics.
- Electric cars are still at an early stage of development; however, hybrid combustion/electric vehicles are mass produced these days, gradually gaining popularity.
- At the same time, manufacturers compete to offer more and more economic vehicles with traditional engines. Thus in the modernisation scenario there is room for separating growth in competitiveness from increases in energy consumption (Fig. 19).¹⁶⁷

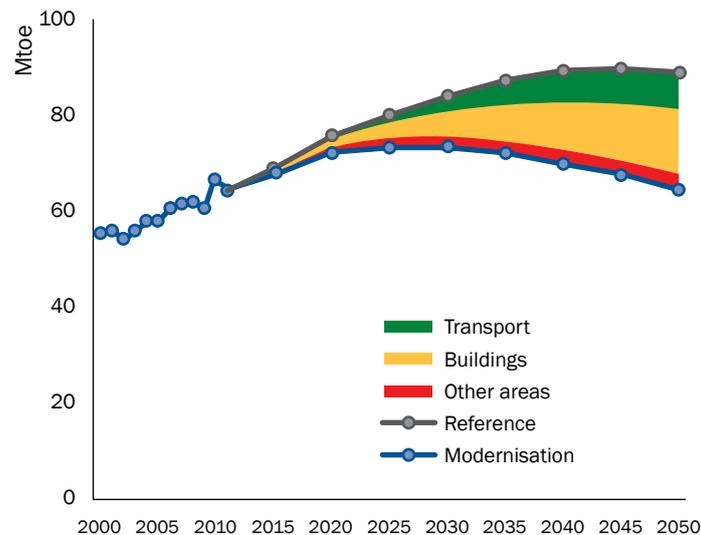


Figure 19: The amount of cumulated energy saved in the modernisation scenario by 2050

Source: np2050.pl. *The Journey to the Low-emission Future*. Edited by Bukowski M., Warsaw Institute for Economic Studies, Institute for Sustainable Development, European Climate Foundation. Warsaw, 2013

- Technological changes to reduce the emission-intensity of Polish industry will be possible by taking advantage of the reserves hidden in better energy management during the production process and in a more carefully thought out management of limited resources.
- For agriculture, modernisation means primarily reaching for the economic potential hidden in post-production residue and using it for economic purposes. In the modernisation scenario, an assumption is made that the branch structure of the industry is shifting towards manufacturing less energy-demanding, higher value added goods. Energy-intensive branches introduce innovations, improving the technical parameters of their production and they enhance economic advantage by utilising the resources hitherto wasted.
- In order to achieve the intended low carbon modernisation of the economy, it is necessary to undertake decisive action, which is illustrated in the Table below (Table 4)

Table 4: Goals of climate policy and action leading to their achievement in individual regulatory areas

AREA	GOALS	ACTION
TAX REFORM	To ensure allocation of funds enabling support for low carbon transformation	<ul style="list-style-type: none"> • Increasing taxes and abolishing tax reliefs for goods related to non-renewable resources • Reducing tax burden on labour • Increase in expenditure on innovation
EDUCATION AND SCIENCE POLICY	To raise public awareness of the benefits to be gained from the effort of low carbon modernisation	<ul style="list-style-type: none"> • Environmental education, shaping the labour supply structure adequately to the transformation needs • Adapting school curricula, with emphasis on education of entrepreneurs • Strong public support for new technology in the revised system of innovation management
SUSTAINABLE ENERGY SECTOR	To modernise the energy sector to ensure energy security of the country	<ul style="list-style-type: none"> • Reaching consensus of interests on the domestic front • Development of projects for energy management and smart power grids • Making the sector more market-based and more flexible • Creating conditions for RES development
SUSTAINABLE MOBILITY	To stop the growth in the emission intensity of the sector	<ul style="list-style-type: none"> • Introducing appropriate emission and noise standards for vehicles • Promoting public transport and low carbon solutions in mobility patterns • Development of alternative drive technologies • Emphasis on proper spatial planning in the context public spending on infrastructure
AGRICULTURE	To support low carbon modernisation and to improve the quality of Polish agriculture	<ul style="list-style-type: none"> • Educating farmers on the challenges and opportunities of climate policy • Advising on proper agricultural and husbandry practices • Setting proper rules for protection of agricultural land • Promoting change in eating habits of the society
ADMINISTRATIVE UNITS	To complete modernisation activities in the public sector areas of responsibility	<ul style="list-style-type: none"> • Using obligatory environmental criteria in public procurement procedures • Raising public interest in the issue of carbon footprint • Certification as a tool for raising consumers' awareness about the origin of the purchased products

Source: *np2050.pl. The Journey to the Low-emission Future. Edited by M. Bukowski. Warsaw Institute for Economic Studies, Institute for Sustainable Development, European Climate Foundation. Warsaw, 2013.*

One of the more important effects of low carbon transformation will be a significant reduction of emissions. Emissions in 2050 under the modernisation scenario would be 2/3 lower than in the reference (BAU) scenario and by 63% lower than 1990 (Fig. 20). The tendency for gradual growth of emissions visible since 2003 has slowed down considerably in this decade to reverse in the next. The basis for the reduction of emission-intensity of Polish economy is the gradual diversification of the sources for electricity and heat generation, where most of the reduction comes from low carbon technologies (including RES, distributed energy, possibly nuclear energy, gas and integration with the European energy market). Figure 20 illustrates that reducing emissions in 2050 by half as compared to 1990 does not require expensive CCS technologies. Considerable reduction also comes from improvement of energy efficiency of buildings, reducing the fuel-intensity of the Polish car fleet, and dissemination of more sustainable practices in agriculture and waste management.¹⁶⁸

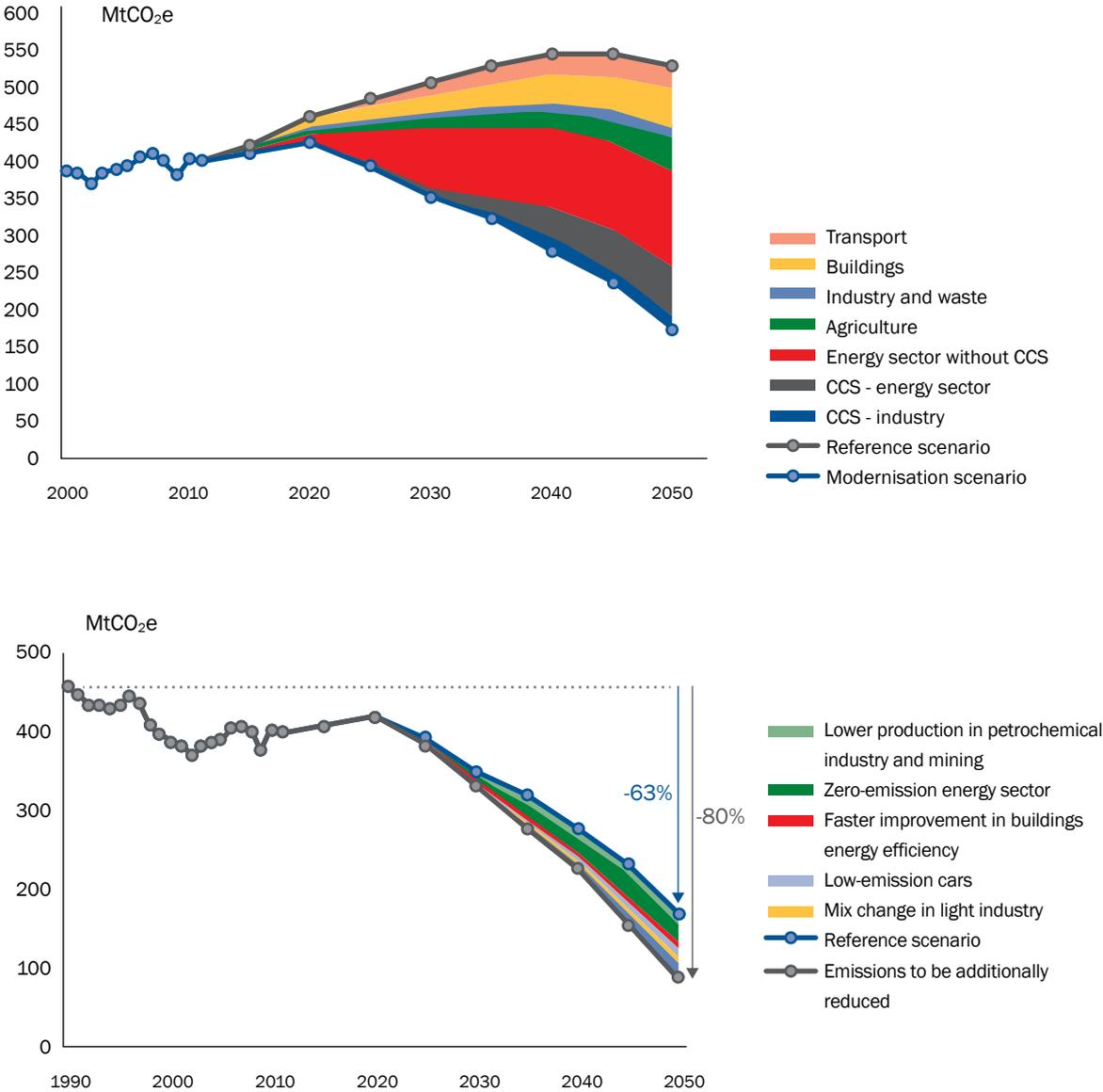


Figure 20: Greenhouse gases emissions by 2050

Source: np2050.pl. *The Journey to the Low-emission Future*. Edited by M. Bukowski. Warsaw Institute for Economic Studies, Institute for Sustainable Development, European Climate Foundation. Warsaw 2013

SUMMARY

Moving forward, Poland will need to focus on building a low carbon economy, paying particular attention to improving energy efficiency and transitioning from a coal-reliant economy to one that incorporates alternative, renewable energy sources. This will be possible through a coordinated, cross-sectoral movement towards modernisation – notably in the energy, construction, and transport sectors. This would be beneficial for building up a sustainable energy source, which is important considering the declining resources of hard coal available, and the need to comply with EU directives on air quality. This is also relevant for addressing climate change; though Poland has reduced its emissions significantly compared to the baseline year of 1988, it will need to transition out of the coal-based structure of the energy sector in order to reduce greenhouse gas emissions to match the current EU targets.

Such necessary modernisation, however, will be difficult to implement due to political and social resistance towards the reduction in the reliance on the coal sector, as well as the persistent belief that reducing emissions and adopting clean energy can only bring costs and no benefit to the Polish economy. This is perhaps where the Sustainable Development Goals could be used – as a catalyst to spur public pressure and consolidate political will to undertake a comprehensive movement towards modernisation.

An important aspect of the changes for modernisation is the fact that they support each other. If the reduction of the use of heat in households and in services leads to reduction in direct demand for fossil fuels, at the same time, the changes in the energy demand structure push it towards electricity, stimulating a reduction in emissions in the energy sector. In addition, low carbon technologies meet modernisation, and together go on to reduce greenhouse gases emissions. A similar relationship, although not on such a scale, can be noticed between agriculture and the transport sector (biofuels), or between waste management and thermal upgrading (heat energy for cities). This means that partial implementation of each of the sections of the programme separately from the other sections would yield less results than implementing them all together.

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¹⁰⁵ Retrieved from: <http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsdpc340> Accessed on: 29.07.2014

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- ¹¹⁷ Retrieved from: <http://www.minrol.gov.pl/>
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- ¹²¹ Retrieved from: <http://www.nauka.gov.pl/>
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- ¹²³ Retrieved from: <http://www.ure.gov.pl/>
- ¹²⁴ Retrieved from: <http://www.kobize.pl/>
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CONCLUSIONS AND CONSIDERATIONS FOR THE WAY FORWARD

Implementation of the SDGs will require efforts of multiple stakeholders at different governance levels. The agreed goals would most likely tackle a number of issues that would require setting priorities at the country level in order to make them materialise. Given the number of goals and targets being currently considered in the negotiation process, there is a need for countries to decide on targets that can contribute to the global SDGs according to their capacity and strategic development priorities at the national level.

The task of implementing SDGs will be a complex one. Financing will be limited. Therefore, it is crucial to plan ahead and have a realistic agenda in place. It is recommended to make an overview of existing policies and goals that already tracked SDGs-related areas (as was done in this study for limited scope). This overview can help to avoid doubling the structures dedicated to monitoring similar issues and build on existing mechanisms that have been set.

This country study presents an overview of multiple mechanisms already in place, on which the SDGs implementation framework should be built. Taking into account Poland's experience in implementing various EU policies, the SDGs implementation should rely on the already existing governance structure.

Considering the significant amount of work already completed on sustainable development, we can only recommend for the implementation of SDGs:

- 1) Look first at what already exists in countries' national documents, sectorial strategies and map how they are aligned with SDGs
- 2) Assess how SDGs can they be integrated into existing documents based on national priorities
- 3) Decide on the national targets based on a realistic assessment of capacity and resources available at the national levels
- 4) Retain additional targets that will be achieved if there is available funding at the international level
- 5) Prepare implementation and monitoring frameworks based on previous experiences.

Domestic resources mobilisation may include actions such as:

- Improving tax collection
- Addressing corruption challenges
- Facilitating access to banking, financial services and insurance (especially for the poorest)
- Eliminating as much as possible subsidies on fossil fuels and evaluating existing subsidies and their impact on agriculture & energy sectors
- Providing support for sustainable practices by modifying the wording in existing policies and implementing new ones
- Seizing existing opportunities to internalise externalities.

BUILDING ON EXISTING FOUNDATIONS

One of the fundamental assumptions of ASEF's Small Planet report series was that national efforts to develop and implement SDGs should build on existing structures and institutions. In all Small Planet countries, national strategies and governance structure address, to a certain extent, the challenges discussed by the Open Working Groups. The review of Polish policies related to the three topics clearly indicates that the existing governance mechanisms are sufficient to face SDGs implementation challenges. Moreover, making the structure leaner and simplifying the coordination should contribute to increased efficiency in delivering SDGs.

Comparing the increase in relative poverty and income inequalities with the growth in GDP inevitably leads to a conclusion of the unsustainability of the economic development of the Polish society after 1989. Despite multiple initiatives and evident successes following the Polish accession to the EU, so far these have not led to a sound reduction of poverty. The poverty and social exclusion indicator is still above the EU average and GDP per capita is well below the EU average. The issue of income inequalities is not explicitly the subject of public policies. In spite of tangible progress in this area, Poland still faces many challenges: poverty of the working and the homeless, of families with many children, women, disadvantaged people, farmers as well as regionalisation of poverty and large-scale emigration. In the area of public policies, a number of challenges can be listed:

- relatively scarce social policy compared to the other EU Member States;
- the effectively regressive tax system;
- balancing the pension system, which is at risk as a result of demographic changes;
- adjusting the regional development policies and creating a system of early childhood education and care to even out the educational opportunities of children.

Changes in agriculture that have taken place over the last 25 years have led to an improvement in the economic situation in agriculture and to the development of organic farming and food processing. At the same time, they have resulted in tendencies to create unsustainable agriculture practices resulting from growing industrialisation and persistent sub-standard conditions of a number of farms, not only from the production but also a social and environmental point of view.

Concerning electricity supply and climate protection, two trends clearly appeared. On the one hand, the country has been growing dramatically without increasing its energy use – starting from a base far below the EU average, energy efficiency has improved, and greenhouse gas emissions have been significantly reduced. On the other hand, the energy sector is outdated and requires fundamental modernisation. The primary sources of energy, coal and lignite create serious economic, social (mainly public health), and environmental problems. Energy efficiency and development of renewable energy sources are not priorities. Low carbon development that would enable thorough modernisation of the country remains a challenge. Decarbonisation strategies are not fully accepted at the political, economic, and social level, as it would likely require a major reduction in the reliance on the coal sector.

That is why it will be so important to treat the SDGs with due regard to build up strong public pressure to consolidate political will on the part of the decision-makers.

MONITORING AND REVIEW

One of the conditions of effective and accountable governance is the existence of robust and reliable monitoring, review, and reporting mechanisms. These mechanisms should include a set of clear performance indicators, tied to the goals and targets.

This study revealed an existing comprehensive indicator framework and reporting mechanisms at various governance levels that might be sufficient to support the SDGs' implementation. The development of new reporting and review mechanisms should be carefully considered to avoid adding unnecessary reporting burden on top of existing obligations related to various international conventions and those required for the EU.

Furthermore, given the relevance of the SDG agenda for society as a whole, there is a need for "socialising" monitoring and review by making its results available to the public in a straightforward form, understandable to non-technical audiences, as well as involving the public in gathering evidence.

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ANNEXES

ANNEX 1: CALCULATING THE LEVEL OF POVERTY IN POLAND: METHODOLOGY

The level of poverty in Poland is monitored by the Central Statistical Office (GUS), which applies three fundamental measures: extreme poverty line, legal poverty line, and relative poverty line.

Extreme poverty line – is expressed as the value of the basket of goods and services per family member in a household that are necessary to sustain the biological existence of a person. Removing any of the components of the basket may lead to a threat to the psychosomatic well-being or even death. The value of the basket is also referred to as the subsistence minimum and is calculated in Poland by the Institute of Labour and Social Studies. In 2013, in a single-person household it amounted to 541.91 PLN, in a four-person household - to the total of 1850.85 PLN (462.71 PLN/per person).

Legal poverty line – is defined as an income threshold per family member in a household which entitles a person to receive welfare benefits. The threshold is set by the government on the basis of the consultations at the Tripartite Commission and the Social Policy Council. Since 2012, the threshold has been set at 542 PLN for a single-person household and 456 PLN for households with two or more persons.

Relative poverty line – is defined on the basis of a threshold constituting 50% of the average expenditure in a household. This indicator illustrates the economic distance of a given household to the average spending capacity of households in Poland.

The definitions of poverty are sorted according to the growing value of the threshold that qualifies to a given category. The groups that meet the conditions for the lower thresholds are entirely included in the group of relative poverty where the threshold is the highest.

Since 2005, the Eurostat methodology has also been applied to study poverty in Poland. This is a consequence of Poland joining the European Union and the necessity to introduce a uniform European methodology that makes it possible to compare data for individual countries. Therefore, in the entire EU the “at risk of poverty or social exclusion rate” is used, calculated on the basis of three criteria. (A.) A household is at risk of poverty if its income is lower than 60% of the median disposable income in a given country; (B.) If a family declares that they are not able to meet, for financial reasons, four out of the nine fundamental needs, it is considered to be in deep material deprivation. (C.) If the working time of the family members was lower than 20% of the full annual potential working time, we are dealing with a family living in households with very low work intensity. If a household meets at least one of these criteria it is classified as at risk of poverty or social exclusion. The groups meeting the individual criteria may, but do not have to, overlap.

ANNEX 2: REGIONAL DISTRIBUTION OF POVERTY

	At-risk-of-poverty rate	Material deprivation index	Low work intensity indicator
Voivodships with highest risk	<ul style="list-style-type: none"> • lubelskie voivodship (31.3%) • świętokrzyskie (25.5%) • lubuskie (25.1%) 	<ul style="list-style-type: none"> • zachodniopomorskie (23.5%) • lubuskie (18.8%) 	<ul style="list-style-type: none"> • lubuskie voivodship (13.2%) • dolnośląskie voivodhsip (8.5%) • opolskie (8.4%) • warmińsko – mazurskie (8.3%)
Voivodships with lowest risk	<ul style="list-style-type: none"> • dolnośląskie voivodship (12.8%) • śląskie (13.0%) • opolskie (13.4%) 	<ul style="list-style-type: none"> • podlaskie voivodship (5%) • wielkopolskie (7.5%) 	<ul style="list-style-type: none"> • wielkopolskie voivodship (4.5%) • pomorskie (4.9%) • mazowieckie (5.2%)

SUPPLEMENTARY REFERENCE: VOIVODSHIPS (REGIONS) IN POLAND

Source: Wojewodztwa.svg





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