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### ISSUES OF INTERNATIONAL ECONOMICS: ENVIRONMENTAL ASPECTS

**Abstract:** *International trade and globalization are among the two most important prerequisites for the country's economic development. The country's active involvement in world trade leads to greater openness exacerbates many contradictions that are summarized in the principles of the economy, in particular the face trade-offs (between efficiency and equity). Despite the fact that these issues become accustomed to being considered in the socio-economic, the exhaustion of natural resources requires its implementation to the ecological dimension.*

*There could be pointed several aspects of environmental dimension of international economics: implementation of borrowed outdated technologies and the attraction of investments by the availability of cheap labor; dependence on the mining and export of minerals and raw materials; filling the internal market with cheap and insufficient quality goods ctr.*

*Thereby the participation in contemporary international economic relations needs to take into accounts also the environmental aspects and ecological factors for the effective development in the long-term perspective.*

**Keywords:** *economics, development, sustainable development, international management, environment*

International economics is the board concept that includes international management and international business, globalization and regionalization, international trade (including CO<sub>2</sub> emission trade) and investments, environment protection, negotiations, integration and cooperation, policy and others aspects that are widely represented in the researches. In a fact the international economics nowadays is concerned effects upon economic activity from international differences in productive resources and consumer preferences and the international institutions that affect them [Gopinath, G., Helpman, E., & Rogoff, K. (Eds.). 2014]. It seeks to explain the patterns and consequences of transformations and interactions between the inhabitants of different countries, including trade, investment and migration.

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All interrelations in a framework of international economics proceeded according to the 10 principles of economics which are universal for some extent [McConnell, C. R., Brue, S. L., & Flynn, S. M. 2009]. Principles connected with decision-making process (1. people face tradeoffs, 2. the cost of something is what you give up to get it, 3. rational people think at the margin, 4. people respond to incentives); interactions (5. trade can make everyone better off, 6. markets are usually a good way to organize economic activity, 7. governments can sometimes improve economic outcomes) and forces and trends that affect how the economy as system (8. the standard of living depends on a country's production, 9. prices rise when the government prints too much money, 10. society faces a short-run tradeoff between inflation and unemployment).

Let's dwell on trade off issue. Firstly we underline, that one of tradeoff society faces is between efficiency and equity. Efficiency means that society is getting the most it can from its scarce resources. Equity means that the benefits of those resources are distributed fairly among society's members. In other words, efficiency refers to the size of the economic pie, and equity refers to how the pie is divided. Often, when governmental policies are being designed, these two goals conflict. This issue also applied to both governmental and international communications, and can have different manifestations like conflict in access to territories and resources, openness of information, conflict of interests' etc.

There is also the idea, that states were facing new types of international conflicts stemming from increasing interstate competition and the resulting coincidental damage to the international economic interests of other states. Moreover, the gap between economics and politics extended to their study and to the deepening of analytical distinctions between the study of international economics and the study of international politics [Cutler, A. C. 2018]

The recent acceleration in world gross product growth stems predominantly from firmer growth in several developed economies, although East and South Asia remain the world's most dynamic regions. Cyclical improvements in Argentina, Brazil, Nigeria and the Russian Federation, as these economies emerge from recession, also explain roughly a third of the rise in the rate of global growth between 2016 and 2017 [World Economic 2018]. But recent economic gains remain unevenly distributed across countries and regions, and many parts of the world have yet to regain a healthy rate of growth. Economic prospects for many commodity exporters remain challenging, underscoring the vulnerability to boom and bust cycles in countries that are overly reliant on a small number of natural resources. Moreover, the longer-term potential of the global economy carries a scar from the extended period of weak investment and low productivity growth that followed the global financial crisis.

The Economist Intelligence Unit expects [Cause for concern? 2018] stated there has arguably never been a greater disconnect between the apparent strength of the global economy and the magnitude of geopolitical, financial and operational risks that organizations are facing.

Among the most essential risk factors there are:

- Prolonged fall in major stock markets destabilizes the global economy,
- Global trade slumps as US steps up protectionist policies,
- Territorial disputes in the South China Sea lead to an outbreak of hostilities,
- Global growth surges above 4%,
- A major cyber-attack cripples corporate and government activities,
- China suffers a disorderly and prolonged economic downturn,
- There is a major military confrontation on the Korean Peninsula,
- Proxy conflicts in the Middle East escalate into direct confrontations that cripple global energy markets,
- Oil prices fall significantly after the OPEC deal to curb production breaks down,
- Multiple countries withdraw from the euro zone.

The ongoing trade war between the US and China is yielding some unlikely winners in developing markets. The expect forecast assume that global trade growth to decelerate to 3.7% in 2019, from 5.3% in 2017, causing economic growth to slow in the US and Europe [Going global 2018]. However, in Latin America, the Middle East and Africa, and Sub-Saharan Africa economies will register strong gains, while Asia will continue its robust growth. A new generation of local companies will be riding this wave, determined not only to benefit from growth in their domestic markets, but also to expand internationally.

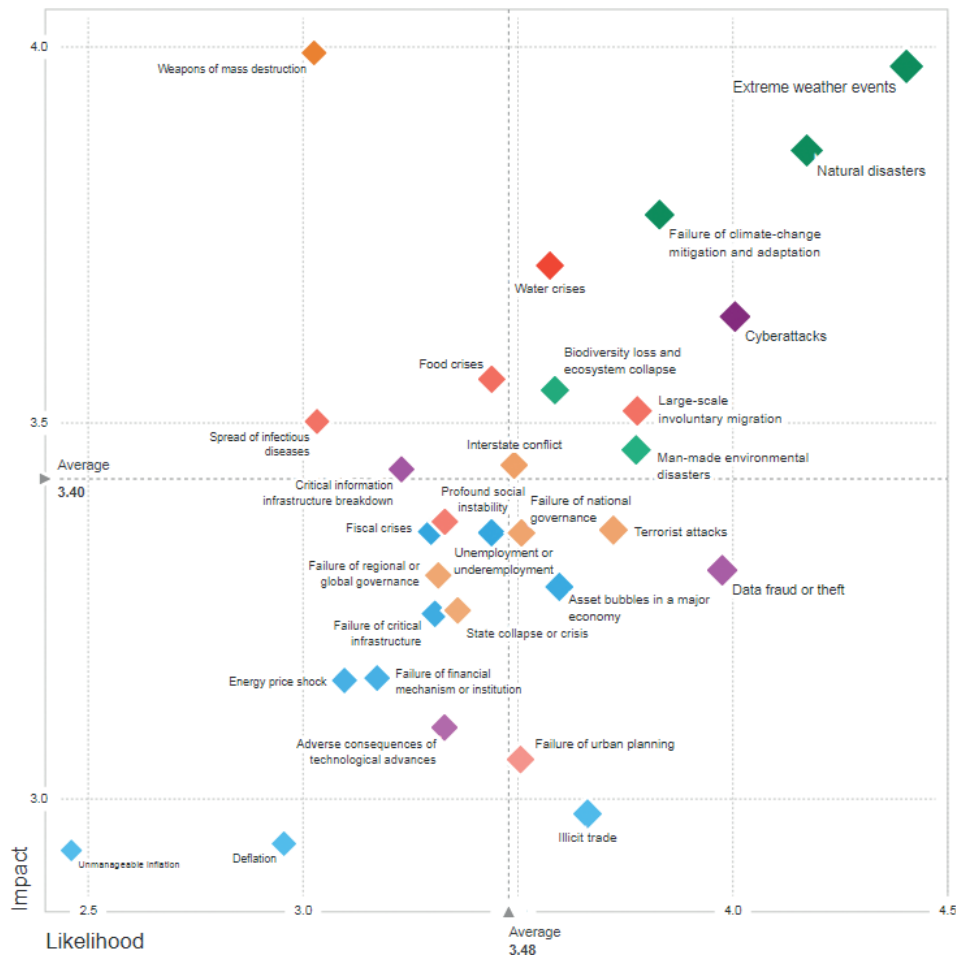
Nevertheless, the most global of risks crystallize locally and are experienced differently. If global risks demand our attention, it is ultimately because they entail harm to the lives and livelihoods of particular people in particular places [Global Risks Report 2018]. These particularities cut across several dimensions, from wealth and nationality to gender and profession. The Report concluded that nation states acting alone cannot manage, let alone resolve, the global challenges facing the world, but coordination at the global level appears increasingly fraught with geopolitical tensions. Some of these tensions are less pronounced at the regional level, and we expect regions to play an increasingly active and important role in the world in the years ahead. For this reason, understanding the risks each region faces are essential if we are to better understand the forces shaping the global landscape.

Simultaneously, that all economies could do better in certain areas (e.g, while Singapore might be the most ‘future-ready’ economy - Finland outdoes it for having a digitally skilled workforce) [Global Competitiveness Report 2018]. And while low and middle-income economies can leverage technology to jumpstart growth, the report emphasizes the importance of ‘old’ developmental pillars, such as governance, infrastructure and skills.

Hence that growth in contemporary economics will be effective and possible only in condition of dissemination and assimilation of knowledge. The uniqueness of the dissemination of innovative knowledge, research and technologies is that the additional costs of their distribution are significantly lower than the cost of their creation (i.e. once created they are accessible to everyone). Knowledge is imported through countries to another, in particular through direct investment, involvement in international processes and supply channels. Hence, the preconditions for effective economic growth are the high rates of learning and the acquisition of prior knowledge; orientation on the innovative component of development in all spheres of life, not only economic but social and environmental; accumulation of tangible and intangible resources (including the updating of the institution and its interaction); attraction of investments and the policy of inclusion in international processes, etc.

The important point of international economics development is the sharing of knowledge and awareness about critical issues that are important not only for one country but for everybody. The global risk landscape (fig. 1) confirms the idea that all local processes, politics and decisions affected the overall situation and economies; and how strongly affected environmental problems on international economics. In this context the sustainable development could be the solution not only for solving environmental problems but for achieves balance between all components of development.

Figure 1: The Global Risks Landscape 2018. What is the impact and likelihood of global risks? [Global Risk Report 2018]



At present ecological problems are characterized by complexity of emergence and manifestations.

They arise due to:

- Activity or inaction – the negative impact could be a result of productive activity or not absence of any activity for modernization facilities, recycling or waste disposal;
- Impossibility of effective communication – the sabotage of Climate agreements by some countries;
- Short-sighted unrestrained policy – like problem with cutting down trees regulations in Poland [Usuwanie drzew i krzewów 2018];
- Dependence of comfort and overconsumption – the the inability to refuse the use of an individual cars or obsession with buying new clothes [Turker, D., & Altuntas, C. 2014];
- Insufficient level of education when citizens doesn't know about negative consequences of their activities, especially if this type of activity is traditional;

- Passivity – citizens are not interested or do not know about possibilities of participation in policymaking processes and in controlling of situation in the region (including environmental aspects).

Nowadays sustainable development is not only the commonly used phrase that sometimes just the sign of “being in trend”. It is a framework for contemporary economic development. To disclose the statement, we should clarify the definitions because it is ensured that we will discuss the same things. The most known definition of sustainable development, that can be found in [Our Common Future 1987]. Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:

- the concept of ‘needs’, in particular the essential needs of the world’s poor, to which overriding priority should be given; and
- the idea of limitations imposed by the state of technology and social organization on the environment’s ability to meet present and future needs.

Interesting fact that symptoms and causes of threatened situation in the world in 1987 named poverty, growth, survival and the economic crisis. Actually, they still the same, analysis of the current situation also includes issues of poverty, survival, growth, and crisis (the new possible wave of crisis is forecast and discussing again).

Sustainability is the foundation for today’s leading global framework for international cooperation – the [Agenda 2030 2015] for sustainable development and its Sustainable Development Goals (SDGs). The Goals and targets will stimulate action over the next 15 years in areas of critical importance for humanity and the planet. These 5Ps for sustainable development are:

- People – this is about ending poverty and hunger, in all their forms and dimensions, and to ensure that all human beings can fulfil their potential in dignity and equality and in a healthy environment.
- Planet – this area about protection the planet from degradation, including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations.
- Prosperity – is determined to ensure that all human beings can enjoy prosperous and fulfilling lives and that economic, social and technological progress occurs in harmony with nature.

- Peace – this is about being foster peaceful, just and inclusive societies which are free from fear and violence. There can be no sustainable development without peace and no peace without sustainable development.
- Partnership – to mobilize the means required to implement this Agenda through a revitalized Global Partnership for Sustainable Development, based on a spirit of strengthened global solidarity, focused in particular on the needs of the poorest and most vulnerable and with the participation of all countries, all stakeholders and all people.

Actually, mentioned 5Ps of sustainable development could be applied for adopting traditional theories of economic growth, and this is partly a point of the latest research of Nobel prize nominees. The one of the well-known models of economic growth by R Solow based on ideas that growth is the function of capital (K) and labor (L):  $Y = F(K, L)$ . As any model these one also simplified but it enables us to investigate how the main factors of production – labor, capital, technological change – affect the dynamics of production, when the economic system is in equilibrium state. The advantage of the Solow model is the delimitation of these factors and the gradual study of the impact of each of them on the process of long-term growth of national income. Further development of this model explain that labor should also be considered as a function of education, and also depends on the new way of using components of capital and labor – “innovation” of the use of existing production factors. Underline that innovational component is not the only traditional vision of innovation in could and should include managerial, environmental, universal design issues.

The main idea of modern growth models is that the process is not limited solely by factors of production and their combination, but is a more complex and multidimensional process. Environmental and social issues became the inalienable part of modern models of economic development that could not be ignored. At present, the model of economic growth could look like

$$F = A * E_n(K, eL, N), \text{ where}$$

A – factor that determines the innovational part as a new use of all factors of production and their combinations;  $E_n$  – environmental aspects of development, K – physical capital,  $eL$  – human capital (including educational components), N – natural resources.

Thereby the economic development should based on economic, social and environmental aspects of development and this is true for local, regional, country and world development. The communication with other countries should build also on basis of sustainable development,

because problems could not be isolated in contemporary world (like social problems course migration problems, ecological issues affected quality of life and resources of neighbors).

In order to analyze the perspective of development of Poland economics in framework of international economics and its environmental aspects we need to generalize present situation. According to World Bank Data Poland's economy continues to perform strongly. Real GDP growth is expected to reach 4.7% in 2018, driven by domestic consumption and accelerating investments. Unemployment at slightly above 4% is the second-lowest rate in the 28-member European Union (EU). Poverty and shared prosperity indicators continue to improve in light of surging private consumption that is supported by a tight labor market and government social programs [Country Overview 2018].

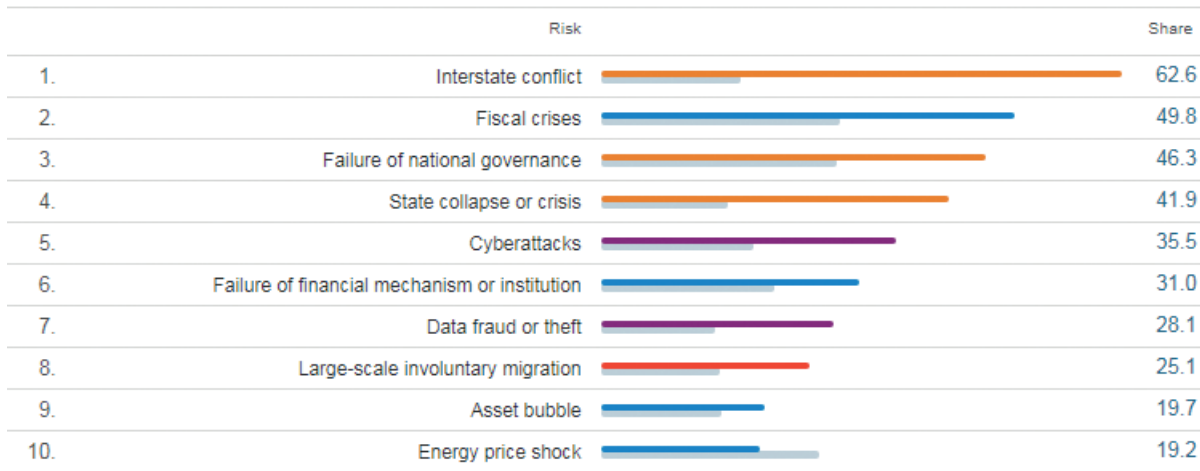
Poland's growth spurt is set to moderate next year in line with the maturing business cycle. Household-spending growth is expected to slow amid tapering labor-market gains, while fixed investment should continue benefiting from low interest rates and the absorption of EU structural funds. Short-term downside risks include fiscal slippage ahead of next year's vote, whereas uncertainty over the 2021–2027 EU budget hangs over the long-term outlook. [Focus-Economics panelists 2018] expect growth of 3.6% in 2019, unchanged from last month's forecast, and 3.1% in 2020.

Remarkable, that Poland is the only EU member-state that did not experience a recession during the economic downturn of 2007-08, having enjoyed continuous growth since the collapse of communism [Poland's quiet economic miracle 2018]. It is the best-performing central eastern European economy in the union with forecasts suggesting this will continue with growth rates expected close to three per cent this year and 2019.

The three main challenges ahead for Poland are a shortage of labor in the economy, a structural weakening in public finances, and the upcoming political calendar (fig. 2). Actually the environmental problems are not leading in top 10 of risks for Poland, but this is unfortunately does not mean that they can be ignored.

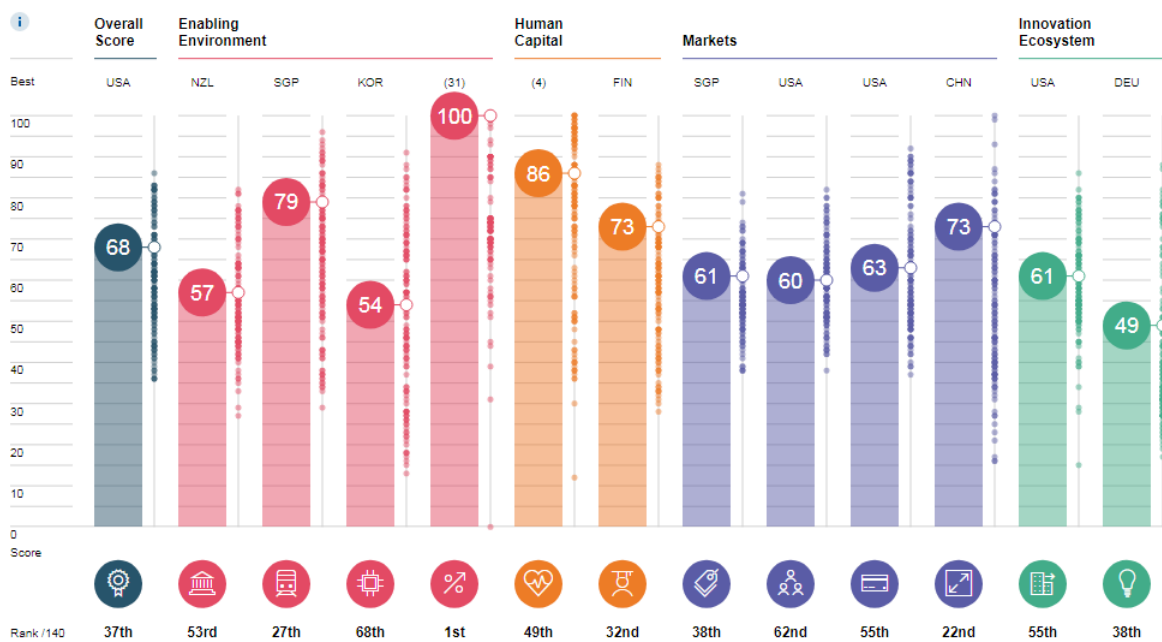


Figure 2: Poland. Risk of highest concern for doing business [Global Risk Report 2018]



The analysis of the structure of Poland competitiveness index (fig. 3) as a preliminary position in international economic can give us information about ecological aspects of increasing the competitiveness. Despite all index component problems (institutions, infrastructure, ICT adoption, macroeconomic stability, health, skills, product market, labor market, financial system, market size, business dynamism, innovation capability) not directly connected with the environmental and ecological issues, the availability of resources (the clean air also can be declared as a resource if we studied it in context of tourism development) and way of it using directly influence the potential of economic development.

Figure 3: Poland Global Competitiveness Index 4.02018 edition. Rank: 37<sup>th</sup> / 140 [Global Competitiveness Report 2018]



We can see that innovational ecosystem that include business dynamism (essential that this sub index is decreasing during last time) and innovation capability have a potential for improvement. According to our assumption on the basis of Solow model we can talk about potential of Poland in rising the competitiveness through **A** and **En** – component and in case of this country these components are interconnected (the innovative environmental actions could be a solution). According to data from [Top Markets Report 2016], the environmental technologies market in Poland has an estimated value of USD 7.0 billion. European Union (EU) mandates served as a catalyst to the growth of this market. Environmental standards imposed by the EU create greater opportunities for U.S. businesses, who are used to generally stringent U.S. standards, to compete. Poland ranks 19<sup>th</sup> Report, with a composite environmental technologies score of 17.7. Poland ranks 9<sup>th</sup> for water markets as well, with a score of 8.4. Poland also ranks 9<sup>th</sup> for air pollution control, with a score of 8.6. Its waste and recycling market trails behind with a rank of 16<sup>th</sup> and a score of 0.7.

EU regulations drive the Polish environmental market. Over 10 years of EU membership, EU programs have built over 1,000 new water treatment plants, set up thousands of miles of new piping systems, reduced over 30 percent of CO<sub>2</sub> emissions, created hundreds of new hazardous waste management facilities, and developed long-term programs to protect endangered plant and animal species. The current tranche of EU investments in Poland is estimated to be worth over Euro 70 billion.

Poland's environmental regime has steadily improved. The 2001 Environmental Protection Act provides the legal framework for all commercial and environmental activities in Poland. The Ministry of the Environment (MoE) is the highest national office responsible for the preparation and implementation of environmental legislation and strategies. In accordance with EU directives, the Polish government prepares a national plan to implement environmental rules and to direct the corresponding regional governments, or voivodeships, to develop and implement cascading local plans. Overall, Poland's environmental governance exhibits high level national, regional, and municipal coordination. Environmental norms are relatively free from corruption and overall compliance is high.

The following obstacles are the most problematic for environmental technology companies attempting to export to or work in Poland:

- long process of recognizing international standards and slow implementation of EU environmental rules;

- a preference for design-based standards over performance-based standards (performance-based approach allows for innovation and a variety of ways to attain a goal. In the EU, many standards require technology to meet a design specification, thus prohibiting use of any technology that meets important performance standards but lacks the design specifications to make it legal);
- dominantly precautionary standards and regulations (precautionary standards and regulations levy billions of dollars on manufacturers and service providers for testing and redesigning their products without a clear definition of the resulting benefits. Furthermore, precautionary regulations slow the delivery of environmental technologies to market, even when pollutants pose greater risk to human health than the technology in question).

Summarizing we need to underline that environmental component of development now have essential influence on economic development of specific countries and also affect cross boarder development.

The some environmental issues that negatively impact the Polish economy and should be taken into consideration in strategic planning are:

Poland remains one of the most material- and energy-consuming economies of the European Union (EU) in terms of efficiency.

Poor air quality despite that country achieved and maintains valid national emission ceilings for air pollutants. Continuous development of the Polish economy has not led to increased emissions, and in some cases a systemic reduction has been observed (sulphur dioxide).

A steep increase in the number of cars since the 2000s has resulted in an increase in a traffic noise from roads.

The leading sectors for improving the state of environment with simultaneous economic development should be

- Air pollution control. Opportunities for air pollution control are in EU Air Quality Directive 2008/50/EC, which includes air quality objectives. Poland will achieve improved air quality by implementing measures on the voivodeship level. In June 2018, the Polish government announced it will designate PLN 103 billion for financing thermo-modernization of buildings. The program, called “Clean Air”, will be implemented from 2018 to 2029. The program is for individual home owners.
- Water and wastewater treatment. Municipal wastewater treatment, storm management expansion, and sewage networks under Poland’s National Program of Municipal Wastewater Treatment (NPMWT) offer a variety of opportunities. In 2013, only 67% of Poles

had homes connected to sewers. In 2018, this number is expected to increase to 70%. Existing treatment facilities will undergo upgrades to reduce nitrogen and phosphorus levels in wastewater by 75%, a goal outlined by the NPMWT. The Polish government is also implementing a new water pricing scheme to promote water reuse and conservation for consumers, factories, and farms. The National Plan, updated annually, estimates budgetary outlays of USD 7 billion between 2017 and 2020 for the modernization of water infrastructure in 1,578 agglomerations.

- **Industrial process and wastewater.** Industry consumes the most freshwater resources in Poland, accounting for 70% of water intake. As a result, industry has become the primary focus for water conservation and reuse programs. The National Plan, which attributes overconsumption to low prices, creates incentives for improved industrial water efficiency. The Polish government estimates that industry water consumption is two to three times higher in Poland than other EU nations. Increases in water tariffs will incentivize industries to find water efficient solutions for both processing and wastewater. The EU Priority Substance Directive (PSD) will limit the allowances of a new class of chemical substances, placing additional burdens on industry.
- **Waste management and recycling.** There is growing pressure to improve Poland's waste management system to meet EU obligations. Contingent with EU regulations, the country must reduce its landfill waste by 50%, giving rise to recycling and incineration technologies. Waste-to-energy facilities could be built in the Silesian agglomeration, lower Silesia, Tri-City, Warsaw, Olsztyn, Lodz, the Mazovian district, the Subcarpathian region, and the Lublin region from 2018 to 2020.
- **Environmental consulting and engineering.** The Ministry of Environmental Protection, the Main Inspector of Environmental Protection, and the Main Director of Environmental Protection regulate the use of environmental resources. Polish administrative authorities emphasize firm compliance with national and EU environmental law and regulation.

Thereby Poland can save the position of European economic miracle by more effective implementation of environmental friendly initiatives in short-term and long-term economic policies.

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