

Annex to Resolution No. 39 of the Council of Ministers of 1 March 2022 (item 371)



Warsaw 2022



Ministry of Climate
and Environment

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1. Introduction

Position in the legal system and in the country's development management system

On 14 February 2017, the Council of Ministers adopted a new medium-term national development strategy – Strategy for Responsible Development for the period up to 2020 (including the perspective up to 2030)¹. It is a binding and key document defining the main development directions of the Polish state in the area of the medium- and long-term economic policy. The development directions specified in the SRD are the basis for developing a strategy related to, *inter alia*, mineral resource management.

The National Raw Materials Policy² is one of the strategic projects of the SRD related to the Environment. The Strategy for Responsible Development for the period up to 2020 defines PSP2050 as a project concerning the development of an efficient and effective management system for all types of minerals and mineral raw materials in the whole value chain and for their resources owned by Poland, as well as adequate – related – legal and institutional changes. As envisaged by the SRD, the National Raw Materials Policy also supports the transition to a circular economy.

The National Raw Materials Policy is directly related to the Energy Policy of Poland until 2040³ adopted by the Council of Ministers, as well as the National Environmental Policy 2030 – the development strategy in the area of the environment and water management.⁴

The Energy Policy of Poland until 2040, which is a strategy for the development of the fuel and energy sector, is one of nine integrated sectoral strategies setting the directions for the development of the energy sector.

PEP2040 defines the three-element objective of the energy policy – energy security, competitiveness and energy efficiency as well as the limited environmental impact of the energy industry. PEP2040 to be implemented is based on three pillars, i.e. just transition, zero-emission energy system, good air quality, which form the basis for eight specific objectives along with the measures to achieve them.

The National Raw Materials Policy, whose overriding objective is to ensure the raw material security of the state (*inter alia*, related to ensuring access to energy raw materials), is an additional coherent element determining the achievement of the objectives laid down in PEP2040, as presented below.

¹ Resolution No. 8 of the Council of Ministers of 14 February 2017 on the adoption of the Strategy for Responsible Development for the period up to 2020 (including the perspective up to 2030) (Polish Monitor, item 260). The document and its annexes use the title Strategy for Responsible Development for the period up to 2020 or the abbreviation SRD.

² The document and its annexes use the title National Raw Materials Policy or the abbreviation PSP2050.

³ Annex to the notice of the Minister of Climate and Environment of 2 March 2021 (Polish Monitor, item 264). The document and its annexes use the title Energy Policy of Poland until 2040 or the abbreviation PEP2040.

⁴ Resolution No. 67 of the Council of Ministers of 16 July 2019 on the adoption of the “National Environmental Policy 2030 – development strategy in the area of environment and water management” (Polish Monitor, item 794). The document and its annexes use the title National Environmental Policy 2030 or the abbreviation PEP2030.



Figure 1. Coherence of the objectives laid down in PSP2050 and the objectives included in PEP2040

PI	En
Polityka Surowcowa Państwa	National Raw Materials Policy
Polityka Energetyczna Polski do 2040 r.	Energy Policy of Poland until 2040
Zapewnienie bezpieczeństwa surowcowego m. in. w zakresie surowców energetycznych	Provision of raw materials security, inter alia, with regard to energy raw materials
Bezpieczeństwo energetyczne	Energy security
Ograniczony wpływ energetyki na środowisko	Limited environmental impact of the energy industry
Konkurencyjność i efektywność energetyczna	Competitiveness and energy efficiency

The main objective of the measures planned under PSP2050 are securing the country's current and future needs and the constant expansion of the mineral resource base for the production of raw materials (including energy raw materials), as well as the intensification of prospecting, exploration and management of geothermal systems and supporting measures undertaken related to utilising clean coal technologies. The achievement of the envisaged objectives can be guaranteed by appropriate legal and administrative amendments facilitating and supporting the pursuit of prospecting, exploration and extraction activities. The effective and comprehensive protection of mineral deposits allowing the access to already documented deposits and the direct involvement of the unit acting as the Polish Geological Survey in activities for the development of new technologies related to prospecting, exploration, documentation and the use of mineral deposit resources for the production of raw materials is also extremely important.

All these measures should directly determine, *inter alia*, ensuring the proper quantity of energy raw materials necessary to guarantee the main objective envisaged in PEP2040, namely, the provision of energy security.

The National Environmental Policy 2030 is another strategy paper from the group of integrated sectoral strategies. In the system of strategy papers, PEP2030 constitutes a clarification and operationalisation of the SRD provisions. The main objective specified in PEP2030, defined as the development of the environmental potential for citizens and entrepreneurs, is a direct transfer of the objective laid down in the Strategy for Responsible Development for the period up to 2020.

The main objective envisaged in PEP2030 is to be achieved through specific objectives and directions of intervention contributing to their implementation.

One of the specific objectives of PEP2030 is defined as *Environment and economy. Sustainable management of environmental resources*, and one of the directions of intervention related to its implementation is *Management of geological resources through the development and implementation of the national raw materials policy*.

PEP2030 defines the measures to be implemented under PSP2050, which include the protection and rational use of deposits as well as the intensification of the use of secondary raw materials. These tasks are currently performed by the Chief National Geologist, nevertheless, they require some interventions, as provided for in this policy in the specific objectives and measures to be implemented.

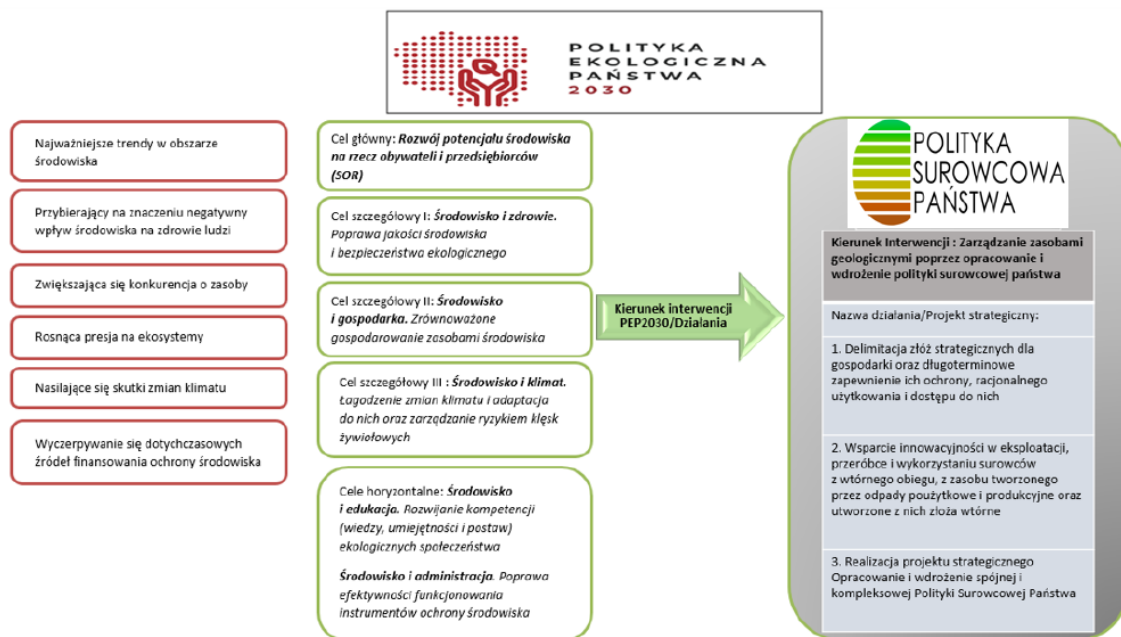


Figure 2. Consistency between the objectives specified in PSP2050 and the objectives included in PEP2030

PI	En
Polityka Ekologiczna Państwa 2030	National Environmental Policy 2030
Najważniejsze trendy w obszarze środowiska	The most important trends in the area of the environment
Przybierający na znaczeniu negatywny wpływ środowiska na zdrowie ludzi	Increasingly important negative environmental impact on human health
Zwiększająca się konkurencja o zasoby	Growing competition for resources
Rosnąca presja na ekosystemy	Growing pressure on ecosystems

Nasilające się skutki zmian klimatu	Growing effects of climate change
Wyczerpywanie się dotychczasowych źródeł finansowania ochrony środowiska	Depletion of existing sources of financing environmental protection
Cel główny: rozwój potencjału środowiska na rzecz obywateli i przedsiębiorców (SOR)	Main objective: development of the environmental potential for citizens and entrepreneurs (SRD)
Cel szczegółowy I: Środowisko i zdrowie. Poprawa jakości środowiska i bezpieczeństwa ekologicznego	Specific objective I: Environment and health. Improving environmental quality and environmental safety
Cel szczegółowy II: Środowisko i zdrowie. Zrównoważone gospodarowanie zasobami środowiska	Specific objective II: Environment and health. Sustainable management of environmental resources
Cel szczegółowy I: Środowisko i klimat. Łagodzenie zmian klimatu i adaptacja do nich oraz zarządzanie ryzykiem klęsk żywiołowych	Specific objective I: Environment and climate. Climate change mitigation and adaptation and disaster risk management
Cele horyzontalne: Środowisko i edukacja. Rozwijanie kompetencji (wiedzy, umiejętności i postaw) ekologicznych społeczeństwa	Horizontal objectives: Environment and education. Developing green competences (knowledge, skills and attitudes) of society
Środowisko i administracja. Poprawa efektywności funkcjonowania instrumentów ochrony środowiska	Environment and administration. Improving the efficiency of environmental protection instruments
Kierunek interwencji PEP2030/Działania	Direction of intervention PEP2030/Measures
Polityka Surowcowa Państwa	National Raw Materials Policy
Kierunek interwencji: Zarządzanie zasobami geologicznymi poprzez opracowanie i wdrożenie polityki surowcowej państwa	Direction of intervention: Management of geological resources through the development and implementation of the national raw materials policy
Nazwa działania/projekt strategiczny:	Name of the measure/strategic project:
1. Delimitacja złóż strategicznych dla gospodarki oraz długoterminowe zapewnienie ich ochrony, racjonalnego użytkowania i dostępu do nich	1. Delimitation of deposits strategic for the economy and long-term protection, rational use and access thereof.
2. Wsparcie innowacyjności w eksploatacji, przeróbce i wykorzystaniu surowców w wtórnego obiegu, z zasobu tworzonych przez odpady poużytkowe i produkcyjne oraz utworzone z nich złoża wtórne	2. Support for innovation in the exploitation, processing and use of secondary raw materials, from the resource created by post-consumer and production waste and secondary deposits created from them
3. Realizacja projektu strategicznego Opracowanie i wdrożenie spójnej i kompleksowej Polityki Surowcowej Państwa	3. Implementation of the strategic project Development and implementation of a coherent and comprehensive National Raw Materials Policy

On 10 September 2019, the Council of Ministers adopted, by way of a resolution, the Roadmap of transition towards a circular economy.⁵

The document indicates that in Poland there is a great potential for improvement related to measures concerning industrial waste, in particular, from mining and extraction activities, industrial processing and energy generation and supply. Pursuing production activity generating less and less waste, as well as managing the largest possible amount of industrial waste from this activity in other production processes and in other sectors of the economy can significantly contribute to increasing the profitability of production in Poland and reducing its negative environmental impact.

The measures to be implemented included in PSP2050 under the specific objective “*Ensuring favourable legal conditions for current and future investors and the development and modernisation of the geological and mining industry*” are the definition and normative formulation of deposits and anthropogenic raw materials (anthropogenic mineral resources) as well as the inventory of current mining waste landfills so as to identify the possibilities of economic use of waste stored there.

The provisions made in the National Raw Materials Policy in relation to energy raw materials also correspond to the provisions made in the National Climate and Energy Plan for 2021-2030⁶ and do not contradict them.

⁵ Resolution No. 136/2019 of the Council of Ministers of 10 September 2019 on the adoption of the Roadmap of transition towards a circular economy

⁶ Version 4.1 of 18.12.2019

Pursuant to the specified national assumptions and objectives in terms of energy security, a reduction of the share of coal in electricity generation to 56-60% in 2030 is expected. Nevertheless, the role of the National Raw Materials Policy is not to provide access only to mineral deposits, the share of which is to be included in the energy mix, but to all documented deposits, particularly those which meet the criteria of strategic deposits. Such measure results from the fact that the National Raw Materials Policy must treat all mineral deposits, even those whose exploitation is not planned today, as a reserve base ensuring the possibility of their use in a situation that cannot be predicted at the moment (geopolitics, armed conflicts, development of new technologies).

The interdisciplinary nature of issues related to management of mineral deposit resources means that work on the National Raw Materials Policy goes beyond the Chief National Geologist's competences, being also partially included in other sections of government administration. The measures aimed at developing and implementing PSP2050 require continuous and close cooperation of all ministries and institutions under ministerial supervision. In view of the above, it was necessary to appoint a Government Plenipotentiary for the National Raw Materials Policy and an Interministerial Team of the same name. In connection with the above, the Council of Ministers appointed the Government Plenipotentiary for the National Raw Materials Policy by regulation⁷ of 9 May 2016, initiating activities for the development of an effective and responsible National Raw Materials Policy. Then, on 17 May 2016, the Interministerial Team for the National Raw Materials Policy was established by ordinance⁸ of the Prime Minister, thus stressing the role of this policy in planning the activities of the Government of the Republic of Poland. Subsequently, the Government Plenipotentiary for the National Raw Materials Policy additionally took over the competences of the Government Plenipotentiary for the development of hydrocarbon extraction by the regulation⁹ of the Council of Ministers of 23 September 2019. The amendment made to the regulation¹⁰ of the Council of Ministers of 26 October 2020 specified that the Plenipotentiary is the Secretary of State or Undersecretary of State at the Ministry of Climate and Environment – Chief National Geologist.

Institutional framework

The key issue enabling the effective implementation of the assumptions specified in the National Raw Materials Policy is the proper organisation of administrative bodies responsible for issues related to geology and minerals for the production of raw materials. It is also extremely important to integrate the activities of these bodies and to focus them on achieving the objectives laid down in this document. Measures should be taken to strengthen the position of the Chief National Geologist, acting as the Government Plenipotentiary for the National Raw Materials Policy, by making him the central body of geological administration. In addition, geology should be separated as an independent section of government administration, by defining new tasks closely related to the national raw materials policy and raw material security.

⁷ Regulation of the Council of Ministers of 9 May 2016 on the appointment of the Government Plenipotentiary for the National Raw Materials Policy (Journal of Laws, item 685, as amended).

⁸ Ordinance No. 61 of the Prime Minister of 17 May 2016 on the Interministerial Team for the National Raw Materials Policy.

⁹ Regulation of the Council of Ministers of 23 September 2019 amending the Regulation on the appointment of the Government Plenipotentiary for the National Raw Materials Policy (Journal of Laws, item 1848).

¹⁰ Regulation of the Council of Ministers of 26 October 2020 amending the Regulation on the appointment of the Government Plenipotentiary for the National Raw Materials Policy (Journal of Laws, item 1906).

The efficient and effective implementation of the state's tasks to ensure an adequate supply of raw materials requires a properly organised and functioning unit acting as the Polish Geological Survey. First of all, the survey's activities must focus on the tasks defined by the National Raw Materials Policy and the provisions of the acts governing the issues of its activities. The Polish Geological Survey must provide strong substantive support to all administrative bodies and other units implementing tasks related to ensuring the raw material security of the country.

Raw materials policy in the European Union

The European Commission's (EC) efforts to secure a sustainable supply of raw materials are laid down in the *Raw Materials Initiative (The raw materials initiative – meeting our critical needs for growth and jobs in Europe, November 2008)*. The implementation of the Raw Materials Initiative is the European Innovation Partnership on Raw Materials together with the Strategic Implementation Plan (September 2013).

Raw Materials Initiative

In November 2008, the European Commission adopted the *Raw Materials Initiative*, which set out a strategy for access to mineral resources in the European Union (EU), based on three pillars aimed at ensuring:

- stable supplies of raw materials from global markets;
- sustainable supply of mineral raw materials within the EU;
- efficient use of resources and supply of secondary raw materials as part of recycling.

This strategy applies to all mineral raw materials used in European industry, with the exception of raw materials from agricultural production and fuels. Securing sustainable access to raw materials is crucial for the competitiveness and growth of the EU economy and for the objectives specified in the *Europe 2020 Strategy*.

The EC also developed another document, *Tackling the challenges in commodity markets and on raw materials (2011)*. It defines raw materials critical for the EU and describes the EU's trade strategy regarding non-energy raw materials. The document also presents new opportunities for research and innovation, guidelines for the implementation of legislation within the Natura 2000 network and directions for more efficient resource management (including recycling). The future directions of implementing the Raw Materials Initiative include, *inter alia*, ensuring stable supplies of raw materials from global markets, supporting supplies from internal EU sources and supporting efficient management of raw material resources.

In order to implement the provisions of the Raw Materials Initiative, the European Innovation Partnership on Raw Materials (EIP RM) was established, bringing together representatives of industry, public administration, academia and non-governmental organisations, which provide the EC, EU countries and private entities with information on implementing innovative approaches in the raw materials supply chain. Its activities include, *inter alia*, research and development, policy recommendations, dissemination of the best

practices, building a knowledge base and support for international cooperation.

In addition, an expert Raw Materials Supply Group was established, consisting of representatives of EU countries, European Economic Area countries, candidate countries for the EU and organisations representing stakeholders – industry, research and civil society, which advises the EC and supervises the implementation of the Initiative.

Communication from the Commission to the European Parliament, the Council of the European Economic and Social Committee and the Committee of the Regions on Critical Raw Materials of 3 September 2020.

On 3 September 2020, the Commission published a Communication from the Commission to the European Parliament, the Council of the European Economic and Social Committee and the Committee of the Regions entitled “Critical Raw Materials Resilience: Charting a Path towards greater Security and Sustainability”.¹¹

According to the prepared Communication, access to resources is a strategic security issue from the point of view of the European ambition to implement the Green Deal. The EC published an updated list of raw materials critical for Europe, which mainly identifies raw materials which are strategic from the point of view of the functioning and economic development of the EU, the deficit of which may have serious economic consequences. The resulting list of critical raw materials is a substantive tool to support the development of the EU policy. In addition, the list helps identify investment needs and target research and innovation under the Union programmes – Horizon 2020, Horizon Europe and national programmes, in particular as regards the issue of new mining technologies, substitution and recycling. Achieving security of resources requires efforts to diversify supplies from both primary and secondary sources, reduce dependence and improve resource efficiency and circularity.

The EU Action Plan on critical raw materials provides for:

- developing resilient value chains for the EU’s industrial ecosystems;
- reducing dependence on critical primary raw materials through the circular use of resources, sustainable products and innovations;
- strengthening a sustainable and responsible domestic supply of raw materials and their processing in the EU;
- diversifying supplies through a balanced and responsible supply in third countries, strengthening open and rules-based trade in raw materials and removing distortions in international trade.

The European Commission established the European Raw Materials Alliance (ERMA). The objective of ERMA is, *inter alia*, to support investments and innovation in raw materials. ERMA’s task is also to identify barriers and seek investment opportunities through the Raw Materials Investment Platform.

¹¹ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions entitled „Critical Raw Materials Resilience: Charting a Path towards greater Security and Sustainability”, Brussels, 03.09.2020 (COM(2020) 474 Final).

The role of critical raw materials has also been indicated in the updated European Industrial Strategy. The COVID-19 crisis revealed dependencies on access to strategic resources from third countries and signalled the need to secure an open strategic autonomy of Europe, including the adoption of a coherent regulatory framework and multinational investments, ensuring a level playing field and a competitive single market. The new update to the strategy takes into account the need to diversify supply chains, increase the use of secondary raw materials and transition to a circular economy. Sustainable access to resources is fundamental for industry and the green and digital transition of the EU economy.

Circular Economy Action Plan

On 2 December 2015, the EC adopted the CE Circular Economy Action Plan (COM/2015/0614 final) (*Closing the loop – An EU action plan for the circular economy*). It summarises the existing work and determines priority areas regarding the issues such as plastics, food waste, critical raw materials, demolition and construction waste, as well as biomass and bio-based products. At the same time, the document stresses the importance of the innovation aspect for the designated areas of activity. According to the report presented by the EC on the implementation of the Circular Economy Action Plan, the work on waste which has already been initiated was presented. These are legislative proposals on fertilisers, the launch of the *Innovation deals* project, counteracting food waste, the *Waste-to-energy* communication and legislative proposals related to the subject of hazardous substances in electrical and electronic equipment, the circular economy financing platform and others. On 26 January 2017, the EC published the Report from the Commission to the European Parliament, the European Economic and Social Committee and the Committee of the Regions on the implementation of the Circular Economy Action Plan (COM/2017/33 final). On 11 March 2021, the EC published a new Circular Economy Action Plan for a cleaner and more competitive Europe (COM/2020/98 final). It envisages making the economic growth independent of the use of resources and extending the scope of the circular economy to include economic operators, including the creation of a highly efficient EU market for secondary raw materials.

Regulation of the European Parliament and of the Council (EU) 2017/821 of 17 May 2017

Regulation of the European Parliament and of the Council (EU) 2017/821 of 17 May 2017 laying down supply chain due diligence obligations for Union importers of tin, tantalum and tungsten, their ores, and gold originating from conflict-affected and high-risk areas entered into force on 1 January 2021.¹²

The regulations contained in the regulation are aimed at ensuring that the income of entities importing minerals and metals such as tin, tantalum, tungsten, their ores and gold into the EU countries will not be a source of financing for conflicts and hostilities. The EU is also actively involved in the OECD initiative to promote responsible extraction of minerals from conflict-affected areas, which resulted in a government-supported multi-stakeholder process leading to the adoption of the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas.

¹² OJ EU L 130, 19.05.2017, p. 1, as amended.

In May 2011, the OECD Council, at ministerial level, recommended the active promotion of observing this guidance by companies and encouraging entrepreneurs to responsibly extract minerals and to use the profits from their extraction in a way other than financing conflicts or other activities involving forced labour or human rights violations.

PSP2050 Architecture

Despite the fact that the National Raw Materials Policy is not a strategy paper included in the group of integrated sectoral strategies, its architecture was based on the scheme used in the National Environmental Policy 2030. This will allow to maintain the consistency of sectoral strategies and strategic projects laid down in the Strategy for Responsible Development for the period up to 2020.

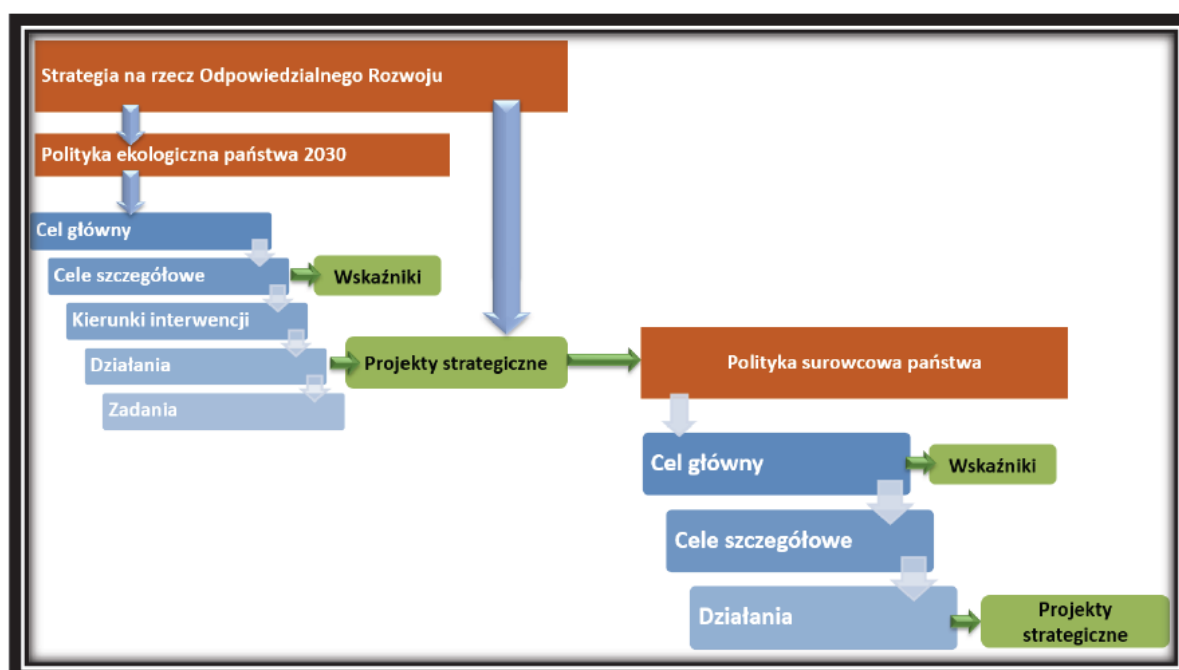


Figure 3. PSP2050 Architecture

PI	En
Strategia na rzecz Odpowiedzialnego Rozwoju	Strategy for Responsible Development
Polityka ekologiczna państwa 2030	National Environmental Policy 2030
Cel główny	Main objective
Cele szczegółowe	Specific objectives
Kierunki interwencji	Directions of intervention
Działania	Measures
Zadania	Tasks
Wskaźniki	Indicators
Projekty strategiczne	Strategic projects
Polityka surowcowa państwa	National Raw Materials Policy

The National Raw Materials Policy defines the main objective, the achievement of which is determined by the specific objectives executed through the specific measures to be implemented. As part of the implemented measures, strategic projects will be prepared, which include, in particular, issues that must remain secret due to the economic security of the state.

Strategic projects included in PSP2050 will be implemented as part of the specific objective *“Determination of joint measures of the Chief National Geologist acting as the Government Plenipotentiary for the National Raw Materials Policy and the unit acting as the Polish Geological Survey with regard to implementing the strategies implemented by companies of significant importance for the economy of the state and companies implementing a public mission – a strategic project”*.

2. Material scope of PSP2050

In view of the fact that the issues related to raw materials appear in various strategy government papers or other programmes implemented by individual ministries, defining the role of the National Raw Materials Policy in relation to other sectoral documents, as well as strictly defining the material scope of the National Raw Materials Policy, is of great importance. The implementation of measures included in the National Raw Materials Policy is aimed at ensuring permanent access to mineral deposits by intensifying activities related to prospecting, exploration and documentation of mineral deposits (including the so-called anthropogenic deposits) performed by both the Polish Geological Survey, as well as the geological and mining industry and entities implementing geothermal projects (including municipalities). Also, the aspect of protection of mineral deposits and cooperation of competent authorities to secure the supply chain of imported raw materials are an extremely important issue.

The effective implementation of measures specified in the National Raw Materials Policy should secure the resource base of mineral deposits for the production of raw materials, access to which is required and necessary in order to implement other strategic tasks of the state, such as energy security, stable economic development, etc., performed based on relevant sectoral strategy papers or other programmes.

When defining the material scope of the National Raw Materials Policy, it should be pointed out that as a strategy paper it defines the most important areas of activity in order to ensure access to raw materials that are the most important for the national and EU economy.

For this reason, it was essential to prepare a list of raw materials strategic and critical for the national economy, which, considering the list of critical raw materials of the EU, clarifies and specifies the main objective of the National Raw Materials Policy defined as ensuring the raw material security related to these raw materials. In addition, based on the classification of raw materials, minerals present in Poland and used to extract them were selected.

It should be stressed that the essence of the prepared list of raw materials key for the national economy is not the direct transfer of critical raw materials indicated for the EU to it, but their individual determination considering the specific nature of the national economy. The classification of individual raw materials into the group of raw materials which are strategic and critical for the national economy is therefore a reflection of the domestic branches of the industry processing or using raw materials in current production.

The Earth's heat, including thermal waters, is important for the development of the Polish economy – mainly in the context of energy transition. For this reason, the measures related to prospecting, exploration and documentation of these deposits are part of the National Raw Materials Policy. In addition, the ongoing prospecting works regarding thermal waters significantly increase the exploration of the country's geological structure, providing new geological information on an ongoing basis.

It should be pointed out that groundwater other than minerals is a separate issue requiring an individual approach. The role of the National Raw Materials Policy is to determine the

demand for raw materials, on an ongoing basis, and to take flexible steps towards providing permanent access to them. Although groundwater is generally recognised as raw materials adequate to strategic raw materials, as opposed to strategic and critical raw materials indicated in the National Raw Materials Policy, it is not subject to periods of variable demand resulting from dynamic changes in the raw materials markets (*inter alia*, due to the increased development of new technologies, variable climate policy, political decisions of countries being key exporters of raw materials). Moreover, in the preamble to the Water Framework Directive (Directive 2000/60/EC) it is pointed out that “*water is not a commercial product like any other but, rather, a heritage which must be protected, defended and treated as such*”.

For this reason, it should be stated that the tasks related to exploration, balancing and protection of groundwater in order for this water to be rationally used by society and the economy, should be, as before, governed by the Act on Water Law. However, it is extremely important to seek the organisational integration of the Polish Geological Survey and the state hydrogeological survey. This results from the fact that there is no justification for the functioning of a separate hydrogeological survey in a situation where in the scientific and practical sense it is part of geology. The implementation of the state’s tasks for the purposes of exploration, balancing and protection of groundwater in order to rationally use this water by society and the economy is based on geological research and requires extensive knowledge related to geology with a specialisation in hydrogeology.

Adopting the above assumptions, the subject of the National Raw Materials Policy are raw materials of importance for the domestic and EU economies. These are mineral raw materials from primary and secondary sources, as well as groundwater (thermal waters), being minerals within the meaning of the provisions of the Act on geological and mining law. These raw materials have or may have a decisive impact on the directions of the country’s economic development, while improving its competitiveness.

The analyses undertaken so far in terms of the importance of individual mineral raw materials for the national economy finally allowed to determine two sets of them – strategic and critical raw materials:¹³

Raw materials strategic for the Polish economy – divided into two subgroups:

Strategic raw materials of fundamental importance for the proper functioning of the economy and satisfying the living needs of society – raw materials whose permanent supply must be ensured – both those whose national resource base is large and which, thanks to its use, are the basis for the operation of industry, as well as important scarce raw materials.¹⁴

Strategic raw materials of fundamental importance for national security and innovative technologies – raw materials that are not sufficiently (min. 90%) extracted from domestic sources or whose possibilities of permanent extraction from these sources are limited or

¹³ Criteria adopted on the basis of the study entitled “Selection of minerals used to extract key raw materials for the national economy”, prepared by the Mineral and Energy Economy Research Institute of the Polish Academy of Sciences upon request of the Polish Geological Institute – National Research Institute under the agreement No. 289/2018/Wn-07/FG-GO-DN/D of 06.12.2018 entitled “Support for activities of the Chief National Geologist related to pursuing the National Raw Materials Policy”.

¹⁴ Wholly or mostly imported.

threatened, and other raw materials not extracted at home (scarce) necessary for the defence of the country and national security and for the development of innovative technologies.

Raw materials critical for the Polish economy – strategic raw materials whose possibilities of extraction from both primary and secondary sources are either high risk or it is very difficult to extract them, and the possibilities of their substitution are low. These are, in particular, raw materials included in the list of raw materials critical for the European Union, but also raw materials which, despite being present in large quantities, are impossible to extract, e.g. due to planning conditions, social protests, etc.

Considering changing conditions, the currently developed definitions may be subject to modifications, which will be taken into account in the process of updating this policy.

Based on the prepared list of strategic and critical raw materials included in Annex No. 1, minerals present in Poland which can be used for their production were determined¹⁵. The list of selected minerals was presented in Annex No. 2. Based on the selected group of minerals, a plan for documenting mineral deposits was developed, which will be implemented as part of the specific objective “*Prospecting, exploration and documentation of mineral deposits*” and periodically verified and updated based on changing geopolitical, economic, legal and environmental conditions.

The specification of raw materials strategic and critical for Poland and the EU and the identification of minerals for their production is the basis for the designation of strategic mineral deposits. In addition, international cooperation activities will be geared towards ensuring the national economy with stable access to raw materials specified in this list.

¹⁵ On the basis of the task entitled “Extraction of mineral resources from mineral deposits – documentation” implemented under the agreement No. 289/2018/Wn-07/FG-GO-DN/D of 06.12.2018 entitled “Support for activities of the Chief National Geologist related to pursuing the National Raw Materials Policy”.

3. Diagnosis of geological conditions of the national resource base and trends in the demand of the national economy for raw materials

Geological conditions of the national resource base

Sustainable development, economic progress and increase in raw material security, both of Poland and the whole of Europe, are not possible without responsible and effective management of the Earth's interior, including mineral resources located there, and the effective use of the so-called anthropogenic deposits. In order to ensure it, it is necessary to develop a strategy paper defining measures which will contribute to rational management of mineral raw materials as an important factor for the development of the Polish and EU economy. The measures specified in the National Raw Materials Policy related to securing access to raw materials should mainly refer to domestic resources, while the import should complement the demand for scarce raw materials¹⁶. This approach reduces the risk of raw material supplies, by building independence based on own resources.

Detailed data on the resource base in Poland are published annually by the Polish Geological Survey as of the end of the previous year, in the form of the "Mineral deposits balance in Poland" based on the geological documentation and information provided by users of deposits in the form of reporting forms (based on current inventories).

Consumption assessment and forecast of demand for raw materials strategic and critical for the Polish economy¹⁷

As part of the work on the National Raw Materials Policy, the current demand of the national economy for mineral resources has been assessed and forecasts of this demand in the 2030, 2040, 2050 time horizons have been made. The results of this analysis are presented in Annex No. 3. The figures and trends in the demand development presented in this annex apply to raw materials extracted from mineral deposits under state mining ownership, which have been classified as raw materials strategic and critical for the national economy. They are the basis for determining the measures of the National Raw Materials Policy, as, to a large extent, these measures will be focused on ensuring the supply of these raw materials. In addition to the measures related to securing raw materials necessary for the proper functioning of the national economy, the measures of the National Raw Materials Policy will also be aimed at seeking to ensure access to raw materials specified in the list of raw materials critical for the EU. Bearing in mind the fact that the dynamics of changes in the

¹⁶ Raw materials wholly or mostly imported.

¹⁷ Prepared on the basis of the study entitled "Assessment of the current and future demand of the national economy for raw materials in the perspective of 2025, 2030, 2040 and 2050", prepared by the Mineral and Energy Economy Research Institute of the Polish Academy of Sciences upon request of the Polish Geological Institute – National Research Institute under the agreement No. 1406/2020/Wn-07/FG-GO-DN/D of 26.06.2020 entitled "State's tasks implemented by the Polish Geological Survey regarding information, training and foreign cooperation activities related to geology, carried out from 2020" (Geological and Mining Law, Article 162(1) and other previous source studies.

raw materials market is high, in certain time perspectives an ongoing update of data on the demand for raw materials will be made.

The role of mineral resources in the energy transition

Raw materials are an essential element for the production of many technologies necessary for energy transformations. In the light of implementing the assumptions of the European Green Deal, the role of non-energy raw materials is growing. The clean energy transition will bring new challenges related to securing supplies of raw materials necessary for the energy transition. The construction of renewable energy sources, from solar panels to wind turbines, the production of electric cars and new power networks requires the supply of raw materials exceeding the needs of conventional energy. Raw materials are used not only in the clean energy sector, but are also widely used throughout the energy system and in technologies improving efficiency and reducing emissions. Lithium, nickel, cobalt and graphite are crucial for the production of batteries and energy storage facilities. Rare earth elements are necessary for permanent magnets, which are necessary for the manufacture of electric motors and wind turbines. The production of hydrogen requires nickel or platinum group metals depending on the type of technology. Copper and aluminium are basic raw materials in almost all technologies related to electricity.

Therefore, and in accordance with the EC communication¹⁸, an increase in the demand for raw materials for the energy transition is predicted. An example of this are energy storage batteries, in the case of which the demand for aluminium, cobalt, iron, lead, lithium, magnesium and nickel will increase by more than 1,000% by 2050.

In 2021, the International Energy Agency (IEA) published a report entitled “The Role of Critical Minerals in Clean Energy Transitions”¹⁹, which describes the future demand for raw materials in the context of the energy transition. The transition to a low-carbon economy will result in a huge increase in the demand for critical raw materials, and the energy sector will be the main driving force behind the market for these raw materials. It is expected that in a scenario meeting the objectives of the Paris Agreement, due to the development of production of clean energy, the global demand for copper and rare earth metals will increase by 40% over the next two decades, for nickel and cobalt by 60-70% and for lithium by almost 90%. The demand for a particular raw material depends on the development of technology, for example, lithium, nickel, cobalt, manganese and graphite are crucial for the production of efficient batteries. Rare earth elements are essential for the production of permanent magnets, which are used in wind turbines and EV motors. Electrical networks require huge amounts of copper and aluminium, with copper being the basis for all technologies related to electricity.

Existing infrastructure and projects for the extraction and supplies of critical raw materials have a number of features increasing the risk of too low supply and price volatility:

¹⁸ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions entitled “Critical Raw Materials Resilience: Charting a Path towards greater Security and Sustainability”, Brussels, 03.09.2020 (COM(2020) 474 Final).

¹⁹ IEA World Energy Outlook Special Report “The Role of Critical Minerals in Clean Energy Transitions”, May 2021, <https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions>.

- a) high geographical concentration of production – the three largest producers of lithium, cobalt and rare earth metals cover more than three-quarters of the world's production;
- b) long project implementation time – an average of 16 years from the discovery of a deposit to the first production;
- c) decreasing quality of resources;
- d) growing social pressure – the need to take into account high standards of environmental protection and the interests of local communities in the process of extraction and production;
- e) increased risk associated with climate change – particularly, in the case of lithium and copper, whose deposits are concentrated in areas at risk of drought or flooding, such as Australia and Africa.

In its report, the IEA included six key lines of action in the context of critical raw materials:

- I. Ensuring adequate investment in diversified sources of new supplies;
- II. Promoting technological innovation at all stages of extracting raw materials – both from the demand and supply sides;
- III. Increasing recycling;
- IV. Increasing the supply chain resilience and market transparency – market analysis, crisis response exercises and voluntary storage of resources;
- V. Higher level of environmental protection and protection of the interests of local communities;
- VI. Strengthening international cooperation between producers and consumers – e.g. by making reliable data publicly available and carrying out regular monitoring of supply chains

In this context, the objectives under the National Raw Materials Policy will support measures to diversify the sources of supplies of raw materials necessary for the energy transition in order to strengthen the supply of raw materials required to achieve climate neutrality.

4. Objectives of PSP2050

Main objective of PSP2050

The main objective of the National Raw Materials Policy is to ensure raw material security of the country by guaranteeing access to necessary raw materials (domestic and imported), both now and in a long-term perspective which takes into account the changing needs of future generations. Access to raw materials should secure the country's long-term economic needs, resulting from the adopted priorities of economic development, thus ensuring a high living standard for citizens.

The achievement of the main objective should result from the achievement of listed specific objectives achieved as a consequence of the planned set of measures. The time limits for implementing individual measures included in the specific objectives have been presented in the PSP2050 schedule constituting Annex No. 4.

Specific objective 1. Provision of access to raw materials from mineral deposits

Measures under specific objective 1

Measure 1

Determining the national demand of the economy for mineral raw materials in the perspective of 2025, 2030, 2040, 2050

Measure 2

Determining which raw materials are strategic and critical for the Polish economy

Measure 3

Assessing the national potential with regard to covering current and future raw materials needs

Measure 4

Analysing deposits whose exploitation has been abandoned and assessing a possibility of their re-exploitation

Measure 5

Analysing raw material potential of the prospective occurrence of mineral deposits and thermal waters along with determining new prospective and prognostic areas

Measure 6

Determining existing and potential sources scarce raw materials import to Poland (with a "classified" clause)

The National Raw Materials Policy, as a strategy paper, mainly focuses on providing access to raw materials which are of the greatest importance for the national economy. For this reason, it was extremely important to determine raw materials strategic and critical for the Polish economy and the forecasts of their demand in the perspective of 2025, 2030, 2040 and 2050.

Provision of access of raw materials from mineral deposits

Measure 1, 2

On this basis, it will be possible to assess the national potential to cover the demand for the most important raw materials, taking into account mineral deposits whose exploitation has been abandoned, prospective areas, as well as the so-called anthropogenic deposits. The balance of the national economy's demand for raw materials and the possibility of covering them from own resources will, at the same time, indicate a deficit in terms of specific raw materials, which must be covered by import. In order to optimise the import, it is necessary for the unit acting as the Polish Geological Survey to conduct constant monitoring of global raw material markets, along with the analysis of new prospecting and mining projects.

Provision of access of raw materials from mineral deposits

Measure 3, 4, 5, 6

The data concerning this are to be periodically updated with analyses that would consider the occurring – sometimes dynamically – phenomena directly affecting the demand of the national economy for raw materials and affecting the classification of individual raw materials to the strategic and critical group.

It is extremely important that the task is updated in specific temporal perspectives. Analyses should be created based on a single methodology, thanks to which they could be a coherent source of information for all government administration bodies that, within their competences, implement tasks in the area of raw materials and economic development.

Specific objective 2. Prospecting, exploration and documentation of mineral deposits

Measures under specific objective 2

Measure 1

Developing a plan for documenting, by the Polish Geological Survey, mineral deposits (considering analyses undertaken) and performing geological works in this regard

Measure 2

Developing a re-evaluation plan for exploring documented mineral deposits and the performance of geological works by the Polish Geological Survey on this basis

Measure 3

Direct cooperation of the unit acting as the Polish Geological Survey in the process of supporting line investments with a focus on exploration/verification of the geological structure

Measure 4

Prospecting and exploration of thermal water deposits and making them available

Measure 5

Harmonising the Polish classification of mineral resources with international classifications

Measure 6

Assessing possibilities of the occurrence of mineral deposits for the production of critical and unconventional raw materials and sources of these raw materials in Poland together with their documentation

The key issue related to comprehensive exploration of the geological structure is the intensification of measures taken by a unit acting as a Polish Geological Survey. In view of the above, based on the analyses undertaken under the specific objective *“Provision of access to raw materials from mineral deposits”*, the development of a plan for documenting mineral deposits by the Polish Geological Survey must be carried out in accordance with the schedule of developing a plan for documenting mineral deposits by the Polish Geological Survey. Documenting solid mineral deposits in category D²⁰ will, on the one hand, allow them to be introduced into planning documents on an ongoing basis, thus giving the opportunity to protect them from development, while, on the other hand, it will be an incentive for the mining sector to increase the exploration category, thus leading ultimately to the extraction of minerals. In addition, such measures will affect the acquisition of new geological information. Documenting hydrocarbon deposits in the category lower than C²¹ formally does not take place in Poland. Although the measures related to prospecting and exploration of these deposits are mainly taken by entrepreneurs, of extreme importance in this process is and must be the role of a unit acting as a Polish Geological Survey, consisting in indicating the directions of prospecting by designating prospective areas. These measures require periodic updating and verification.

Prospecting, exploration and documentation of mineral deposits

Measure 1

A similar action plan of the unit acting as the Polish Geological Survey will be drawn up in connection to the analysis of the possibility of using documented mineral deposits, the exploitation of which has been abandoned, and which have potential and can be redeveloped using current mining technologies.

Prospecting, exploration and documentation of mineral deposits

Measure 2

The Polish Geological Survey will also undertake measures related to geological structure exploration, using construction investments, mainly linear ones, commonly implemented in the country. Such measures make it possible to obtain information related to the geological structure with a significant reduction in the costs incurred for geological works.

Prospecting, exploration and documentation of mineral deposits

Measure 3

²⁰ Pursuant to the Regulation of the Minister of the Environment of 1 July 2015 on the geological documentation of a mineral deposit, excluding the hydrocarbon deposit (Journal of Laws, item 987).

²¹ Pursuant to the Regulation of the Minister of the Environment of 1 July 2015 on the geological and investment documentation of a hydrocarbon deposit (Journal of Laws, item 968).

Measures related to prospecting, exploration and documentation of thermal water deposits will continue. Their implementation in the years 2020-2025 will be based on the priority programme entitled “*Making thermal waters available in Poland prepared by the National Fund for Environmental Protection and Water Management*”. The measures implemented as part of this project are also part of the long-term Programme for the development of the use of geothermal resources in Poland – Road Map. Any further new implementation periods of the above-mentioned priority programme will depend on an assessment of achieving the programme’s objectives and financial capacity.

Prospecting, exploration and documentation of mineral deposits

Measure 4

The intensification of work related to prospecting, exploration and documentation of deposits, leading, as a consequence, to the extraction of minerals from deposits, will be based on active measures undertaken by the private sector. This will be significantly affected by the legislative amendments laid down in the specific objective “*Providing favourable legal conditions for current and future investors and the development and modernisation of the geological and mining industry*”. In addition, for more complete information, the harmonisation of the Polish classification of mineral resources with international classifications is also planned. The parallel use of Polish and international classifications will, on the one hand, allow the State Treasury to assess the existing and new resource base, and on the other hand facilitate the activities of entrepreneurs in relation to financial institutions expecting the application of international standards for the classification of resources.

Prospecting, exploration and documentation of mineral deposits

Measure 5

Specific objective 3. Providing favourable legal conditions for current and future investors and the development and modernisation of the geological and mining industry

Measures under specific objective 3

Measure 1

Amendment to the law oriented towards the simplification and acceleration of procedures related to pursuing geological and mining activities

Measure 2

Amendment to the law with regard to the protection of documented mineral deposits (in connection with the specific objective *Protection of mineral deposits*)

Measure 3

Digitalisation of geological works plans and documentation and computerisation of procedures related to geological and mining activities

Measure 4

Introduction of legal regulations related to the so-called anthropogenic deposits as

substitute sources of mineral raw materials coming from primary sources

Measure 5

Development of new technologies related to extraction of raw materials (coalbed methane, syngas, hydrogen production and storage, CO₂ storage)

It is necessary to seek to simplify the administrative procedures for the granting of licences for activities related to prospecting, exploration and extraction of minerals from deposits. Administrative barriers are one of the key elements limiting making geological and mining investments²². It is also important to create the proper legal environment for the development of new technologies (*inter alia*, hydrogen storage, CO₂ storage).

Providing favourable legal conditions for current and future investors and the development and modernisation of the geological and mining industry

Measure 1, 2

It is also necessary to take measures related to effective protection of mineral deposits, which require the introduction of appropriate amendments to the Act on geological and mining law and other acts governing mainly the issues of spatial planning and development. In the current legal conditions, mineral deposits are not properly protected. There are many cases of non-disclosure or improper disclosure of documented mineral deposits in planning documents, and geological administration bodies do not have effective legal instruments allowing to co-decide on the method of developing areas located above mineral deposits. For this reason, it is necessary to amend the above-mentioned legal regulations so as to introduce a category of strategic mineral deposits which, due to their importance for the economy or security of the country, are subject to special legal protection.

Recognition of a mineral deposit as a strategic deposit should be made in an appropriate administrative decision. Such measure will allow immediately, based on a decision issued, to cover the strategic deposit with special protection in planning documents.

One of the reasons for the lack of measures taken by representatives of local government administration bodies with regard to disclosing documented deposits in planning documents are the issues of high costs, often not planned in the local government budget. For this reason, it is required to make it possible to finance the introduction of strategic deposits into planning acts by entities applying for a decision approving the documentation of a strategic deposit.

Another negative phenomenon resulting in delays in the introduction of deposits into planning documents are long-lasting procedures related to the adoption of these documents. Having regard for this, it is necessary to seek to simplify the introduction of deposits of strategic importance into planning documents, taking into account the simultaneous modification in the study of land use conditions and directions and the local

²² Joanna Kulczycka, Agnieszka Nowaczek Report on the surveys carried out *Attractiveness of mining investments in Poland* Mineral and Energy Economy Research Institute of the Polish Academy of Sciences, Kraków 2016.

spatial development plan.

It is absolutely necessary to use modern technologies allowing to implement more effectively the functions of the administrative apparatus of the state related to geology and mining. First of all, when handling complex cases related to granting licences, it is required to strive for limiting the documents to be submitted. The main objective of the measures taken must be to shorten, as much as possible, the time of information flow between the geological administration body and the parties to the procedure. Moreover, it is important to ensure cybersecurity of IT systems used to implement public tasks related to geological and mining activities.

Providing favourable legal conditions for current and future investors and the development and modernisation of the geological and mining industry

Measure 3

Efforts should be made towards making the transfer of documents produced as part of the conducted geological and mining activities in electronic form mandatory, with particular consideration given to the geological works plan and geological documentations, in particular mineral deposits included in Article 10(1) of the Act on geological and mining law, presented in three-dimensional terms. In addition, efforts should be made to create an interactive archive of licence documents, which will include all documents produced in connection with the implementation of obligations arising from the licence granted and which are currently provided to various bodies.

The process of digitalisation, in addition to accelerating the administrative process, is one of the stages of seeking to improve rational management of mineral deposits. The State Treasury, which is the owner of deposits under state mining ownership, must have reliable knowledge on whether the entities to which the licence has been granted manage deposits in an optimal manner, guaranteeing the maximum extraction taking into account the existing technological state. In the case of end of exploitation – whether the resources were extracted in the largest possible amount. Data on the quantity of extracted resources from each deposit, provided to the unit acting as the Polish Geological Survey pursuant to applicable law, allow to estimate the extraction from the deposit, however, not qualitative, current monitoring of its exploitation. This results in the impossibility to respond to potential adverse changes taking place during the process of exploitation of deposits on the part of the deposit owner, i.e., the State Treasury.

Currently, in the Polish legal system there is no legal definition of anthropogenic deposits (anthropogenic mineral resources). The lack of a normative formulation means that mineral substances with properties similar to raw materials, which are generated as part of ongoing mining and processing activities and collected in mining waste disposal facilities, are considered waste and are subject to the regime of the Act of

Providing favourable legal conditions for current and future investors and the development and modernisation of the geological and mining industry

10 July 2008 on mining waste.²³

Measure 4

Only the inclusion, in the above Act, of the obligations on subjecting, in the first instance, waste to recovery processes, means that both the existing absence of appropriate legal regimes, as well as the technology of extraction and processing of extracted minerals, used in previous years, resulted in the fact that waste with a high share of valuable fractions, which may currently constitute an additional source of mineral resources, was sent to mining waste disposal facilities.

In addition, substances currently defined as waste which are generated as part of current mining and processing activities and disposed of in mining waste disposal facilities may constitute a source of many valuable raw materials, whose potential as anthropogenic raw materials (anthropogenic mineral resources) is currently not fully exploited.

According to the data included in the Statistics Poland report (Environmental Protection 2019)²⁴, in 2018, 115,339, 000 tonnes of waste (excluding municipal waste) from various branches of economic activity were generated. The main sources of waste in 2018 were: mining and extraction (53.2% of the total amount of waste generated), industrial processing (22.6%) as well as generation and supply of electricity, gas, steam, hot water (15.9%). Of the total amount of waste generated in 2018, 51% of waste was recovered, 43% was disposed of through landfilling and 5% was disposed of in a different way.

According to the data contained in the CSO report (Environmental Protection 2020)²⁵, in 2019, 114,134,000 tonnes of waste (excluding municipal waste) from various branches of economic activity were generated. The main sources of waste in 2019, just like in previous years, were: mining and extraction (55.8% of the total amount of waste generated), industrial processing (23.8%) as well as generation and supply of electricity, gas, steam, hot water (12.3%). Of the total amount of waste generated in 2019, 49% of waste was recovered, 43% was disposed of through landfilling and 5% was disposed of in a different way.

According to the Statistics Poland data, the largest amount of industrial waste is generated in the mining and extraction industry, as well as in the processing industry, and the scale of the amount of waste generated in relation to the amount of waste recovered indicates that there is still a considerable potential for action and improvement in this area.

The issue of anthropogenic deposits and raw materials in formal and legal terms must fall within the scope of geological and mining law and regulations governing management of mining waste, while maintaining the compliance with EU law.²⁶

²³ Journal of Laws of 2021, item 1972.

²⁴ Study by the Statistics Poland, Warsaw 2019 <https://stat.gov.pl/obszary-tematyczne/srodowisko-energia/srodowisko/ochrona-srodowiska-2019.1.20.html>

²⁵ Study by the Statistics Poland, Warsaw 2020 <https://stat.gov.pl/obszary-tematyczne/srodowisko-energia/srodowisko/ochrona-srodowiska-2020.1.21.html>

²⁶ Directive 2006/21/EC of the European Parliament and of the Council of 15 March 2006 on the management of waste from extractive industries and amending Directive 2004/35/EC (OJ EU L 102, 11.4.2006, p. 15, as amended).

Measures specified in the National Raw Materials Policy related to expanding the resource base must support the measures undertaken in connection to using clean technologies (*inter alia*, CBM, IGCC, CCS, CCU) and the use of solid minerals and hydrocarbons for the production of hydrogen, methanol and smokeless fuels.

It is also necessary to take a broader look at comprehensive management of the rock mass, which can be used in the process of underground carbon dioxide storage, waste storage in the rock mass, storage of substances or other method of managing post-mining voids. The unambiguous conferral of powers in this area to the Chief National Geologist acting as the Government Plenipotentiary for the National Raw Materials Policy is a necessary step.

As part of the adopted Energy Policy of Poland until 2040, investments in low- and zero-emission energy sources will be implemented by a special purpose vehicle created for this purpose. It is extremely important to involve in the activities in this area the Chief National Geologist acting as the Government Plenipotentiary for the National Raw Materials Policy and the unit supervised by him acting as the Polish Geological Survey.

The area and scope of cooperation should be defined in accordance with the specific objective *“Ensuring the consistency of strategies implemented by companies of significant importance for the state economy and companies performing a public mission with the activities of the Chief National Geologist acting as the Government Plenipotentiary for the National Raw Materials Policy”*.

Providing favourable legal conditions for current and future investors and the development and modernisation of the geological and mining industry

Measure 5

Specific objective 4. Protection of mineral deposits

Measures under specific objective 4

Measure 1

Analysis of possibilities to secure access to mineral deposits through their temporary use for the purposes of RES, agriculture, forestry, green areas (including allotments), waters, tourism, sports and recreation

Measure 2

Selection of mineral deposits of strategic importance for the national and regional economy based on developed methods to valorise them

Measure 3

Development of a methodology to classify minerals into a group of minerals of strategic importance for the national and regional economy to cover their deposits with special protection

Measure 4

Monitoring of an obligation to disclose in planning documents all levels of mineral deposits and the method of development of areas under mineral deposits, with particular consideration given to mineral deposits of strategic importance for the national and regional economy

One of the key issues that directly affects the achievement of the envisaged main objective of PSP2050 is the effective protection of documented mineral deposits against development (mainly residential). In order to act effectively in this regard, it is necessary to amend the legislation (the issue has been discussed in more detail in the specific objective “*Ensuring favourable legal conditions for current and future investors and the development and modernisation of the geological and mining industry*”), as well as the appropriate and effective operation of all administrative bodies responsible for the planning and spatial development process and geological administration bodies.

Bearing in mind the need to ensure security of raw materials implemented through the protection of mineral deposits and the need to develop local governments, while seeking to maximise the share of renewable energy sources in the energy mix, it is necessary to determine new forms and methods of protecting mineral deposits.

Protection of mineral deposits

Measure 4

This objective can be achieved by excluding, in specific cases, the limitation of development of the area of real properties located above a deposit for the purpose of locating renewable energy sources (RES) installations²⁷. The exclusion in question could take place in the absence of determining an expected date for the extraction of a given deposit or the planned date of extraction would not constitute any obstacles to the location of RES installations.

Such measures will allow to develop areas located above the deposit for the purposes other

²⁷ Pursuant to the Act of 19 July 2019 amending the Act on renewable energy sources and certain other acts (Journal of Laws, item 1524, as amended).

than residential ones, thus excluding adverse effects associated with the possible undertaking of mining activities. Assembly of RES installations, which, for technical reasons, are used for a limited period of time, may be a form of temporary protection of deposits against the development of housing whose progress is highly dynamic.

Similar effects can be achieved by using areas located above mineral deposits for the purposes of agriculture, forestry, green areas (including allotments), water, tourism, sports and recreation, with the proper limitation of the possibility of locating permanent development. Conducting these types of activity will allow the use of areas located above mineral deposits without the risk of irreversible effects related to development of mineral deposits.

The type of measures specified in the National Raw Materials Policy related to protection of mineral deposits must be consistent with other government documents governing the issues of raw materials, *inter alia*, Programme for the brown coal sector in Poland²⁸, Programme for the black coal sector in Poland²⁹, Energy Policy of Poland until 2040, by covering mineral deposits specified in these documents with special protection. In addition, all other deposits whose exploitation is not currently planned for economic, social or other reasons must be treated as a reserve base ensuring the possibility of their use in emergency situations. Providing direct access to national deposits – in particular, energy deposits – guarantees state security, giving full independence in crisis situations.

Attempts made so far in government and ministerial documents to identify strategic deposits requiring special protection, *inter alia*, in the Energy Policy of Poland until 2030³⁰, the Concept of Spatial Development of the Country 2030³¹, the White Paper for the Protection of Mineral Deposits³², the Programme for the brown coal sector in Poland, the Programme for the black coal sector in Poland, have not been completed by including these deposits in a normative act calling for including them directly in local spatial development plans, thus ensuring their protection. Neither have other methods, such as the definition of strategic deposits in relevant administrative decisions granting the status of a strategic deposit, been provided for.

Apart from covering deposits already included in the above-mentioned government documents with special protection, it is necessary to take measures to determine the methodology for classifying mineral deposits as deposits of strategic importance and on this basis to select deposits meeting the adopted criteria and also cover them with special protection. It is also extremely important that, as part of the ongoing process of transformation of the mining sector and the liquidation of individual mines, the aspect that mineral deposits are non-renewable strategic resources and should

**Protection of mineral
deposits**

Measure 2, 3

²⁸ Programme of the Ministry of Energy, Warsaw 2018

²⁹ Programme of the Ministry of Energy, Warsaw 2018, and the document adopted by the Council of Ministers on 23 January 2018 taking into account the adjustments adopted by the Council of Ministers on 30 September 2019.

³⁰ Annex to Resolution No. 202/2009 of the Council of Ministers of 10 November 2009

³¹ Annex to Resolution No. 239 of the Council of Ministers of 13 December 2011 on the adoption of the Concept of Spatial Development of the Country 2030 (Polish Monitor of 2012, item 252).

³² Ministry of the Environment, November 2015

continue to constitute a national resource base must be taken into account. Thus, individual units should be liquidated considering the fact that mineral deposits exist which should continue to be protected.

Measures related to defining strategic deposits must be repetitive in a specific temporal perspective, as the classification of deposits into the group of strategic deposits is conditional upon many variable factors (*inter alia*, raw material demand, raw material prices, development of new extraction technologies, tax policy, EU climate policy).

The selection of strategic deposits based on a single methodology should be a coherent source of information for all administrative bodies that, within their competences, carry out tasks related to raw materials.

In addition, in relation to protection of mineral deposits, a scheme of activities of geological administration bodies must be developed regarding the ongoing monitoring of the obligation to disclose deposits in planning documents along with an analysis of actual development of real properties. Geological administration bodies participating in the process of agreeing administrative decisions regarding development of real properties and giving opinions on planning documents must create a platform for cooperation and quick and effective exchange of information with regional governors in order to quickly remove, from legal transactions, defective acts of law established by local government administration bodies.

Protection of mineral deposits

Measure 4

Specific objective 5. International cooperation in securing access to raw materials

Measures under specific objective 5

Measure 1

Determination of support instruments for Polish entities involved in prospecting of and acquiring strategic and critical raw materials from abroad – taking into account cooperation with the Polish Geological Survey

Measure 2

Determination of the principles of international cooperation with regard to securing available mineral deposits (specified as part of analytical work), taking into account, *inter alia*, legal conditions applicable in countries where such measures will be planned

Measure 3

Measure related to prospecting and exploration of mineral deposits present on the ocean bed (ISA, IJO) – Implementation of the PRoGeO Programme

Given that the vast majority of raw materials strategic and critical for the Polish economy is wholly or partially imported (Table 1), it is extremely important to seek to create the right framework for cooperation and to create a raw materials partnership mainly with countries having these raw materials. Measures in this area must be strongly supported by the proper foreign and economic policies. It is necessary to streamline the flow of information between the Polish industry and ministries responsible not only for economic issues, but also for raw materials. Such measure will make it possible to identify more effectively the problems of enterprises (e.g. related to legal and trade barriers in the raw materials market), which will allow for appropriate policy measures to prevent or solve these problems. Therefore, it seems extremely important to create a platform for the exchange of information and close inter-ministerial cooperation related to measures taken on the international arena through individual ministries in the issue of securing free access to raw materials. This role should be played by the Interministerial Team for the National Raw Materials Policy established by the order of the Prime Minister.

International cooperation in securing access to raw materials

Measure 1, 2

A very important role related to international cooperation is also to be played by the unit acting as the Polish Geological Survey, first of all, related to strengthening cooperation and integration of measures with other foreign units implementing tasks related to geology. In addition, the geological survey should provide substantive support and assistance to government administration bodies implementing tasks related to raw materials, as well as to domestic entities involved in prospecting activities outside the country.

It is also necessary to continue close cooperation with Interoceanmetal³³ and international organisations such as the International Seabed Organisation³⁴, which have been established to achieve the objectives related to prospecting and exploration of minerals present on the ocean floor. As part of cooperation with the International Seabed Organisation, Poland must intensify its measures with regard to implementing the government programme PROGeO – Ocean Geological Survey Programme³⁵ and the implementation of the provisions of the contract³⁶ concluded with the above-mentioned organisation for prospecting polymetallic sulphides in the Mediterranean rift zone in the Atlantic Ocean.

It is also necessary for Poland to continue its active participation as one of the members associated in the Interoceanmetal organisation established to conduct research and exploitation of polymetallic concretions in the North-East Pacific.

Moreover, Poland must be an active participant in expert groups operating directly at the

³³ INTEROCEANMETAL is an organisation established to conduct exploration of ocean floors. It brings together: Poland, the Czech Republic, Slovakia, Russia, Bulgaria and Cuba. As part of its activities, prospecting works are performed, within the license possessed, in the Pacific Ocean (Clarion–Clipperton fracture zone).

³⁴ International Seabed Authority.

³⁵ Resolution No. 113 of the Council of Ministers of 25 July 2017 (Polish Monitor, item 774).

³⁶ Contract of 12 February 2018

European Commission, which are involved in economic, environmental and raw materials issues, *inter alia*, European Innovation Partnership (EIP) on raw materials, Raw Materials Supply Group, European Raw Materials Alliance (ERMA), Commission expert group on risk management in the extractive sector (TAG-RM). Due to the interdisciplinarity of the issues raised at the meetings of the groups, it is necessary, in order to present a coherent position, to strengthen cooperation in this area by all ministries responsible for raw materials issues. The role of a platform for the exchange of information in this area should be played by the Interministerial Team for the National Raw Materials Policy. The National Raw Materials Policy should also be linked to the objectives and measures specified in the Polish Polar Policy by including the Chief National Geologist acting as the Government Plenipotentiary for the National Raw Materials Policy in the interministerial team to be created, coordinated by the Ministry of Foreign Affairs, and by including the institution acting as the Polish Geological Survey in cooperation with public administration.

Table 1. Share of import of raw materials strategic and critical for the national economy in the years 2009-2018³⁷

No.	Raw material name	Share of import in meeting the demand in the years 2009-2018[%]	No.	Raw material name	Share of import in meeting the demand in the years 2009-2018[%]
1	Metallic aluminium	91.1	27	Metallic nickel	100.0
2	Antimony oxides	100.0	28	Refined lead	27.0
3	Metallic antimony	100.0	29	Moulding sands	0.0
4	Bauxites	100.0	30	Glass-making sands	0.9
5	Amber	80-90	31	Rare earth elements	100.0
6	Metallic chromium	100.0	32	Platinum group elements	78.0
7	Tin	49.4	33	Crude oil	96.6
8	Zinc metallic	66.9	34	Titanium ores and concentrates	100.0
9	Industrial dolomites	5.4	35	Elemental sulphur	2.7
10	Elemental phosphorus	100.0	36	Potassium salts	94.2
11	Calcium phosphates	100.0	37	Salt	17.6
12	Metallic silicon	100.0	38	Feldspar and feldspar-quartz raw materials	41.6
13	Natural gas	81.3	39	Metallic silver	2.4
14	Gypsum and anhydrite	1.7	40	Talc and soapstone	100.0
15	Natural graphite	100.0	41	Titanium ores and concentrates	100
16	White-firing and refractory clays	69.0	42	Black coking coal	21.1
17	Construction and road stones	34.8	43	Brown coal	0
18	Kaolin	44.2	44	Black energy coal	14.5

³⁷ Prepared on the basis of the study entitled "Determination of trade flows of key and strategic raw materials for the Polish economy in the light of the current and future national demand for raw materials", prepared by the Mineral and Energy Economy Research Institute of the Polish Academy of Sciences upon request of the Polish Geological Institute – National Research Institute under the agreement No. 1406/2020/Wn-07/FG-GO-DN/D of 26.06.2020 entitled "State's tasks implemented by the Polish Geological Survey regarding information, training and foreign cooperation activities related to geology, carried out from 2020" (Geological and Mining Law, Article 162(1)).

19	Synthetic and natural corundum	100.0	45	Metallic tungsten	100.0
20	Natural broken aggregates	4.3	46	Industrial limestone	0.6
21	Natural gravel and sand aggregates	1.0	47	Metallic gold	4.8
22	Metallic magnesium	100.0	48	Iron – ores and concentrates	100.0
23	Magnesites and magnesia	100.0	49	Ferroalloys	50.0
24	Manganese	100.0			
25	Refined copper	4.3			
26	Molybdenum	100.0			

Specific objective 6. Acquiring raw materials from anthropogenic deposits and supporting the development of the circular economy

Measures under specific objective 6

Measure 1

Inventory of mining waste landfills and assessment of potentials for their use performed by the Polish Geological Survey

Measure 2

Construction of the knowledge base on sources of raw materials from waste, with their proper classification and indication of directions of their use

Measure 3

Measures to develop recovery of raw materials from waste (in particular, strategic and critical raw materials), including the development of processing technology for such waste

The national economy is characterised by a relatively high material intensity, which affects the dynamics of the depletion of non-renewable raw materials. This poses a threat to the further stable development of the Polish economy. For this reason, it becomes necessary not only to rationally use available resources, but also to effectively manage mineral substances collected in waste disposal facilities and having properties similar to those of raw materials. These facilities, due to their specific nature, in certain cases may constitute anthropogenic deposits.

Acquiring raw materials from anthropogenic deposits and supporting the development of the circular economy

Measure 1, 2, 3

In order to intensify measures aimed at recovering the above-mentioned raw materials, in addition to the measures in legislative terms, referred to in the specific objective *“Ensuring favourable legal conditions for current and future investors and the development and modernisation of the geological and mining industry”*, direct measures must also be taken in relation to inventory and analysis of the potential and opportunities to use raw materials collected on heaps, in settling tanks and other similar facilities.

Such measures have already been initiated by the Polish Geological Survey and are performed systematically in individual areas of the country. The effect of the measures achieved at the moment is the creation of the “Hałda” (“Heap”) geodatabase, which

classifies the inventoried facilities in terms of the possibilities of their use.

The key measure under this specific objective will be the successive extension of the data contained in the “Halda” geodatabase to include further facilities located throughout the country, with the ultimate aim to include all accumulated raw materials in anthropogenic deposits with an indication of the possibilities of their use.

Specific objective 7. Ensuring the consistency of strategies implemented by companies of significant importance for the state economy and companies performing a public mission with the activities of the Chief National Geologist acting as the Government Plenipotentiary for the National Raw Materials Policy

Measures under specific objective 7

Measure 1

Determination of joint measures of the Chief National Geologist acting as the Government Plenipotentiary for the National Raw Materials Policy and the unit acting as the Polish Geological Survey with regard to implementing the strategies implemented by companies of significant importance for the economy of the state and companies implementing a public mission – a strategic project

The implementation of the tasks specified in the National Raw Materials Policy related to securing access to raw materials is often consistent with the activities of companies – mainly with the participation of the State Treasury – pursuing the public interest. Thus, there is a need for synchronisation of the measures and cooperation between the prospecting and mining sector and the Chief National Geologist acting as the Government Plenipotentiary for the National Raw Materials Policy coordinating the implementation of the measures specified in this document.

In addition, the geological survey under ministerial supervision, whose main task is to implement the tasks of the state related to geology, must provide support for entities with a prospecting and mining profile, whose activities are aimed at expanding the mineral resource base for the production of raw materials, by operating both at home and abroad.

Ensuring the consistency of strategies implemented by companies of significant importance for the state economy and companies performing a public mission with the activities of the Chief National Geologist acting as the Government Plenipotentiary for the National Raw Materials Policy

Measure 1

Each time, collaboration in the above-mentioned scope will require an individual determination of the framework for cooperation in a properly prepared strategic project. In a situation where it will be necessary to protect trade secrets, a strategic project will be a classified document.

In addition, in connection with the planned transformation of the mining sector resulting from the reduction in the amount of extracted energy resources (brown coal, black coal), it is extremely important to further use the potential, knowledge and experience of entities operating in the mining industry with the orientation of their activities towards securing the mineral resource base for the production of raw materials strategic and critical for the national economy and raw materials critical for the EU. The measure in this area will significantly improve the competitiveness of the national economy, thus creating the opportunity for the further development of the industry using raw materials, as well as the development of new industries.

Specific objective 8. Dissemination of knowledge

Measures under specific objective 8

Measure 1

Dissemination and promotion of knowledge with regard to geology and mining so as to build society's awareness under the measures to be implemented as part of PSP2050

An important objective of the National Raw Materials Policy, implemented in complementary with other specific objectives, is social education and a wide-ranging information campaign related to measures undertaken and implemented as part of PSP2050. First of all, it is crucial to constantly make society aware of the role and function of raw materials in the economy and everyday life.

Dissemination of knowledge

Measure 1

One of the key measures to implement is the pursuit of a reliable information campaign on the environmental impact of geological and mining activities, based solely on scientific knowledge. It is also important to promote mining activities which have no negative environmental impact. In addition, of great importance is to build public understanding for decisions made by geological administration bodies related to mineral deposit protection.

It is also important to raise awareness of representatives of local authorities regarding the possibilities and potential benefits of projects consisting in the use of the Earth's heat (different temperatures) for heating and energy purposes. In addition, it is also important to present complementary knowledge on, *inter alia*, storage of substances in the rock mass, underground storage of carbon dioxide, waste storage in the rock mass, counteracting the frequent misinformation about the impact of these projects.

5. Implementation and monitoring of achieving PSP2050 objectives

The National Raw Materials Policy in the context of implementing tasks related to geology undertaken by the Polish Geological Survey

At the moment, the state's tasks related to geology specified in the Act – Geological and

Mining Law are undertaken by the Polish Geological Survey, performed by the Polish Geological Institute – National Research Institute. The transfer of tasks for implementation is based on the annually prepared work plan of the Polish Geological Survey, subject to the approval of the Chief National Geologist. There is also a form of *ad hoc* entrustment of tasks that have not been included in the work plan of the Polish Geological Survey. The existing practice indicates that the planning and programming of measures must be carried out within a time horizon broader than just one year.

Therefore, the role of the National Raw Materials Policy is to additionally complement the existing methods of planning the work of the Polish Geological Survey by defining the key tasks to be implemented in a government document in the perspective until 2050. Long-term measure planning will additionally have a positive impact on the possibility of proper organisation and adaptation of the institution implementing tasks related to geology to the long-term needs included in the National Raw Materials Policy. The National Raw Materials Policy contains key measures, the implementation of which results in achieving the main objective and specific objectives.

The horizon of the measures to be implemented has been set at 30 years, which is directly related to the fact that investment activity in the mining industry is long-term and the planned effects can be achieved in the long term. In addition, international cooperation requires long-term measures at various levels (diplomatic, economic, scientific).

Some measures to be implemented must be repeated in specific time perspectives, which is related to continuous – often dynamic – changes in factors determining, *inter alia*, the national economy's demand for raw materials, which, at the same time, determines changes in their classification. Potential sources of raw materials imports must also be continuously updated, due to geopolitical and internal factors, particularly, in countries with unstable political situations.

In addition, the implementation of all tasks specified in the National Raw Materials Policy will be subject to a periodic update at least every 5 years. The pursuit of the National Raw Materials Policy is planned for the horizon until 2050. The schedule for achieving the specific objectives and the measures assigned to them is set out in Annex No. 4.

Implementation and monitoring of PSP2050 objectives

All measures specified in the National Raw Materials Policy will be carried out by the unit acting as the Polish Geological Survey, as well as directly by the Chief National Geologist acting as the Government Plenipotentiary for the National Raw Materials Policy in cooperation with other bodies and units responsible for areas related to the raw materials policy (Table 2). The implementation of the assumptions specified in the National Raw Materials Policy is also influenced by the activity of geological and mining enterprises, whose activity in the area related to prospecting and extraction of minerals directly contributes to achieving the main objective, i.e. broadly understood raw material security of the country.

The implementation of geothermal measures will be possible thanks to the optional participation of local governments implementing tasks included in the geothermal

programme.

The measures specified in the National Raw Materials Policy undertaken by a unit acting as the Polish Geological Survey and local government units will be performed based on an agreement concluded with the National Fund for Environmental Protection and Water Management, which provides for both the material effect (indicator of the task performed), the deadline for implementation and the project costs. For this reason, it is not necessary to include detailed indicators for the individual measures in the PSP2050 document itself. In addition, this solution is supported by the fact that the measures specified in the National Raw Materials Policy are of different nature (analytical, legislative measures, direct geological work), which require the individual selection of the indicator.

Thus, the pursuit of the National Raw Materials Policy will be monitored at the level of the main objective and the main indicators, which will include:

- the number of licences granted for the prospecting, exploration and extraction of mineral deposits (excluding black coal and brown coal);
- number of approved geological works designs;
- number of boreholes made:
 - as part of licences for prospecting/exploration made by entrepreneurs;
 - performed as part of the tasks of the unit acting as the Polish Geological Survey.

The values of the indicators should achieve an upward trend in relation to 2021, which is the base year.

In the event of changing the method of transferring tasks by the Chief National Geologist to the unit acting as the Polish Geological Survey (other than an agreement concluded between the Polish Geological Institute – National Research Institute and the National Fund for Environmental Protection and Water Management), regardless of the form of the delegated act, he must specify the indicator, costs and deadline for the implementation of each measure.

Table 2. Key areas of cooperation of individual ministries related to shaping the National Raw Materials Policy

Implementing unit	Areas covered by the National Raw Materials Policy
Chief National Geologist acting as the Government Plenipotentiary for the National Raw Materials Policy	Body responsible for preparing and implementing the assumptions set out in the National Raw Materials Policy document
Minister responsible for the environment	Geological administration body
Minister responsible for energy and climate	Plays a leading and coordinating role in creating and pursuing the state's energy policy and the environmental policy of Poland. In addition, supervises the activity of the National Fund for Environmental

	Protection and Water Management financing the tasks of the unit acting as the Polish Geological Survey.
Minister responsible for state assets, for mineral deposits management	Supervises companies from the mining sector and the President of the State Mining Authority is also subordinate to him.
Minister responsible for the economy, construction, planning and spatial development and housing	Undertakes activities related to planning and spatial development, which is important in the context of protecting mineral deposits
Minister responsible for the economy	Undertakes activities related to the competitiveness of the economy, economic cooperation with foreign countries, innovation, promotion of the Polish economy at home and abroad, which is important in the context of supporting the prospecting and extraction sector. In addition, it is important to cooperate in seeking to build a circular economy
Minister responsible for foreign affairs	Provides support for the implementation of measures included in the National Raw Materials Policy in so far as they concern Polish relations with other states and international organisations and involve the representation and protection of Polish interests abroad
Minister responsible for agriculture, rural development	Provides protection of land intended for agricultural purposes, which may be important in the context of a collision of the use of real properties for purposes related to geological and mining activities.
Minister responsible for public finance	Cooperates in pursuit of the National Raw Materials Policy, in particular with regard to measures related to determining the appropriate fiscal system conducive to the development of the raw materials market and cooperates with regard to developing an optimal model for financing the tasks of the unit acting as the Polish Geological Survey.
Minister responsible for education	Undertakes activities aimed at adapting vocational education to the needs of the labour market. In addition, acts as the minister coordinating the Integrated Qualifications System, allowing to harmonise the standard of description of qualifications, including market qualifications related to geology included in the IQS by the competent minister.
Minister responsible for maritime economy, inland navigation, water management	Is responsible, in particular, for implementing measures related to management of maritime areas of the Republic of Poland for purposes related to prospecting and extraction activity, in addition, carries out measures related to the environmental aspects of water use
Minister responsible for higher education and science	Undertakes activities aimed at developing and adapting the system of science and higher education to the

	needs of the market
Minister responsible for computerisation	Is responsible for the development of services provided electronically and for security of cyberspace in the civil dimension, which is important in the context of the digitisation of geological administration bodies
Minister of national defence	Cooperates in ensuring the availability of raw materials for the arms industry as the foundation of state security

6. Financial framework of PSP2050

At present, tasks related to geology, including those related to broadly understood raw material geology, are financed from funds from fees specified in the Act – Geological and Mining Law collected under a long-term commitment – geology, being at the disposal of the National Fund for Environmental Protection and Water Management.

Funds for implementing measures undertaken by the Polish Geological Survey specified in this document will come from a long-term commitment – geology. For this reason, they are the only ones included in the list of sources of financing for the survey.

However, it should be noted that these funds come entirely from the fee incurred by mining companies in connection with their extraction activity. The changes taking place with regard to limiting the amount of energy raw materials used in the energy mix will result in a significant decrease in their revenue transferred to the National Fund for Environmental Protection and Water Management, which may directly limit the possibility of financing tasks carried out by the unit acting as the Polish Geological Survey.

Therefore, taking into account the situation of the state budget, in the near future efforts will be made to compensate for the loss of revenue from the exploitation fee by transferring other financial resources for the implementation of state's tasks related to geology, which directly result from geological and mining activities.

It is necessary to ensure that the tasks of state services, such as the Polish Geological Survey, are financed mainly from the state budget, and additional sources should only complement this financing. The solution consisting in financing the tasks of state services in full by an entity having the status of a state legal person, whose financial standing depends on the revenue which at first must be collected by this entity, is not desirable. The state budget should be a basic source of financing the tasks of state services, which will guarantee the continuity and stability of their activity.

Any changes in the method of financing the tasks of the unit acting as the Polish Geological Survey and the determination of funds transferred for this purpose will be made each time in the amended relevant acts of law and will be subject to standard legislative procedures, while the implementation of the strategy tasks as part of national budget funds will take place within the limits of funds for individual administrators, determined during work on the draft budget act for the a given year without the need to increase them from the state budget.

Table 3. List of sources of financing for PSP2050

List of sources of PSP2050 financing				
Type/name	area of financing	amount (PLN)	horizon	additional information
1. Tasks carried out by the Polish Geological Survey	NFEPWM	3,931,779,226 ³⁸	2021-2050	The amount for the implementation of all PSG tasks not only included in the National Raw Materials Policy
	State budget (compensation of loss or revenue to NFEPWM)	Including, inter alia		
a) implementation of the PProGeo Programme	NFEPWM	529,863,000	2017-2032	Pursuant to Resolution No. 113 of the Council of Ministers of 25 July 2017 on the establishment of a multiannual programme "Ocean Geological Survey Programme" – ProGeo
	State budget	720,000	2017-2032	Pursuant to Resolution No. 113 of the Council of Ministers of 25 July 2017 on the establishment of a multiannual programme "Ocean Geological Survey Programme" – ProGeo
b) implementation of the Geotermia programme	NFEPWM	300,000,000	2020-2025	In accordance with the NFEPWM priority programme - Making thermal waters available in Poland
Polska Geotermia Plus	NFEPWM	600,000,000	2019-2025	In accordance with the NFEPWM priority programme – Polska Geotermia Plus
Norwegian Financial Mechanism, EEA Financial Mechanism		31,622,870	2014-2021	In accordance with the "Environment, Energy and Climate Change" Programme
Horizon Europe	Research and development	-	2021-2027	Successor of the Horizon 2020 programme

Annexes:

Annex No 1. List of raw materials strategic and critical for the Polish and EU economy

Raw materials strategic for the national economy	Raw materials critical for the national economy	Raw materials critical for the EU
Natural gas	Natural gas	
Crude oil	Crude oil	
Brown coal		
Black energy coal		
Metallic aluminium		

³⁸ Based on the financial statements of the National Fund for Environmental Protection and Water Management for the financial year 2020. The amount supplying the long-term commitment – geology.

Antimony raw materials	Antimony raw materials	Antimony
		Beryllium
		Bismuth
Bauxites and alumina	Bauxites	Bauxites
Chromium raw materials	Chromium raw materials	
Metallic tin		
Metallic zinc		
		Gallium
		Germanium
		Hafnium
		Indium
		Cobalt
Metallic silicon	Metallic silicon	Metallic silicon
		Lithium
Metallic magnesium	Metallic magnesium	
Manganese raw materials	Manganese raw materials	
Refined copper		
Molybdenum raw materials	Molybdenum raw materials	
Metallic nickel		
Refined lead		
Rare earth elements	Rare earth elements	Rare earth metals
		Niobium
Platinum group elements	Platinum group elements	Platinum
		Scandium
		Strontium
Metallic silver		
		Tantal
Titanium ores and concentrates		Titanium
Black coking coal	Black coking coal	Coking coal
		Vanadium
Metallic tungsten	Metallic tungsten	Tungsten
Metallic gold		
Iron ores and concentrates		
Ferroalloys		
		Barite
		Borate
Amber	Amber	
Industrial dolomites		
		Fluorite
Elemental phosphorus	Elemental phosphorus	Phosphorus
Calcium phosphates	Calcium phosphates	Phosphorites
Gypsum and anhydrite		
Natural graphite	Natural graphite	Graphite
White-firing and refractory clays		

Building and road stones		
Kaolin		
Synthetic and natural corundum		
Natural broken aggregates		
Natural gravel-sand aggregates		
Magnesites and magnesia		
Moulding sands		
Glass-making sands		
Elemental sulphur		
Potassium salts		
Salt (rock salt and brine)		
Feldspar, feldspar-quartz raw materials and nepheline syenite		
Talc and soapstone		
Industrial limestones (and related raw materials)		

Annex No. 2. List of minerals for extraction of raw materials in Poland

Group of minerals	Minerals for the production of strategic raw materials, present in Poland
Energy minerals	natural gas
	crude oil
	brown coal
	black energy and coking coal
Metallic minerals	zinc and lead ores
	tin ore
	copper and silver ores
	Mo-W-Cu ore
	Ni ore
	Fe-Ti-V ores
Chemical minerals	phosphate concretions
	potassium and potassium-magnesium chloride or sulphate salts
	rock salt
	sulphur-bearing limestones and sulphurised natural gases for the production of elemental sulphur
Rock minerals (ceramic, construction and others)	industrial dolomites
	gypsum and anhydrite

	quartz and quartzites
	leucogranites and granite weathered materials for the production of feldspar raw materials
	magnesites (serpentinites with magnesite)
	glaucconitic silts and amber-bearing sand and silt deposits for the production of amber and glauconite
	quartz glass-making and moulding sands
	sands, sand and gravel mixes and gravels for the production of gravel-sand aggregates
	igneous, metamorphic and sedimentary rocks for the production of construction and road stones and broken aggregates
	limestone, chalk and related rocks for the cement and lime industries
	granite weathered clays, kaolinite clays and kaolinite sandstones for the production of kaolin
	kaolinitic clays (white-firing, refractory)