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Mineral Deposits of Public Importance (MDoPI) in relation to the Project of the National Mineral Policy of Poland

Introduction

The functioning of European economies and societies requires a stable and sustainable supply of mineral resources for industry, housing and construction, transportation, telecommunications, IT and other major uses since we all want to live in a safe, healthy and prosperous environment. Even if Europe makes substantial progress in the path towards a circular economy, the extraction of primary mineral raw materials, in Europe and elsewhere, will still be needed. This is due, among other reasons, to an increasing population and a growing minerals demand, unavoidable losses and the fact that some essential minerals cannot be recycled (e.g. phosphate rock for fertilizers, fluorspar for steel making), can be substituted with considerable losses of performance (e.g. silicon for germanium) or cannot yet be substituted (e.g. helium for specific applications like cryogenics or natural graphite in refractories) (Deloitte 2017). Even in the case of steel which has currently one of the world´s highest recycling rates (over 85%), long-term forecasts indicate that secondary steel production (from

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scrap) may only surpass primary production (from virgin ores) in the second half of the 21st century; yet primary extraction will still be necessary (Pauliuk et al. 2013).

For over ten years now the EU has been developing a multi-faceted raw materials initiative (European Commission 2008, 2011) to secure the European raw materials supply promoting EU-wide collaborative multi-stakeholder actions on imports, exports, resource efficiency and domestic extraction. Framed in a context of transition towards low-carbon and circular economies and in recognition of Europe´s mineral potential, the EU and its Member States are promoting a revitalization of the importance of domestic primary mineral resources and their associated mining, quarrying and metallurgical industries. Despite such actions, its mineral potential and the high positioning of some jurisdictions like Finland, Ireland or Sweden in global investment attractiveness rankings (Fraser Institute 2017), many European jurisdictions and mineral deposits are not competitive enough to attract the necessary investments. The reasons behind this include policy and regulations implementation (overlapping policies, over-implementation of legislation, 'red-tape' issues, bureaucracy), inefficient permitting regimes, lack of social acceptance and risks of time-consuming legal disputes, among others (see e.g. MinPol 2017).

In many cases, areas with known or hypothetic mineral geological potential, are not sufficiently valued by the society and authorities, remain unprotected and face competing land uses with the risk of becoming unnecessarily sterilized. This means that access to those land areas hosting the minerals becomes impeded permanently and expensive, e.g. due to physical infrastructure constructed in that area (e.g. housing, transport infrastructure) or legal protection of areas which does not allow or severely restricts minerals extraction (e.g. nature conservation areas). A survey by IMA-Europe among its members determined that the change of land use planning from non-mining into mining is one of the major bottlenecks in mineral resource permitting with estimations that it takes on average 10 years to finalize such a process across the EU (Shtiza 2016). The loss of access to minerals plays against the sustainable management of natural resources as it may be the case that in the future minerals nowadays not considered "critical" become so. Another possibility is that new future extraction technologies are developed which allow a less environmentally risky, more efficient and low-impact extraction of minerals nowadays considered unacceptable by the society.

The protection of mineral deposits via land use planning has been acknowledged for a long time as a good practice that can be employed by Member States to ensure access to minerals on their territory (Ad-Hoc Working Group 2014, 2010). The practice of safeguarding access to the areas where a mineral is located is based on the fact that minerals can only be extracted from where they are found. The legal designation of a "protected area" is generally applied to locations which receive protection because of their recognized natural, ecological or cultural values. In Europe, the most extensive network of areas protected for the conservation of nature (Natura 2000) covers 18% of the EU land mass. Yet, the designation of areas for the protection (or safeguarding) of mineral resources is less well-known, though important across the EU: such a designation is considered in different ways by the land use planning law in several European jurisdictions such as: Austria, Croatia, the Czech

Republic, the Emilia-Romagna Region, Hungary, Poland, Portugal, Slovakia, Sweden or the United Kingdom (Horvath et al. 2016). The legal basis and the implementation of "safeguarding practices" is very heterogeneous across such jurisdictions, e.g. due to the different national mineral inventory reporting codes which undermines the comparability between countries and also within countries (e.g. Germany and Italy apply regional codes) of what kind of deposits are being protected. Other reasons are that countries and regions valuate minerals in different ways according to their needs and demands, they use different categories and levels, they may or may not require stakeholder consultation for the designation of protection areas. Moreover, protection may be considered differently in the law, e.g. while in Austria and the UK there specific categorizations exist for the designation of raw material priority zones or mineral safeguarding areas, in Poland, according to the Act on Land Use Planning and Space Management (2003), borders of mineral deposits should be included in the Provincial Spatial Management Plan (Horváth et al. 2016).

The MINATURA 2020 project (2015–2018) was born out of a need to develop a harmonized framework which allowed a common way of identifying "Mineral Deposits of Public Importance" (MDoPI) and their safeguarding via land use planning. The project is now ended but has left a useful set of guidelines and proposals on how to advance on the creation of a European network of MDoPIs to avoid the unnecessary sterilization of what Member States define as "deposits worth safeguarding".

In Poland, the need for the legal protection of mineral deposits was pointed out already over 30 years ago and later discussed in numerous papers. The necessary conditions for reasonable mineral resources development and securing of mineral supply are:

- protection of areas where deposits are known or likely to occur from land use which may preclude mining,
- reasonable recovery of deposit resources,
- advanced long-term forecasting of deposit exploitation in relation to minerals demand forecasting, as well as the mode of utilization of post mining areas, utilization of mining and processing wastes (Nieć et al. 2014).

The protection of mineral deposits, as one of the environmental resources (like a land surface, climate, air, water, landscape), is declared in the Act of April 27, 2001 Environmental Protection Law (Articles 3 point 39 and 125–126, Dz.U.2001.62.627). Mineral resources management, as well as mining activity, is regulated by the Act of June 9, 2011 Geological and Mining Law (Dz.U.2011.163.981) and several other legal acts that can help to solve the arising problems where environmental concerns or the current land use limit the accessibility of mineral deposits for exploration or extraction, but only to a limited extent. Based on Geological and Mining Law, within two years from the date of approval of the geological documentation (or 6 months in case of hydrocarbon deposits) the area of the documented mineral deposit must be obligatory included in the Study of Conditions and Directions of Spatial Management of Commune (the basic document of local spatial planning). The Act, however, primarily protects the exploited deposits, by ordering the rational use of primary and accompanying minerals.

The legal regulations offered therein are however too general to allow for the effective protection of identified but as yet unexploited deposits and areas of their potential occurrence (Nieć et al. 2014). Moreover, the legislations are addressed only for mineral deposits with mineral resources (prospective areas are not included). More detailed legal regulations were proposed (Nieć and Radwanek-Bąk 2011). The main suggestions are:

- subdivision of mineral deposits, according to their resources scale and mineral quality into three categories of various protection classes:
  - H – high value nationally-important deposits (most valuable deposits of raw materials),
  - M – medium value-regionally important deposits (deposits of valuable raw materials),
  - C – common-locally important deposits (all other deposits),
- declared accessibility of areas of mineral deposits occurrence, and limitation of land use precluding mining (prohibition of residential or industrial buildings, main roads and pipelines construction),
- obligatory preparation of "mineral deposits development plans" in each administrative unit (province, commune) with presentation of the predicted mode of utilization of post-mining areas as a part of the "land use plan".

In Poland, the most important, strategic document related to spatial development – the National Spatial Development Concept until 2030 (NSDC 2030) – was approved by the government in December 2011, while the NSDC 2030 Action Plan of – in June 2013. The NSDC 2030 introduced a category of strategic mineral deposits, which should be protected through the establishment of appropriate functional areas related to these deposits (with protection against permanent buildings and linear structures). It also assumed the introduction of deposit extraction plans. According to such plans, areas of selected mineral deposits would be covered by a so-called planning reserve at the provincial level. Until now, only 4 lignite deposits and 3 hard coal deposits were classified as strategic mineral deposits in the NSDC 2030 (Nieć et al. 2014). The preparation of complete list of strategic mineral deposits, as well as on deposit extraction plans have, unfortunately, not yet started,. Current works on the Polish National Mineral Policy (see chapter 4) provide some hope that it will be successfully finalized in the near term.

1. Scope and general results of the MINATURA 2020 project

1.1. Aims and scope of the MINATURA 2020 project

Under a Consortium of 24 organizations from 19 European countries, the MINATURA 2020 project had the development of a concept and a methodology (common framework) for the definition and subsequent protection MDoPI for their 'best use' in the future as the

overall objective. As previously mentioned, the objective of such a common framework should be to ensure long-term accessibility to specific tracts of land surface which overly geological formations that host or have the potential to host an MDoPI, thus curtailing or restricting other land uses that may increase the risk or hinder on-going or future exploration works or mining activity. Such MDoPI may then be integrated into land-use planning processes, where the protection of other resources and assets is already well integrated.

The subject of the MINATURA 2020 project was only non-energy minerals, which – according to usual practice – can be divided into three main sub-groups according to the different physical and chemical characteristics of the minerals produced, their uses, and the downstream industries they supply: metalliferous minerals (metals ores), industrial minerals and construction minerals.

1.2. Definition of MDoPI

The first step for the establishment of a common framework for the identification and subsequent safeguarding of MDoPI was their definition. After iterative discussions, it was agreed that the term 'minerals' includes any 'rock' and/or 'ore' which has an economic value or which contains a material of economic value at a certain point in time and location, and that the 'mineral deposit' is an accumulation of naturally occurring substances (a geological body, e.g. an orebody) and/or of mine wastes that may supply raw materials needed by the society in a certain time, location and context (Tiess and Murguía 2016). Wastes were included as a potential worth of being safeguarded as they are of relevance for some EU countries (e.g. Portugal) where there are considerable resources which could be extracted from mine residues.

During discussions within the MINATURA 2020 consortium and with the external stakeholders it was emphasized the that term 'public importance' within the context of minerals management should be associated with the provision of social and economic benefits to the society that owns or administers such mineral resources. Thus, a common definition on the MDoPI concept was agreed, arguing that "A mineral deposit is of public importance where information demonstrates that it could provide sustainable economic, social or other benefit to the EU (or the member states or a specific region/municipality)". The main advantages of such a definition is that it is short, broad, inclusive and flexible, it does not *per se* assume (or explicitly define) a restrictive or comprehensive definition of 'mineral deposit' and it is multi-criteria in that it refers to the term 'sustainable exploitation' which introduces the sustainability pillars (Tiess and Murguía 2016).

It was also agreed within the Consortium that the MDoPI should be classified according to three levels: 1) MDoPI at the EU level (MDoPI-EU), at the country level (MDoPI-CL) and at the regional level (MDoPI-RL) (Galos et al. 2016). This is because the importance of each MDoPI is linked to a different scale. So, for example, whereas tungsten deposits may be of high importance for the EU, considered a 'critical raw material' (European Commission

2017), tungsten may not be of highest importance at the local level, e.g. in Portugal where important deposits are located as tungsten is mainly exported and consumed by the industry in other countries. In contrast, whereas construction aggregates may be of high importance for growing cities, they are surely not of high importance at the EU or national level as they are extracted and used mainly at the local level.

The safeguarding of the MDoPI in practice requires the delineation of an area which delimits the spatial extent of the area to be protected, i.e. generally known as a mineral safeguarding area (MSA). An important feature of the designation of MSAs is that their designation does not lead directly to 'extraction' (and may never lead to) nor does it give any policy support for 'extraction'. In other words, safeguarding an area hosting mineral resources means that its value is officially acknowledged by the authorities and that particular condition will be assessed in parity with other land-uses by the competent spatial planning authorities. In this sense it means that mineral extraction will be at least considered before any form of sterilizing development can go ahead. It follows, therefore, that a safeguarding approach could also encourage the *prior extraction*[a] of minerals where this is practical and provides an overall benefit. At the same time, the designation of the MSA does not automatically preclude other forms of development; it is a long-term investment within the context of fostering a sustainable supply of raw materials from European sources. In summary, what the MSAs do is draw attention to the presence of important mineral resources and make sure that they are adequately and effectively considered in land-use planning decisions (McEvoy et al. 2007; Wrighton et al. 2014).

For the purposes of MINATURA 2020 project, a broad approach to the term of potential MDoPI to be safeguarded was adopted, which can include:

- mineral potential areas having only undiscovered resources (speculative resources);
- hypothetical resources (according to USGS definitions) or promising exploration results;
- mineral deposits having estimated mineral resources (measured, indicated, inferred);
- mineral deposits with mineral reserves (probable, proved) and mining license.

However, each EU Member State would decide whether to include – in the future MDoPI assignment – mineral deposits currently operated, or to exclusively focus on undeveloped areas (Tiess and Murguia 2016).

1.3. Proposed method of MDoPI identification

As stressed by the European Commission (European Commission 2011) and a report of the Ad Hoc Working Group (Ad-Hoc Working Group 2010), a comprehensive land-use

[a] This entails the requirement to consider the feasibility for prior extraction of any mineral present at a site before any non-mineral development such as a housing takes place, see: McEvoy et al. 2007; Wrighton et al. 2014.

planning policy that enables the safeguarding of MDoPI needs to be based on the following elements:

- a digital geological knowledge base;
- a transparent methodology for the identification of mineral resources (quality, quantity, economic importance);
- long-term estimates for regional and local minimal demand (especially for construction materials), taking other sources of materials into account (e.g. recycled), based on sustainable development principles as a monitoring tool;
- identifying and safeguarding mineral resources to meet minimum demand, taking other land uses into account.

Those four elements comprise the basis for a common Harmonized Mapping Framework (HMF) that allows the effective safeguarding of MDoPI. The objectives and the methods underlying these common elements need to be standardized, i.e. the same method should be employed, taking site-specific differences into account.

A simple Harmonized Mapping Framework (HMF) that allows the designation of MDoPIs and the delineation of mineral safeguarding areas in each jurisdiction should subsequently (not in parallel) follow these 6 steps (Tiess et al. 2018):

1. Analysis of the mineral policy, mineral demand forecasts and economic context.
2. Identification and classification of potential MDOPIs.
3. Analysis of competing land uses.
4. Proposing and delineating MSAs for each MDoPI.
5. Validation of MDoPIs and MSAs.
6. Inclusion of MSAs in local spatial planning documents.

At the same time, the general assumptions of Mineral Deposits of Public Importance (MDoPIs) assignment and their categorization should take differences into account (Galos et al. 2016):

- legal regimes in various EU countries regarding mineral deposits, their ownership, rules of their recognition and development (licensing), and ways of their safeguarding in relation to land use planning;
- level of knowledge on mineral deposits and mineral perspective areas in various EU countries;
- mineral potential of various EU countries;
- basic assumptions in mineral policies of various EU countries (or a lack of such domestic mineral policy in numerous cases).

For this reason, the set of qualifying conditions of MDoPI identification and classification (the second step in the Harmonized Mapping Framework) should be determined individually by each of the countries concerned. The proposed general rules of MDoPI-EU, MDoPI-CL and MDoPI-RL assignment are treated as a set of recommendations for each EU country/jurisdiction. These rules are inclusive and each EU country has a possibility to determine its own detailed methodology of the MDoPI assignment, using proposed recommendations, detailing and modifying them where it deems appropriate.

A general algorithm of the mineral deposits valorization process to assign MDoPIs at appropriate level (MDoPI-EU, MDoPI-CL, MDoPI-RL) is as follows:

- Collection of a set of information on mineral deposits and mineral potential areas to be valorized within a specific area (EU, country, region);
- Dividing mineral objects into three groups depending on the level of geological knowledge: perspective areas with hypothetical resources or promising exploration results, deposits with mineral resources, deposits with mineral reserves;
- Assessment of each area/deposit within four main dimensions: geological knowledge, technical and economic, competing land use, and societal dimension (the last one – optionally);
- Final decisions regarding details of scoring in each dimension (or other methodology adopted), threshold values between MDoPI-EU and MDoPI-CL, and between MDoPI-CL and MDoPI-RL, and then on safeguarding rules – done separately by each EU country (Galos et al. 2016; Tiess et al. 2018).

1.4. Case study of MDoPI designation in Poland

In Poland, the pilot valorization was performed for undeveloped and abandoned mineral deposits, as well as for mineral prognostic areas[b] with inferred resources in the Dolnoslaskie Province (SW part of Poland). In testing the MDoPI methodology in Poland, the developed mineral deposits with a valid mining license have been disregarded as they are protected under the existing Geological and Mining Law. This Act sets out the requirements related to the protection of mineral deposits, underground waters and other components of the environment with regard to the extraction of the mineral from the deposit. Finally, the proposed methodology of MDoPI designation (details – see: Kot-Niewiadomska et al. 2017a) has been tested for 81 mineral deposits with indicated and/or measured resources (including: 58 deposits of magmatic and metamorphic crushed and dimension stone, 6 deposits of feldspar raw materials, 10 deposits of kaolin and 7 deposits of glass sand) (Kot-Niewiadomska et al. 2017a; Galos and Kot-Niewiadomska 2018) and for 18 mineral deposits (perspective areas) with inferred resources (Kot-Niewiadomska et al. 2017a).

The proposed methodology is based on valorization concerning the level of geological knowledge (Geological knowledge dimension – GK), geological and mining parameters (Technical and economic dimension – TE) as well as wide range of land use and environmental qualifying conditions (Competing land use dimension – CLU) (Table 1). The meth-

[b] In Poland, prognostic areas concern deposits for which boundaries, geological features and anticipated resources are evaluated on the basis of available geological data, in particular, from isolated excavations or natural outcrops, geological interpretation of geophysical measurements. The admissible error of average deposit parameters and deposit resources estimation may exceed 40% (category D of mineral resources according to a Regulation of the Minister of the Environment on geological documentation of mineral deposits, excluding hydrocarbons, Official Journal of Minister of the Environment, 2015, 987).

Table 1. The set of criteria in the proposed methodology for Mineral Deposits of Public Importance assignment (Galos et al. 2016)

Tabela 1. Zestaw kryteriów proponowanej metodologii wyznaczania Złóż Kopalin o Znaczeniu Publicznym

General criteria	Detailed criteria	Total possible result
Geological knowledge (GK)	GK1 (weight 20%) – availability and quality of basic geological data (four possible values: 0.25, 0.5, 0.75, 1.0)	For perspective areas: Min. Value – 0.75 Max. Value – 3.0 For mineral deposits: Constant value – 3.0
	GK2 (weight 30%) – availability and quality of basic geological data in regional scale (four possible values: 0.25, 0.5, 0.75, 1.0)	
	GK3 (weight 20%) – existing information and knowledge of historical mining (four possible values: 0.25, 0.5, 0.75, 1.0)	
	GK4 (weight 20%) – current information and knowledge about specific deposit or prognostic area (four possible values: 0.25, 0.5, 0.75, 1.0)	
Technical and economic (TE)	Mineral quality and quantity (three possible values: 0.5, 1.0, 1.5)	Max. value – 3.0 Min. value – 1.0
	Mining attractiveness (three possible values: 0.5, 1.0, 1.5)	
Competing land use dimension (CLU)	Nature protection and underground water protection (four possible values: 0.0, 0.5, 1.0, 1.5)	Max. value – 4.0 Min. value – 0.5
	Protection of forest and soil (four possible values: 0.0, 0.5, 1.0, 1.5)	
	Housing, infrastructure and heritage (five possible values: 0.0, 0.25, 0.5, 0.75, 1.0)	
TOTAL SCORING: GK+TE+CLU (Min. MDoPI value – 2.25; Max. MDoPI value – 10)		

odology was formulated mainly based on the "Valorization of undeveloped industrial rock deposits in Poland" (Nieć ed. 2013) and the Portuguese methodology for defining geological resources protection (Carvalho et al. 2015). The environmental qualifying conditions included in the proposed methodology relate, in particular, to potential limitations referring to existing or planned forms of environmental protection, forests (especially protective), underground waters and high quality soils. These circumstances result from the legislation applicable in Poland, i.e. the Nature Conservation Act, Environmental Protection Law, the Act on the Protection of Agricultural and Forestry Land, and the Act on Forests.

Finally, according to the assumed MDoPI methodology, from among 81 verified deposits, 15 deposits were proposed as MDoPI-CL (e.g. majority of feldspar raw materials deposits and selected deposits of dimension stone and kaolin), whereas 42 deposits were qualified as potential MDoPI-RL (other kaolin deposits, all glass sand deposits and selected deposits of crushed and dimension stone – Table 2). Moreover, selected valorized prognostic areas of crushed and dimension stone have also been classified as MDoPI-RL.

Table 2. The results of pilot testing of proposed methodology to assign Mineral Deposits of Public Importance (Kot-Niewiadomska et al. 2017a, 2017b; Galos and Kot-Niewiadomska 2018)

Tabela 2. Rezultaty pilotażowego testowania proponowanej metodologii wyznaczania Złóż Kopalin o Znaczeniu Publicznym

Deposit	MDoPI-EU	MDoPI-CL	MDoPI-RL	Non-MDoPI	Total number of deposits being valorized	Total number of deposits in the Dolnośląskie Province
Mineral deposits with indicated and/or measured resources						
Crushed and dimension stone	0	8	26	24	58	114
Feldspar raw materials	0	5	1	0	6	6
Kaolin	0	2	8	0	10	12
Glass sand	0	0	7	0	7	7
TOTAL	0	15	42	24	81	139
Mineral deposits (prognostic areas) with inferred resources						
Crushed and dimension stone	0	0	8	9	17	56
Feldspar raw materials	0	0	0	1	1	8
TOTAL	0	0	8	10	18	64

MDoPI-EU – European level; MDoPI-CL – country level; MDoPI-RL – regional level; Total in the Dolnośląskie Province – total undeveloped and abandoned deposits, based on Mineral Resources Datafile 2017 and total prognostic areas based on Geo-environmental Map of Poland (Polish Geological Institute – National Research Institute).

2. Project of the Polish National Mineral Policy

2.1. Objectives of the Polish National Mineral Policy

The foundation of the mineral policy is the statement that minerals should be considered as a common resource, which can, of course, be transferred to economic use, but under certain conditions. Minerals belong to the society and proper management must respect this (Hausner ed. 2015). A properly formulated mineral policy should create conditions for mineral deposits extraction, using and updating information, as well as for the protection of mineral deposits and prognostic areas (definition – see footnote b). It also

has to ensure that the principles of deposits protection and their rational management are respected.

In Poland, the National Minerals Policy (NMP) is one of the key projects indicated in the Strategy for Responsible Development – activities in the area of the "natural environment" (SRD 2017). According to this document, the NMP is within the competence of the Ministry of the Environment. In 2016, the Government Plenipotentiary for the National Minerals Policy was appointed, which simultaneously serves as the Chief National Geologist. He also chairs the Interministerial Group on National Minerals Policy, which was also created in 2016. Thus, the government-initiated activities for the development of an effective and responsible National Minerals Policy. According to the regulation of the Prime Minister, the task of the Plenipotentiary is firstly to prepare the concept, and then the project of National Mineral Policy. In the next step, when the document is accepted by the government, the Plenipotentiary should coordinate and monitor the implementation of the provisions written in this document.

The Project of the NMP was created in autumn 2017. In October 2018, wide and extensive public consultations of this document were completed. One of the proposed implementing programs for the Policy is planned to cover the protection of mineral deposits in the context of the spatial planning system and other legal and social conditions.

According to the Project, the overriding objective of the National Minerals Policy is to provide access to the necessary minerals, both now and in the long-term perspective, taking the needs of future generations into account. The objectives and tools indicated in the Project are in line with the European Union's Raw Materials Initiative (initiated in 2008) in terms of meeting key Member States' raw materials needs. By supporting these initiatives, Poland aims to create solutions that are in line with the EU vision and to strengthen cooperation in the field of raw materials security, and strives to improve the flow of knowledge, technologies and resources between EU member states, and also to build a strong and efficient management system of circulation and use of raw materials (Project 2017).

2.2. Key pillars of the Polish National Mineral Policy

The pillars of the mineral policy are the key areas of activities that are necessary for e.g. effective management of mineral resources, for their proper assessment and systematic implementation of corrective actions.

According to the Project of the National Minerals Policy (Project 2017), nine Pillars of such policy were proposed (Fig. 1), with numerous tasks planned to be introduced or performed. Within Pillar II and VIII, important activities related to mineral deposits safeguarding are proposed (see below).

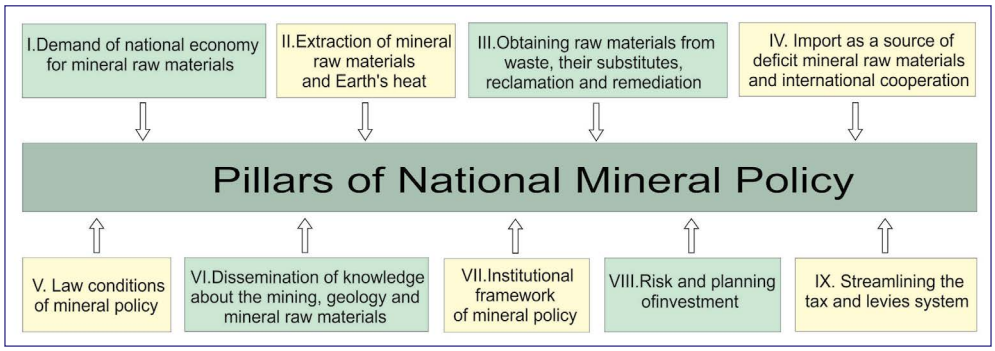

Fig. 1. The pillars of the Project of National Minerals Policy (Project 2017)

Fig. 1. Filary Projektu Polityki Surowcowej Państwa

3. MDoPI in the Project of the Polish National Mineral Policy

The objectives of the MINATURA 2020 Project are consistent with the Project of National Mineral Policy of Poland. Additionally, MINATURA 2020 can make a substantial difference by progressively filling gaps in the geological knowledge of deposits in the Member States (including Poland) and contribute to ensuring the protection of Mineral Deposits of Public Importance through appropriate safeguarding in the European Union, in EU countries and at regional levels. These goals are reflected primarily in Pillar II of the NMP.

Within its framework, the Project of National Mineral Policy includes activities aimed at improving the land use (spatial) planning system. This topic is contained directly in Pillar II, point 3: "Protection and management of mineral deposits in the context of the land use (spatial) planning system and legal conditions". According to the Project, the introduction of a legal framework for the proper protection of mineral deposits must be preceded by proper mineral deposits valorization, which will indicate deposits having significant potential importance to the economy of the EU, Poland or individual regions. However, this should be preceded by the compilation of knowledge about the national resource base, both in the context of mineral deposits and prognostic areas, which is a subject of Pillar II, point 1: "Mineral resources knowledge base". This point also indicates the need to collect knowledge about the prognostic areas of minerals and their status also in the context of their proper protection. The regulations existing in Poland refer only to documented (recognized) deposits, not to prognostic or prospective areas.

The results of the valorization should be the basis for the deposits categorization depending on their economic significance and for defining deposits of EU, national or local/regional importance. Taking Polish determinants and the legislation in force into account, the next step should be an inclusion of the selected deposits (MDoPI) in the land use (spatial) devel-

opment documents of various authority levels (country, province and commune). According to the nomenclature adopted in the proposed methodology, the Mineral Deposits of Public Importance on the EU and country level should be included in documents of the national relevance (in Poland – National Spatial Development Concept until 2030), while the deposits of regional importance – in the provincial land use documents at least. Considering the existing hierarchy of the Polish land use (spatial) planning system, the same deposits should also appear in the spatial planning documents of particular communes. The Spatial Planning and Development Act of March 27, 2003 (Dz.U.2003.80.717) established the principle of the separation of tasks and competencies of the local and national authorities, allowing the commune (as the third level in the spatial planning system in Poland) to decide autonomously about the use of the land within the borders of the municipality, however the provisions of provincial land use development plan (among others) have to be taken into account. Thus, the commune's Study of Conditions and Directions of Spatial Management should include circumstances arising from the presence of mineral deposits. Unfortunately, the main drawback of the Polish spatial planning system is the weak link between the solutions contained in the country and provincial spatial documents and in the commune spatial documents (Wiland 2015). Simultaneously, the decision of the possibility of mining project implementation is based on the commune's land use planning documents (Local Spatial Management Plan of the Commune or the Study of Conditions and the Directions of Spatial Management of the Commune). For these reasons, the new legal framework must explicitly impose the obligation to properly place mineral deposits in the provincial and commune's spatial planning documents. The law must also enable the effective enforcement of this obligation. The adaptation of the spatial planning system to the needs of the effective protection of mineral deposits (including an irreversible loss of resources) and to ensure access to these resources in a long-term perspective is also the subject of the NMP's Pillar VIII "Risk and planning of investment" (Project 2017). Within this Pillar, planned actions should reduce investment risk by shortening the process of obtaining an environmental decision, a mining license and possible changes of the local spatial development plan.

4. Future steps related to MDoPI safeguarding in the EU and Poland

4.1. Future steps related to MDoPI safeguarding in the EU

The MINATURA 2020 project created a simple harmonized mapping framework (HMF) for the identification and safeguarding of MDoPI by the authorities of the EU Member States which consists of six steps (see Section 2.3 of this paper). Yet, based on the feedback from external stakeholders and internal consortium discussions, it became clear that requesting the authorities of the Member States to go through all six steps may represent too high of

an administrative burden which compromises the feasibility of such an approach due to e.g. the different levels of information, capacities, staff and budgets available in each EU Member State. As a consequence, the project decided to offer such a six step approach only as guidance and request the EU Member States to only identify and classify MDoPI (step 2) following the common criteria and effectively safeguard them in a transparent and clear way (step 4).

Discussions within the MINATURA 2020 Consortium on a European Vision for MDoPI (Horváth et al. 2018) highlighted that policy action by the European Union would be welcome to maintain and enhance the sustainable development benefits of the MDoPI approach in Europe. As a project result, the European Commission was encouraged to establish a consultation process focusing on three implementation areas as follows:

- identification and assessment of MDoPI;
- specific measures organized under a common minerals strategy framework;
- a non-compulsory sustainable development verification process.

As highlighted by Horváth et al. (2018) these could build on and be informed by the Best Practice Exchange established under the Raw Materials Initiative, Natura 2000 network and associated guidelines, and many other relevant policies and initiatives.

The MINATURA 2020 project also suggested the European Commission to evaluate the possibility of issuing a Communication on MDOPI Safeguarding (in the spirit of the COM (2011) 25 final)) under the rationale that a high-level declaration on the importance of MDoPI and their safeguarding would very much support the EU in achieving public policy objectives and commitments (Horváth et al. 2018). During the project development discussions revolved around the idea of a potential MDoPI Directive; even though such a Directive may be effective for the safeguarding of MDOPI across EU Member States, the project concluded that further analysis on the costs and benefits is required before any draft is created. Therefore, a suggestion of the MINATURA 2020 project was to first advance on a Communication from the Commission (or any other similar but more adequate type of policy document) supporting the development of the MDoPI approach in the Member States. The Commission could ask the Member States inter alia:

- to develop robust and updated databases concerning mineral resources;
- to include mineral resources in land use plans and policies;
- to promote the adequate measures/policies intending the safeguarding of mineral resources, thus avoiding their sterilization.

4.2. Future steps related to MDoPI safeguarding in Poland

At the moment, works on the preparation of executive programs for National Mineral Policy have just begun. One of these programs will probably be entitled: “The Protection of Mineral Deposits in the Context of the Land Use Planning System and Other Legal and Social Conditions”. The program provides for four main directions of activities:

- Final valorization of mineral deposits in order to identify deposits of significant importance for the national and regional economy, preceded by the preparation and acceptance of the final methodology of such a valorization;
- Preparation of a list of Mineral Deposits of Public Importance (MDoPIs) for the national economy;
- Proposal of optimal procedures for placing MDoPIs, being of importance for the national and regional economy, in land use planning documents for their protection;
- Finally, at the same time, a social dialogue aimed at developing the acquisition of raw materials from deposits.

All these planned activities are expected to be finished at the turn of 2019 and 2020, providing a strong foundation for proposing a complementary system for MDoPIs protection in Poland. Detailed legislative work should be a continuation and crowning of these planned activities.

5. Final remarks

The resource efficiency priorities are strongly related to the types, size and amount of mineral deposits within the area of the country. The resource efficiency policy takes current and future needs into account although it is worth noting that scientific and economic development, as well as the environmental protection law have a strong impact on the resource management policy (EEA 2016). Moreover, mineral resources of less importance, or currently considered uneconomical to mine, mine residues or even useless, may be valuable in the future. It also drives the need for strong links between the management of geological resources and land use (spatial) planning policy which should take possible future needs for minerals from deposits into account. However, as the exploitation of these mineral resources usually entails significant changes to the local or regional land use, a wide variety of competing land uses may exists pertaining e.g. to groundwater resources, biological resources (e.g. nature reserves), cultural resources (e.g. World Heritage Sites), and others. The decision, which land use should give precedence ultimately is a socio-political one, but criteria and processes for including all the dimensions relevant to a societies' development need to be developed.

The proposed methodology of MDoPI's designation is based on valorization concerning their geological and mining parameters as well as a wide range of land use and environmental qualifying conditions. In Poland, such a valorization was performed for undeveloped or abandoned deposits as well as for prognostic areas with inferred resources. The latter ones particularly need regulations to be safeguarded. The existing domestic legislation includes some concept of safeguarding undeveloped deposits providing for relevant legal rules, but they are currently spread in various legal acts (e.g. Environmental Protection Law, Spatial Planning and Management Act among others). This results in difficulties in their practical implementation and requires far-reaching interpretation. The large number of deposits and

prognostic areas delineated in Poland is an additional problem. Providing legal protection to all of them is not possible in practice; therefore proper valorization should allow for selecting the most valuable ones. A proper example of this are numerous deposits of the Dolnoslaskie Province, for which an attempt was made to identify those that can be described as deposits of public importance. What is more, there is still a lack of integration of national, regional and local activities in the sphere of spatial planning policy in Poland, especially in the area of mineral deposits (or prognostic areas) safeguarding. Without these elements, it is impossible to protect the interests of the state and its citizens regarding mineral resources. The above factors are one of many that affect the need to develop the National Mineral Policy in Poland.

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MINERAL DEPOSITS OF PUBLIC IMPORTANCE (MDOPI) IN RELATION TO THE PROJECT OF THE NATIONAL MINERAL POLICY OF POLAND

Keywords

mineral policy, MINATURA2020, deposits' safeguarding, mineral deposits of public importance

Abstract

The functioning of European economies and societies requires a stable and sustainable supply of mineral resources. For 10 years now EU has been developing raw materials initiative to secure European minerals supply. In many cases, areas with known or hypothetic mineral resources, are not sufficiently valued by society and authorities, remain unprotected and face competing land uses with the risk of becoming sterilized. MINATURA 2020 project was born out of a need to develop a harmonised framework which allow a common way of identifying "mineral deposits of public importance" (MDoPI) and their safeguarding via land use planning. The project has left a useful set of guidelines and proposals how to advance on the creation of a European network of MDoPIs to avoid sterilization of "deposits worth safeguarding".

In Poland, the need for legal protection of mineral deposits has been discussed intensively in recent years. Various proposals aimed at better system of mineral deposits safeguarding, especially those which should be recognized as of public importance, have been proposed. However, until now only a few coal deposits were recognized as strategic. Currently, the Polish National Mineral Policy is under preparation. Its overriding objective is to provide access to the necessary minerals, also in the longterm perspective. It assumes among others activities aimed at protection of mineral deposits regarding land use planning system.

Paper presents scope and general results of MINATURA2020 project, with details on MINATURA2020 methodology implementation in Poland, Project of the Polish National Mineral Policy with its objectives and key pillars, position of MDoPIs in this Project, and – finally – expected future steps related to MDoPI safeguarding in EU and in Poland.

ZŁOŻA KOPALIN O ZNACZENIU PUBLICZNYM (ZKOZP) W RELACJI DO PROJEKTU POLSKIEJ POLITYKI SUROWCOWEJ PAŃSTWA

Słowa kluczowe

ochrona złóż kopalin, polityka surowcowa, MINATURA2020, złoża kopalin o znaczeniu publicznym

Streszczenie

Funkcjonowanie europejskiej gospodarki i społeczeństwa wymaga stabilnych i zrównoważonych dostaw surowców. Od 10 lat Unia Europejska rozwija inicjatywę surowcową dla zabezpieczenia tych dostaw dla gospodarki UE. W wielu przypadkach obszary ze znanymi lub hipotetycznymi złożami

kopalin nie są wystarczająco zabezpieczone, doświadczając konkurencji ze strony innych kierunków zagospodarowania terenu, z dużym ryzykiem uniemożliwienia przyszłego dostępu do nich. Projekt MINATURA2020 był odpowiedzią na potrzebę rozwoju zharmonizowanych ram, które pozwoliłyby na wypracowanie wspólnej ścieżki identyfikacji złóż kopalin o znaczeniu publicznym (ZKoZP) oraz ich ochrony w procesie planowania przestrzennego. Projekt pozostawił wytyczne i propozycje w zakresie rozwoju europejskiej sieci ZKoZP, aby uniknąć utraty dostępu do „złóż wartych ochrony".

W Polsce ochrona złóż kopalin jest intensywnie dyskutowana w ostatnich latach. Przedstawiono w tym zakresie różne propozycje. Tym niemniej do chwili obecnej tylko kilka złóż węgla zostało uznanych za strategiczne. W chwili obecnej w Polsce przygotowywana jest Polityka Surowcowa Państwa. Jej zasadniczym celem jest zabezpieczenie dostępu polskiej gospodarki do niezbędnych surowców w perspektywie długoterminowej. Zakłada się m.in. działania mające na celu ochronę złóż kopalin w ramach planowania przestrzennego.

Artykuł prezentuje zakres i najważniejsze rezultaty projektu MINATURA2020 (wraz ze szczegółami próby implementacji metodyki projektu w warunkach polskich), Projekt Polityki Surowcowej Państwa z jego celami i głównymi filarami, pozycję złóż kopalin o znaczeniu publicznym w tym Projekcie, a także oczekiwane przyszłe kroki mające na celu lepszą ochronę złóż kopalin zarówno w całej Unii Europejskiej, jak i w szczególności w Polsce.