

German Geological Institute – *Bundesanstalt für Geowissenschaften und Rohstoffe*

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A b s t r a k t. W niniejszym artykule poczyniona zostanie analiza Bundesanstalt für Geowissenschaften und Rohstoffe (BGR). Instytucja ta pełni w Niemczech funkcję narodowej służby geologicznej na poziomie centralnym. Jest ona podmiotem prawa publicznego, którego budżet jest częścią budżetu ministerstwa, a nadzór nad nią sprawuje minister gospodarki i energii. Specyficzna organizacja tej służby znacząco odróżnia ją od innych działających na świecie służb geologicznych. W ramach tej służby została bowiem utworzona niemiecka agencja ds. zasobów mineralnych. Ponadto BGR wchodzi w skład Geozentrum

Słowa kluczowe: zadania publiczne, badania, gospodarka

A b s t r a c t. This article describes Bundesanstalt für Geowissenschaften und Rohstoffe, the German Federal Geological Survey. The survey governed by public law operates under the Federal Ministry for Economic Affairs and Energy, and receives its core budget from the Ministry. Such an unusual organisation of this German survey makes it stand out from the other surveys around the world. Moreover, the German Mineral Resources Agency operates under this survey. What is more, Bundesanstalt für Geowissenschaften und Rohstoffe is associated with Geozentrum.

Keywords: public tasks, research, economy

Geological surveys operate in various legal forms all around the world. For instance, the Norwegian *Norges Geologiske Undersøkelse* (NGU) is organised as a government agency, while *Companhia de Pesquisa de Recursos*

Minerais (CPRM) in Brasil – as a state-owned company (https://www.bgr.bund.de/EN/Home/homepage_node_en.html). In Germany, the responsibilities of a geological survey are performed by the *Bundesanstalt für Geowissenschaften*

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und Rohstoffe (BGR). Due to its operational form, the BGR stands out from the other geological surveys. It is the central geoscientific authority providing advice to the German Federal Government in all geo-relevant matters (https://www.bgr.bund.de/EN/Home/homepage_node_en.html). However, each German state additionally has its own geological unit.

This article analyses the structures of Germany's unique geological survey. The conclusions of such an analysis may prove to be beneficial to the Polish legislator, as Polish law on geological surveys is still being developed. Moreover, information regarding the BGR can be useful to legal scholars and prove helpful in discussion regarding the draft act on the Polish Geological Agency.

HISTORY OF THE *BUNDESANSTALT FÜR GEOWISSENSCHAFTEN UND ROHSTOFFE*

The survey dates back as far as the 19th century. In 1873 *Königlich Preußische Geologische Landesanstalt* was established in Berlin. For example, this entity was responsible for issuing geological maps illustrating soil characteristics or depicting minerals and rocks in the soil³. The scope of their activity and the structure was regulated by the Decree of 6 March 1875 issued by the Minister of Commerce, Business and Public Works⁴ (<http://www.pgl.de/statut.htm>).

In 1939 separate state geological surveys were incorporated into the *Reichsstelle für Bodenforschung* which became the *Reichsammt für Bodenforschung* in 1941. The state surveys were converted into branch offices (nine) or sections (one of them was based in Hannover). Subsequently, the branch office of the former Reichsammt in Hannover took action to reorganise the national geological survey. In the former German Democratic Republic (GDR), the *Geologische Kommission* was transformed into the *Zentrale Geologische Institut* (https://www.bgr.bund.de/EN/Gemeinsames/UeberUns/Geschichte/geschichte_node_en.html;jsessionid=1CEA7443C8030E521855A2655301664D.1_cid331).

In 1948/49, pursuant to the Höchst Agreement and the Königstein Agreement, the state geological surveys of the United Economic Zone (bizone) transferred transregional (cooperative) tasks to the Hannover office. In 1950 the *Amt für Bodenforschung* responsible for Lower Saxony was established in Hannover. Under the Decree of the Federal Minister of Economics of 26 November 1958, the existing *Amt für Bodenforschung* was transformed into the *Bundesanstalt für Bodenforschung*.

On 17 January 1975, by the decree of the Federal Minister of Economics, the *Bundesanstalt für Bodenforschung*

was renamed to *Bundesanstalt für Geowissenschaften und Rohstoffe* (BGR)⁵. In August 1990 the *Anstalt für Geowissenschaften und Rohstoffe* (AGR) was established in the GDR out of the former *Zentrales Geologisches Institut* (ZGI). In October of the same year the AGR was dissolved and closed by the end of 1990 (https://www.bgr.bund.de/EN/Gemeinsames/UeberUns/Geschichte/geschichte_node_en.html;jsessionid=1CEA7443C8030E521855A2655301664D.1_cid331). Its parts were integrated into the BGR.

In 2010 the German Mineral Resources Agency (DERA) was established as a part of the BGR. The DERA is the national information and consultancy platform for mineral raw materials serving as a source of information for German entrepreneurs on raw mineral deposits within Germany and abroad⁶. Moreover, the platform supports the federal government and companies securing mineral deposits on world markets (https://www.bgr.bund.de/DE/Gemeinsames/UeberUns/Aufgaben/aufgaben_node.html).

TASKS OF THE *BUNDESANSTALT FÜR GEOWISSENSCHAFTEN UND ROHSTOFFE*

Pursuant to § 2 of the Gründungserlasses of 26 November 1958, the BGR carries out three main tasks:

1. Conducting and evaluating geoscientific research and research concerning natural resources abroad, provided that there are adequate relations between the countries.
2. Advising the federal ministries on geoscientific issues and natural resources.
3. Geoscientific research and research on natural resources⁷.

It needs to be mentioned that pursuant to its foundation articles, the basic tasks of the BGR may be divided into tasks at national and international levels. The national tasks include providing the federal government with information regarding geology and mineral resources⁸. On the other hand, the international tasks include cooperation with international geoscientific institutions in technical and research projects; mapping international mineral deposits, issuing maps, providing data, reports and standardising geological information systems (https://www.bgr.bund.de/EN/Themen/themen_node_en.html).

Moreover, the BGR undertakes other tasks imposed by other regulations. For example, on behalf of the federal government of Germany, the BGR supports the Comprehensive Nuclear-Test-Ban Treaty (CTBT)⁹ and for this purpose it operates monitoring stations and maintains the German National Data Centre. Therefore, the BGR provides its resources to the global monitoring system of the Vien-

³ The provisions of the Decree are described in the following article: F. Bender, *Bundesanstalt für Geowissenschaften und Rohstoffe und Niedersächsisches Landesamt für Bodenforschung*, *Kwartalnik Geologiczny*, v. 22, no. 3. 1978; https://gq.pgi.gov.pl/article/viewFile/8958/pdf_984, also in the article: the history of BGR (access: 11 June 2018).

⁴ *Ministerien für Handel, Gewerbe und öffentliche Arbeiten*.

⁵ *Erlass des Bundesministers für Wirtschaft* of 17 January 1975 (*Bundesanzeiger* No. 18 of 28 January 1975).

⁶ According to BGR website, DERA experts have developed a screening method for early identification of potential procurement risks.

⁷ As a side note, it needs to be mentioned that the main tasks of BGR are regulated by the *Erlass des Bundesministers für Wirtschaft* of 26 November 1958 (*Bundesanzeiger* No. 230 of 29 November 1958), remaining in force until today. The amended *Erlass des Bundesministers für Wirtschaft* of 17 January 1975 (*Bundesanzeiger* No. 18 of 28 January 1975) changed only the name of the entity.

⁸ Such information is used for ensuring long-term energy security and sufficient supplies of industrial raw materials in Germany.

⁹ Full Treaty: <https://www.ctbto.org/fileadmin/content/treaty/treatytext.tt.html> (access: 15 August 2018).

na-based CTBT Organization (CTBTO). Moreover, the act *Gesetz zur Fortentwicklung des Gesetzes zur Suche und Auswahl eines Standortes für ein Endlager für Wärme entwickelnde Abfälle und anderer Gesetze*¹⁰ issued by the Bundestag on 23 March of 2017 determined that the expertise of BGR will be used for the process of site selection for the final disposal of radioactive waste.

The BGR supports the federal government *in their following objectives: stimulating economic development, long-term protection and improvement of the quality of life, enhancing technical and scientific expertise* (https://www.bgr-bund.de/EN/Gemeinsames/UeberUns/Aufgaben/aufgaben_node_en.html). To fulfil these objectives, the BGR conducts methodological geological research in the country and abroad and develops implementation plans¹¹. Based on its foundation articles, the BGR undertakes research within the following fields: Energy Resources, Mineral Resources, Groundwater, Final Disposal of Radioactive Waste, Deep Subsurface Use; Geological CO₂ Storage, International Geoscientific Cooperation, Geoscientific Information and Fundamentals Nuclear Weapons Test Ban; Geo-hazard Assessment.

LEGAL FORM AND STRUCTURE OF BUNDESANSTALT FÜR GEOWISSENSCHAFTEN UND ROHSTOFFE

The BGR is governed by public law and its core budget constitutes a part of the Ministry's budget. Administrative

supervision over the BGR is exercised by the Federal Ministry for Economic Affairs and Energy.

The Institute is managed by the President and consists of the following departments (each department is managed by a different head): Department 1: Energy Resources, Mineral Resources; Department 2: Groundwater and Soil Science; Department 3: Underground Space for Storage and Economic Use; Department 4: Geoscientific Information, International Cooperation; Department Z: Central Affairs (Table 1).

Each department is divided into sub departments, with the exception of Department Z which is divided into sections. It needs to be mentioned that Department Z is a joint administration of BGR and *Landesamt für Bergbau, Energie und Geologie* (LBEG) established in accordance with the administrative agreement concerning the formation of the Geological Survey of the Federal Republic of Germany. It also incorporates the Leibniz Institute for Applied Geophysics (LIAG).

Moreover, the Board of Trustees is an additional body of BGR established under the Order of the Minister of Economic Affairs of 14 February 1975¹². The Board of Trustees is responsible for advising on important aspects regarding operations and development of the BGR, especially on scientific, technical and economic activities, as well as on important organisational and staff issues related to domestic and international activities, securing raw materials, environmental protection, long and mid-term planning, including financial planning and major changes in internal

Table 1. Organisation of the Federal Institute for Geosciences and Natural Resources

Tab. 1. Organizacja Federalnego Instytutu Nauk Geologicznych i Zasobów Naturalnych

Department Z Central Affairs	Department 1 Energy Resources, Mineral Resources	Department 2 Groundwater and Soil Science	Department 3 Underground Space for Storage and Economic Use	Department 4 Geoscientific Information, International Cooperation
Section Z.1 Staff	Sub-Department 1.1 German Mineral Resources Agency (DERA)	Sub-Department 2.1 Geophysical Exploration – Technical Mineralogy	Sub-Department 3.1 Subsurface Use	Sub-Department 4.1 International Cooperation
Section Z.2 Technical Equipment, Internal Services	Sub-Department 1.2 Geology of Mineral Resources	Sub-Department 2.2 Basic Information – Groundwater and Soil	Sub-Department 3.2 Geological-geotechnical Exploration	Sub-Department 4.2 Geoinformation, Stratigraphy
Section Z.3 Organisation, Central Controlling	Sub-Department 1.3 Geology of Energy Resources, Polar Geology	Sub-Department 2.3 Groundwater Resources – Quality and Dynamics	Sub-Department 3.3 Rock Characterisation for Storage and Final Disposal	Sub-Department 4.3 Central Seismological Observatory, Nuclear Test Ban
Section Z.4 Budget and Financial Management	Sub-Department 1.4 Marine Resource Exploration	Sub-Department 2.4 Soil as a Resource – Properties and Dynamics	Sub-Department 3.4 Long-term Safety	Sub-Department 4.4 Geo-Hazard Assessment, Remote Sensing
Section Z.5 Procurement, Materials Management	Sub-Department 1.5 Resource Geochemistry		Sub-Department 3.5 Geotechnical Safety Analyses	
Section Z.6 Central Information Technology	Source: https://www.bgr-bund.de/EN/Allgemeines/Organisation/organisationsplan_sw_en.pdf?__blob=publicationFile-&v=83 (access: 15 April 2018)			
Section Z.7 Library, Archive				
Section Z. 8 Publications				

¹⁰ BGBI 2017, Part I No. 26, p. 1047.

¹¹ For example, currently BGR conducts research on Indian Ocean floor, Pacific floor and Arctic.

¹² Erlaß über die Kuratorium bei der Bundesanstalt für Geowissenschaften und Rohstoffe (Bundesanzeiger No. 31 of 14 February 1975).

organisation, including shifts in the BGR management¹³. Moreover, the Board of Trustees is responsible for maintaining BGR's relations with science and industry¹⁴.

The Board of Trustees consists of geoscientific representatives from industry and commerce, universities and non-university research organisations. The Board consists of 10–17 members appointed by the minister for a 5-year renewable term, who are selected from among distinguished scientists and experts in economy, geology or raw materials¹⁵. The minister can also appoint members from foreign offices¹⁶. Persons employed by the BGR or the Ministry cannot be appointed as members of the Board. The Board meetings must be attended by the President of the BGR and the Ministry representative and take place

at least once a year. The role of a Board member is entirely honorific, therefore members are only reimbursed for costs of travel and provided with an allowance¹⁷.

AUTHORITY OF THE GEOLOGICAL SURVEYS IN FEDERAL STATE

In Germany, besides the BGR operating as a central national geological institute, in each state there is a separate geological survey. In some states these surveys are responsible not only for geological issues, but also operate as mining authorities. Table 2 lists such entities.

It is worth mentioning that in order to ensure that all the tasks of the geological surveys are being performed¹⁸, joint

Table 2. Authority of the geological surveys in Federal State

Tab. 2. Instytucje zajmujące się służbą geologiczną w krajach związkowych

Federal State	Authority
Baden-Württemberg	Regierungspräsidium Freiburg Abt. 9 – Landesamt für Geologie, Rohstoffe und Bergbau http://www.lgrb-bw.de
Bayern	Bayerisches Landesamt für Umwelt Abt. 10 – Geologischer Dienst http://www.geologie.bayern.de/
Berlin	Senatsverwaltung für Stadtentwicklung und Umwelt Geologie und Grundwassermanagement http://stadtentwicklung.berlin.de/umwelt/wasser/geologie/index.shtm
Brandenburg	Landesamt für Bergbau, Geologie und Rohstoffe Brandenburg (LBGR) http://www.lbgr.brandenburg.de
Bremen	Geologischer Dienst für Bremen (GdfB) MARUM http://www.gdfb.de
Hamburg	Freie und Hansestadt Hamburg Behörde für Umwelt und Energie Geologisches Landesamt Hamburg http://www.hamburg.de/geologie
Hessen	Hessisches Landesamt für Naturschutz, Umwelt und Geologie – Abt. Geologie und Boden, Geologischer Landesdienst http://www.hlnug.de
Mecklenburg-Vorpommern	Landesamt für Umwelt, Naturschutz und Geologie – Geologischer Dienst http://www.lung.mv-regierung.de/
Niedersachsen	Landesamt für Bergbau, Energie und Geologie http://www.lbeg.niedersachsen.de/
Nordrhein-Westfalen	Geologischer Dienst Nordrhein-Westfalen – Landesbetrieb http://www.gd.nrw.de/
Rheinland-Pfalz	Landesamt für Geologie und Bergbau Rheinland-Pfalz http://www.lgb-rlp.de
Saarland	Landesamt für Umwelt – und Arbeitsschutz http://www.umwelt.saarland.de
Sachsen	Sächsisches Landesamt für Umwelt, Landwirtschaft und Geologie Abt. 10 – Geologie http://www.smul.sachsen.de/lfulg/
Sachsen-Anhalt	Landesamt für Geologie und Bergwesen Sachsen-Anhalt Abt. 2 – Geologischer Dienst http://www.lagb.sachsen-anhalt.de
Schleswig-Holstein	Landesamt für Landwirtschaft, Umwelt und ländliche Räume Schleswig-Holstein Abt. Geologie und Boden http://www.schleswig-holstein.de/DE/Landesregierung/LLUR/llur_node.html
Thüringen	Thüringer Landesanstalt für Umwelt und Geologie Abt. 6 – Geologischer Landesdienst, Boden, Altlasten http://www.tlug-jena.de/

Source: <http://www.infogeo.de/> (access: 15 April 2018)

¹³ § 1 point 1 of Erlass über das Kuratorium bei der Bundesanstalt für Geowissenschaften und Rohstoffe of 29 January 1975 (BAnz. No. 31 of 14 February 1975) amended by the Act of 22 January 1980 (BAnz. No. 20 of 30 January 1980).

¹⁴ § 1 point 4 of Erlass über das Kuratorium bei der Bundesanstalt für Geowissenschaften und Rohstoffe of 29 January 1975 (BAnz. No. 31 of 14 February 1975) amended by the Act of 22 January 1980 (BAnz. No. 20 of 30 January 1980).

¹⁵ § 2 of Erlass über die Kuratorium bei der Bundesanstalt für Geowissenschaften und Rohstoffe of 29 January 1975 (BAnz. No. 31 of 14 February 1975) amended by the Act of 22 January 1980 (BAnz. No. 20 of 30 January 1980).

¹⁶ List of current members is available here: https://www.bgr.bund.de/DE/Gemeinsames/UeberUns/Kuratorium/kuratorium_node.html (access: 09 June 2018).

¹⁷ § 4 and § 5 of the Erlass über die Kuratorium bei der Bundesanstalt für Geowissenschaften und Rohstoffe of 29 January 1975 (BAnz. No. 31 of 14 February 1975) amended by the Act of 22 January 1980 (BAnz. No. 20 of 30 January 1980).

¹⁸ For example: BLA-GEO, more on this topic: Geschäftsordnung des Bund-Länder-Ausschusses Bodenforschung und des Direktoren-Kreises der Staatlichen Geologischen Dienste der Bundesrepublik Deutschland.

committees are formed, and further divided into working parties. Such groups consist of representatives of the Federal Ministry for Economic Affairs and Energy, representatives of all or selected geological surveys from different federal states, as well as of representatives of the BGR and the *Leibniz-Institut für Angewandte Geophysik* (LIAG)¹⁹. The 16 state survey organisations collaborate under the premises of topic driven commissions such as the Federal Commission on Geosciences which control ad hoc working groups and an Information Systems Steering Group. Most of the state geological surveys are governmental organisations, fully run on public funds (<http://www.infogeo.de/ueberuns?lang=2>).

GEOZENTRUM

The three institutions of Geozentrum advise federal ministries, the EU, scientists, industry and the government of Lower Saxony on geoscientific issues. The Geozentrum consists of BGR, Landesamt für Bergbau, Energie und Geologie (LBEG), and Leibniz-Institut für Angewandte Geophysik (LIAG).

LBEG is the geological service for Lower Saxony and the Mining Authority for Lower Saxony, Schleswig-Holstein, Hamburg and Bremen. LBEG is a neutral scientific authority which advises the state government and its subordinate authorities, business, science and public, on all aspects of mining, energy and geology (https://www.geozentrum-hannover.de/gzh/DE/Home/gzh_node.html).

On the other hand, LIAG is an independent research institute conducting research on the upper part of the Earth's crust. As an independent research institute, LIAG was established in 2000. Before that it operated just as a department of the Geological Survey of Lower Saxony (https://www.geozentrum-hannover.de/gzh/DE/Home/gzh_node.html).

All the above-mentioned entities have one joint administration, use the same infrastructure and also collaborate with each other.

CONCLUSIONS

The modern structure of German geological surveys undoubtedly results from the fact that Germany is a federal state. Under this model, each of the states has its own geological institution, but the BGR remains the most important geological entity as a national central geological survey.

Based on the types of tasks assigned to the BGR, it may be concluded that this institution is oriented at economic adaptation of their projects and structured cooperation with other geological entities. Importantly, the BGR takes part in many international projects. Therefore, the organisation creates opportunities for German economy and informs about raw materials deposits essential for development of other segments of the economy.

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REFERENCES

- https://www.bgr.bund.de/EN/Home/homepage_node_en.html
- <http://www.pgla.de/statut.htm>
- https://www.bgr.bund.de/EN/Gemeinsames/UeberUns/Geschichte/geschichte_node_en.html;jsessionid=1CEA7443C8030E521855A2655301664D.1_cid331
- https://gq.pgi.gov.pl/article/viewFile/8958/pdf_984
- https://www.bgr.bund.de/DE/Gemeinsames/UeberUns/Aufgaben/aufgaben_node.html
- https://www.bgr.bund.de/EN/Themen/themen_node_en.html
- <https://www.ctbto.org/fileadmin/content/treaty/treatytext.tt.html>
- https://www.bgr.bund.de/DE/Gemeinsames/UeberUns/Kuratorium/kuratorium_node.html

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¹⁹ The following part of the article describes such an entity.