

STATUS REPORT OF LOWER SILESIAN VOIVODESHIP

1. BASIC FACTS OF THE ADRESSED POLICY AREA

Lower Silesia is a region located in the south-western part of Poland and borders with Germany and Czechia.

Capital of Lower Silesia - Wrocław (aprox. 635 000 inhabitants)

Urbanisation rate - 69,4%

Area: 19 948 km² (6,4 % area of Poland)

Population:

number of inhabitants in Poland – 38 m

number of inhabitants in Lower Silesia - 2,9 m (7,6 % population of Poland)

density in Poland – 123 inh./km²

density in Lower Silesia – 146 inh./km²

GDP (grow rate in 2016 – 2,8%) :

GDP in Poland – 1 720 000 000 PLN = 40 000 000 EUR

GDP in Lower Silesia – 151 500 000 PLN = 36 000 EUR (8,4% of GDP of Poland)

GDP per capita in Poland – 46 700 PLN = 11 200 EUR

GDP p.c. in Lower Silesia – 52 100 PLN = 12 500 EUR (111 % of GDP per capita in Poland – 2-nd place out of 16 Poland's regions)

Level of industrialization: 36,4% of GDP

Number of companies:

Lower Silesia –

361 307 registered companies (2016)

463 – mining

6 917 - processing industry

Unemployment rate – in August 2017

Poland – 7,0%

Lower Silesia 6,3%

Export rates – in June 2017:

Poland – 696 200 000 = 165 700 000 EUR

Lower Silesia – 68 200 000 PLN = 16 500 000 EUR (10 % of Poland's export)

Export rates per 1 employee:

Poland – 77 000 PLN = 18 300 EUR

Lower Silesia – 90 400 = 21 500 EUR (117 % Poland's rate)

Economic Added Value per 1 employee:

all goods & services:

Poland – 109 900 PLN = 26 200 EUR

Lower Silesia – 125 400 PLN = 29 800 EUR (114 % Poland's rate)

industry

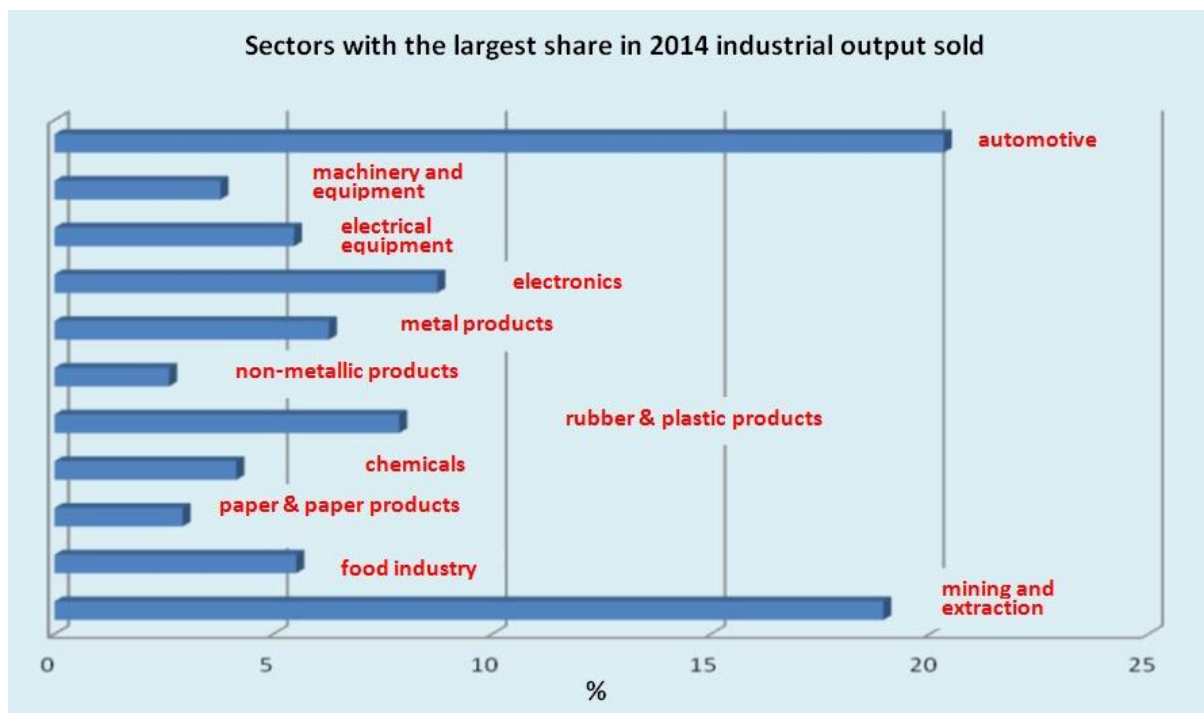
Poland – 142 500 PLN = 34 000 EUR

Lower Silesian – 179 200 PLN = 42 700 EUR

Investment in Research and Development (2015)

1 282 000 PLN = 305 200 EUR (0,85% regional GDP 1% in Poland)

industry 340 600 000 PLN = 81 000 EUR



Natural resources

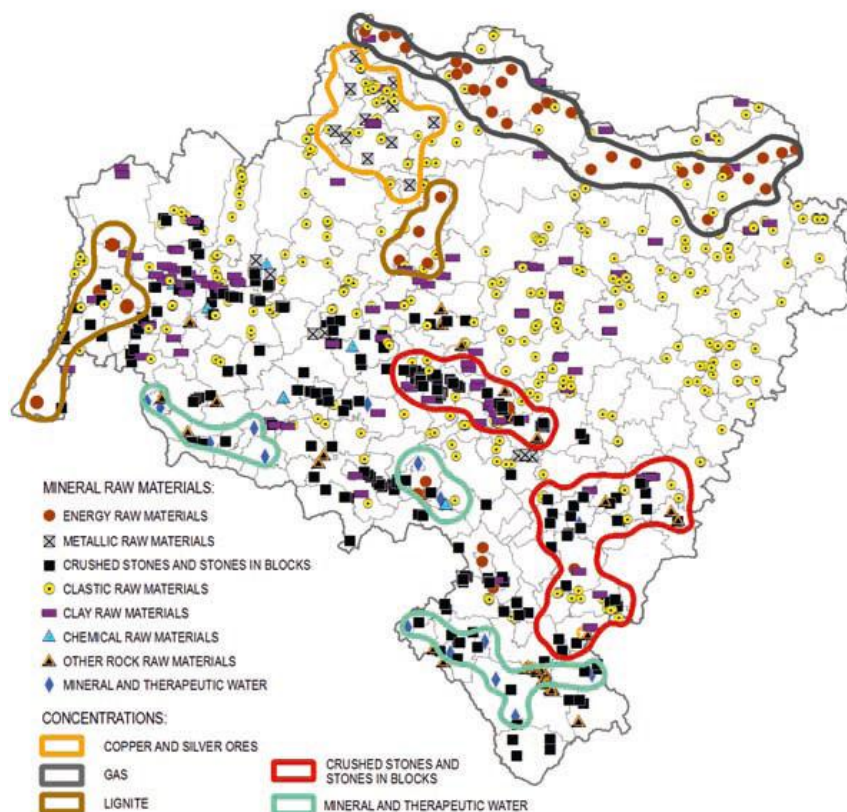
The raw materials base of Lower Silesia has economic importance for the development of the region, both because of the nature of the minerals and the size of their resources. However, ores deposits and energy mineral deposits, i.e. lignite, are strategic from the point of view of not only the regional economy but national as well.

Copper deposits (belonging to the KGHM Polska Miedź S.A.) are of the highest economic importance. They are located in the area of Lubin, Polkowice, Głogów, where the volume of resources is estimated as 4.5% of the world's resources. The unique value of these deposits, in addition to their size, is also the co-occurrence of silver, lead, cobalt, nickel and molybdenum. Bolesławiec region is also of the perspective importance for copper ore mining; the old copper basin, which currently is the subject of the analysis.

Lignite is the second most important economic extractive resource. In the area of Lower Silesia, this is Turów deposit - belonging to the PGE GiEK S.A., prospective Radomierzyce deposit and prospective deposits of Legnica-Ścinawa complex with documented 8 deposits

In addition to copper and lignite ores in Lower Silesia, in the northern part of the province there are deposits of natural gas and an underground gas storage - Wierzchowice, belonging to PGNiG S.A.

The raw material base of the Lower Silesia is also heavily represented by various and rich rock resources, rich deposits of high quality sands and gravels. The most important dimension and crushed stones are: granites of Strzegom and Strzelin, basalt (the largest and the cleanest deposits are exploited in a dozen mines, including Wałbrzych Agglomeration), gabbro, melaphyres, sandstones, seniors, amphibolites, gneisses, marbles, limestones. On the basis of these regional raw materials, a large number of stone processing projects (1.5 thousand stone companies) and the largest aggregate base for road and rail construction projects were developed.



Occurrence of natural resources in Lower Silesia. Source: WBU study based on "Report on Spatial Development and Social and Economic Development of Lower Silesian Voivodeship 2011." (p.25)

2. ADDRESSED POLICY INSTRUMENT

Addressed policy instrument - Regional Innovation Strategy of Lower Silesian Voivodeship for 2011-2020 with Strategic Framework for Smart Specialisations

Strategic objectives

1. Strengthening of innovative skills and attitudes, which are of key significance for the knowledge based economy
2. Increased chance for the success of innovative business projects
3. Increase of innovative potential of Lower Silesia region scientific institutions
4. Development of cooperation in the economy in the innovation area

Identified Smart Specialization "Natural and secondary raw materials" includes the following subareas:

- 1) Technologies of the acquisition, processing and utilization of useful minerals,
 - a) technologies of the acquisition of new products from the main mineral,
 - b) integrated systems for monitoring the threats in the environment of the mining plants,
 - c) technologies of the acquisition, treatment and use of ordinary, thermal and mineral waters,
 - d) technologies of the acquisition and processing, and the use of wood, vegetable raw materials in the innovative products,
 - e) new treatment and spa services on the basis of the use of the natural resources.
- 2) Technologies for the recovery of useful materials, recycling and disposal of waste.
- 3) Advanced materials:
 - a) new characters of raw materials (powders, microstructures, nanostructures, amorphs, others),

- b) composites,
- c) smart materials,
- d) materials for industrial applications,
- e) design and development of the production technology of the functional materials.

Identified weaknesses and challenges include: low processing of resources, dominance of companies in the field of raw materials extraction, restrictions related to the impact of the acquisition of the natural resources on the environment, depletion of mining resources, increase in the costs of production, low innovation factor and R&D expenditures from SMEs, high investment and social costs of new mines as well as low social acceptance for new initiatives on mining activity (build more favorable bases for mining and resources extraction).

Advantages and opportunities: richness of the natural resources in the region, utilizing rare earth elements on a much larger scale, using inactive mining sites as centres of history and knowledge, strong consolidation of the research and development environment with well-developed research and development units and modern infrastructure with a network of laboratories, looking for new ways of cooperation - clusters

Another Lower Silesian Strategic documents related to natural resources is Development Strategy of the Lower Silesian Voivodeship 2020 - *Objective 4*. Environment protection, efficient use of resource and adaptation to climate changes and improvement of the safety level; *Priorities*: Sustainable and reasonable economic use of natural resources, Construction of non-oppressive system for exploitation and transportation of raw materials. Regional Innovation Strategy of Lower Silesian Voivodeship and Development Strategy of the Lower Silesian Voivodeship directly affects the Regional Operational Programme 2014-2020, worth around 2,25 billion EUR, especially in priority area: *Enterprises and Innovations*, worth around 415,5 mlo Euro .

3. CURRENT STATUS ON IMPLEMENTATION OF THE POLICY INSTRUMENT

Currently, the Lower Silesian Voivodeship has commissioned to carry out the research on the diagnosis and development trends of the Lower Silesian smart specialization “Natural and secondary raw materials”. The purpose of the research is to gain knowledge for the process of monitoring and updating the “Regional Innovation Strategy for Lower Silesian Voivodeship for the years 2011-2020” and the “Strategic Frames for Smart Specialization in Lower Silesia”.

4. STAKEHOLDERS GROUP OF LOWER SILESIA VOIVODSHIP

Institute for Territorial Development – Jan Blachowski, Ilona Szarapo

KGHM Cuprum sp. z o.o. - Research and Development Centre – Wiktor Kowalczyk

Stone cluster – Krzysztof Skolak, Jacek Major

Walbrzych raw materials cluster – Jerzy Dudzik, Mirosław Miller

District Mining Authority in Wrocław – Miranda Ptak, Robert Podolski

Lower Silesian Branch of the Polish Geological Institute – Zbigniew Cymerman, Katarzyna Zboińska

Department of Geoengineering, Mining and Geology of Wrocław University of Science and

Technology – Jan Kudełko, Urszula Kaźmierczak

“Poltegor-Institute” Institute of Opencast Mining – Jacek Szczepiński, Barbara Rogosz

Wrocław Research Centre EIT+ – Artur Bednarkiewicz, Sebastian Arabasz

The stakeholder meetings per semester will be organised as stated in the approved REMIX project proposal and depending on current needs emerged during the project realisation.

5. OBJECTIVES SET FOR THE IMPROVEMENT OF THE POLICY INSTRUMENT AND ACTIVITIES THAT WILL BE DONE TO ACHIEVE THE OBJECTIVES

The main objective of Lower Silesian Voivodeship is to improve and make more efficient the Strategic Framework for Smart Specialisations of the RIS3 with a focus on mining-type specialization - Natural resources and recyclable materials. To achieve that Lower Silesia wants to:

- to improve governance towards stronger and more sustainable mining and raw materials sector with a particular focus on the innovation and knowledge of SME industries;
- to involve assistance of major regional players of mining industry in dialog on its future development;
- to evaluate, update and propose new solutions concerning RIS3 thanks to lessons learnt in other regions;
- indirectly to impact the Structural Funds - through improvement of RIS3 as an instrument in the formulation of the Regional Operational Programme;
- finally to have more effective ROP impact on regional development in terms of quality and efficiency.

6. ONGOING OTHER ACTIVITIES TARGETING TO IMPROVEMENT OF THE POLICY INSTRUMENT DURING THE PROJECT

Proposal of the issues for the development and discussion at the duration of the project

1. Processes, technologies, equipment - innovative production.
2. Development and acquisition of raw materials from anthropogenic fields - types of raw materials obtained, conditions of profitability, new innovative technologies.
3. Formal and legal conditions at various levels - the formal process of obtaining environmental permits, concessions, etc. for the start of mining activity and during its duration.
4. Reclamation/revitalization of post-mining areas.
5. The environmental aspect of extractive and processing activities: protected areas, environmental and social conflicts.

7. CLUSTERS / SME ENGAGEMENT TO THE REMIX STAKEHOLDER GROUP ACTIVITIES DURING THE PROJECT

During the mining and processing activities the following problems occur: environmental impact, materials processing technology, finding skilled workers, obtaining concessions and approvals. Both the need to protect undeveloped deposits and the extraction of minerals from exploited deposits

generates spatial conflicts. The cyclical increase in demand for raw materials contributes to the periodic intensification of these conflicts.

In order to address the above problems in the mining industry, the “Walbrzych Raw Materials” cluster was established aimed at the integration of regional raw material companies around the area of advanced material technologies and cooperation in the axis: business - science - local government units - business environment units. Similarly, the integrating role is performed by the “Cluster of Stones” coordinated by the Bazalt Foundation in Strzegom. Representatives of the both clusters are the participants of the regional stakeholders group.

8. CLUSTERS, INSTITUTIONS AND REGIONS LINKED TO REMIX PARTNER

Institute for Territorial Development(Instytut Rozwoju Terytorialnego)

<https://www.irt.wroc.pl/strona-136-kontakt.html>

ul. Dawida 1a
50-527 Wrocław
Sekretariat:
tel.: +48 71 374 95 00
email: irt@irt.wroc.pl

KGHM Cuprum sp. z o.o. - Research and Development Centre (KGHM CUPRUM sp. z o.o. Centrum Badawczo-Rozwojowe)

<http://www.cuprum.wroc.pl/kontakt-19>

ul. Gen. Wł. Sikorskiego 2-8
53-659 Wrocław
tel: +48 71 781 22 01
email: kghm@cuprum.wroc.pl

Stone cluster (Klaster Kamieniarski – Fundacja "Bazalt")

<http://klasterkamieniarski.pl/kontakt.html>

ul. Niepodległości 22
58-150 Strzegom
tel: +48 74 855 37 37
email: biuro@klasterkamieniarski.pl ; bazalt@bazalt.org.pl

Walbrzych raw materials cluster (Klaster Wałbrzyskie Surowce – Agencja Rozwoju Regionalnego AGROREG S.A.)

<http://www.walbrzyskiesurowce.pl/>

Agencja Rozwoju Regionalnego „AGROREG” S.A.
ul. Kłodzka 27
57-402 Nowa Ruda
tel: +48 74 872 50 25
email: arr@agroreg.com.pl

District Mining Authority in Wrocław (Okręgowy Urząd Górniczy we Wrocławiu)

http://www.wug.gov.pl/kontakt/oug_we_wroclawiu

ul. Kotlarska 41, 50-151 Wrocław

tel: +48 71 790 20 80

e-mail: ougwroclaw@wug.gov.pl

Lower Silesian Branch of the Polish Geological Institute (Państwowy Instytut Geologiczny im. Henryka Teisseyre'a, Oddział Dolnośląski)

<https://www.pgi.gov.pl/wroclaw/kontakt-i-lokalizacja.html>

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53-122 Wrocław

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email: sekretariat.od@pgi.gov.pl

Department of Geoengineering, Mining and Geology of Wrocław University of Science and Technology (Politechnika Wrocławska; Wydział Geoinżynierii, Górnictwa i Geologii)

<http://wggg.pwr.edu.pl/>

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"Poltegor-Institute" Institute of Opencast Mining ("Poltegor-Institut" Instytut Górnictwa Odkrywkowego)

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email: poltegor@igo.wroc.pl

Wrocław Research Centre EIT+ (Wrocławskie Centrum Badań EIT+)

<http://www.eitplus.pl/dane-teleadresowe/>

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54-066 Wrocław

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email: biuro@eitplus.pl