

# Production and Foreign Trade of Mineral Products in Latvia and Belarus

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**Abstract.** Latvia and Belarus are small countries with limited scope of natural resources. However, the available mineral resources play important role in production of mineral products for domestic and foreign consumption. Main goal of the paper is to characterize the role of extraction industry in national economy and mineral products trade in two neighboring countries – Latvia and Belarus. To achieve the goal, the role of mining and quarrying industry in Latvia and Belarus was identified; trade of mineral resources in Latvia was analyzed. The main trends in the development of its own mineral resources of the Republic of Belarus were identified, the role of mineral resources in the commodity structure of foreign trade of the Republic of Belarus was shown, ways to increase the level of security of the country's own organic and mineral resources were determined, including the improvement of the legal framework. The research was performed in 2012; the following methods were used in the paper: comparative analysis and synthesis, statistical analysis and monographic methods.

**Keywords** – mineral resources, subsoil use, mineral products, economic development, foreign trade.

## I INTRODUCTION

The global economy of mineral resources and mineral commodities is being characterized by the presence of such processes as the emergence and development of the market of mineral bases and intensification of the processes of globalization of markets of mineral mineral products.

The development of national economies and the world economy as a whole depends on how fully meet their needs in mineral commodities.

## II THE PLACE OF MINING INDUSTRY IN NATIONAL ECONOMY AND MINERAL'S FOREIGN TRADE IN LATVIA 2005-2011

An insight into the mining industry's role in the economy can be obtained by analysis of value added, as well as foreign trade data, which describes dynamics of foreign and domestic consumption of mineral products.

The value added of mining and quarrying in Latvia is almost 10% of the EU-27 average, there are about 200 companies operating in the industry. Compared with its Baltic neighbours, the value added in mining industry in Latvia is lower: value added in Estonia in 2010 was 140 million EUR, in Lithuania 71 million EUR, but in Latvia only 59 million EUR. The share of value added, created in mining and quarrying industry in Latvia in 2011 was 0.5% of GDP [1]. In comparison, in Republic of Belarus the share was higher: 1.1% of GDP [11].

The mineral resource range of Latvia basically meets the needs of the construction sector as well as the foreign demand for non-metallic mineral products.

During the period from 2005 to 2011, the import of goods and services in Latvia exceeded the export value.

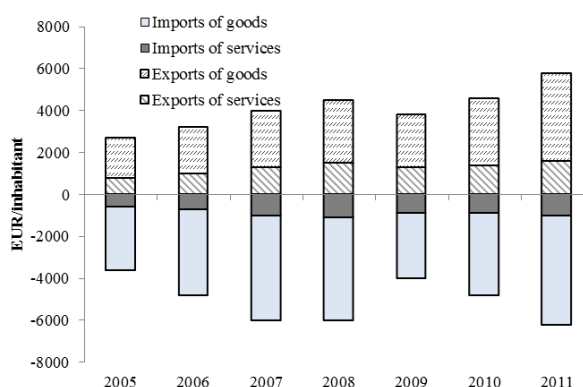


Fig.1. Foreign trade of goods and services in Latvia, 2005-2011

The foreign trade of mineral products has increased following the transition to the market economy (Table I).

TABLE I

SHARE OF MINERAL PRODUCT EXPORTS AND IMPORTS IN LATVIA, % OF TOTAL TRADE VALUE [1]

Indicator / year	2005	2009	2010	2011
<b>Total import value</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
Mineral products import value % of total, of which	15.5%	17.2%	15.4%	17.3%
-diesel oil	34.2%	27.6%	31.8%	32.8%
-motor spirit (excl. aviation spirit)	16.8%	13.8%	10.8%	9.7%
-coal; briquettes and similar solid fuel	0.6%	0.6%	0.9%	0.9%
Total export value	100.0%	100.0%	100.0%	100.0%
Mineral products export value % of total, of which	9.2%	5.5%	6.0%	9.1%
-cement	0.3%	2.7%	7.6%	6.2%
-peat	11%	27%	23%	13%

As shown in Table I, mineral product import in Latvia in year 2011 accounted for 17.3% (1 903 mln.EUR) from the value of all imported commodities. Machinery and mechanical appliances; electrical equipment accounted for a similar proportion (17.3%) of total goods imports. The third largest group of imported goods is food and agricultural products (15.1% of total imports). These three commodity groups account for 50% of the total value of imported goods in 2011. Thus, compared with 2005, the proportion of mineral products in the total value of imported goods has increased by nearly two percentage points.

When assessing the value dynamics of imported mineral products during the period from 2005 to 2011, it can be concluded that the most rapid increase in import is attributable to solid fuel (coal, briquettes and similar solid fuel).

The export of cement and peat accounts for 20% of exported mineral product revenues, the income from cement exports is rising since 2005. In 2005 the exported cement value was 1022 thsd.EUR and in year 2011 - 48054 thsd.EUR.

According to the foreign trade data, the trade (both export and import value) with Belarus is growing over time. However, the Latvian foreign trade balance with Belarus since 2005 has worsened. In 2005, the difference between the export income from marketed products in Belarus and import expenditure was -94 million EUR, but in 2011 it was -305 million EUR. This can be explained by the fact that the value of imported goods from Belarus has historically been higher than the export earnings of the trade. The value of foreign trade in non-metallic mineral manufactures has increased significantly over the time: according to statistical data, the export income rose 8 times since year 2000, but import value - doubled in 2011/2000. Table II demonstrates Latvian foreign trade value of non-metallic mineral manufactures by region in year 2011.

TABLE II  
MINERAL PRODUCT EXPORTS AND IMPORTS BY PARTNER IN LATVIA  
(2011), MLN.EUR [3]

Product/partner	Belarus	EU27-extra (incl.Belarus)	EU27-intra
<b>Total imports</b>	<b>483.5</b>	<b>2620.5</b>	<b>9082.0</b>
Non-metallic mineral manufactures (SITC 66)	3.9	24.3	138.8
Lime, cement, construction materials (SITC 661)	0.4	7.4	14.1
Clay construction materials, refractory construction materials (SITC 662)	0.3	1.7	25.3
Mineral manufactures, n.e.s. (SITC 663)	1.7	4.5	39.5
Glass (SITC 664)	0.5	5.9	23.2
<b>Total exports</b>	<b>179.4</b>	<b>3208.2</b>	<b>6224.5</b>

Product/partner	Belarus	EU27-extra (incl.Belarus)	EU27-intra
Non-metallic mineral manufactures (SITC 66)	6.0	59.2	92.0
Lime, cement, construction materials (SITC 661)	4.6	22.1	29.1
Clay construction materials, refractory construction materials (SITC 662)	0.2	15.1	6.8
Mineral manufactures, n.e.s. (SITC 663)	1.0	7.6	35.2
Glass (SITC 664)	0.1	10.3	15.7

When assessing the foreign trade value dynamics of mineral products between Latvia and Belarus, the following trends can be identified.

In the 3rd SITC group of mineral fuels, lubricants and related materials, Belarus is an important petroleum, petroleum product and related material import market. In 2000, the EU share was 27% of the import value of petroleum, Belarus 27% and other countries - 46%. In year 2011 the role of the third countries in petroleum imports decreased, while the share of the EU increased. Thus, 69% of the petroleum import value is attributable to the EU-27, 24% to Belarus and 7% to other countries.

In the 66th SITC group of non-metallic mineral manufactures since 2005 the foreign trade balance has improved. In 2005 the value of non-metallic mineral manufactures, imported from Belarus was 4 million EUR; the export income was 0.5 million EUR. In 2011 the value of imported non-metallic mineral manufactures was 4 million EUR, but export income rose to 6 million EUR.

Mineral manufactures not specified (group 663) accounted for 44% of mineral product import from Belarus. Glassware (SITC 665) was next most significant import product from Belarus in 2011, following by glass (SITC 664) with share of 24% and 12% accordingly.

In non-metallic mineral manufactures trade, 77% Latvian income was guaranteed by the export of the sub-group 661 (lime, cement, and fabricated construction materials, except glass and clay materials). Trade in these construction materials provided a positive balance of foreign trade with Belarus in both the 2010 and 2011. In comparison, in year 2005 the import value of construction materials from Belarus was 1.5 mln.EUR, and export income 0.3 mln.EUR.

Summarizing, it can be concluded, that trade in mineral products between Latvia and Belarus is increasing in observed time period 2005-2011.

### III MINERAL PRODUCT INDUSTRY AND TRADE CHARACTERISTICS IN BELARUS 2005-2011

The Republic of Belarus refers to a group of small countries that do not have sufficient own mineral resources, therefore forced to import them, so far as

**Sproge I., Curkina I., Jekabsone S., Tsilibina V., Rumyantseva J., Piletsky K. PRODUCTION AND FOREIGN TRADE OF MINERAL PRODUCTS IN LATVIA AND BELARUS**

based on mineral commodities to end use or for produce a finished product the following industries have been functioning: fuel industry, chemical and petrochemical industry, electricity, ferrous metallurgy, building materials industry (Table III).

TABLE III  
DYNAMICS OF PRODUCTION OF MAJOR PRODUCTS IN THE REPUBLIC OF BELARUS IN 2005-2011 YEARS BASED ON MINERAL COMMODITIES

Product type	Unit	2005	2006	2007	2008	2009	2010	2011
<i>Fuel industry</i>								
Oil (including gas condensate)	thous. tonnes	1785	1780	1760	1740	1720	1700	1681
Natural gas	mln m <sup>3</sup> .	228	219	201	203	205	213	222
Peat fuel (of conventional moisture content)	thous. tonnes	2307	2125	2502	2361	2216	2352	2823
<i>Chemical and petrochemical industry</i>								
Total mineral fertilizers, of which:	thous. tonnes	5669	5469	5880	5870	3390	6176	6288
nitrogenous	-"-	684	711	751	728	728	761	798
potassium	-"-	4844	4605	4972	4976	2485	5223	5306
phosphate	-"-	141	153	157	175	177	192	185
Fodder yeast (based substrates oil fractions)	-"-	24,3	31,8	32,9	32,5	33,6	20,3	7,6
<i>Production of major products of refining industry</i>								
Primary crude oil processing	thous. tonnes	19802	21253	21349	21304	21634	16455	20474
Petrol	-"-	3763	3931	3702	3709	3671	3477	3693
of which motor petrol	-"-	3330	3498	3181	3330	3372	3158	3135
Diesel fuel	-"-	6426	6616	6679	661	6588	5331	6709
Fuel oil (gross output)	-"-	6313	6329	6195	5913	6202	4421	5589
<i>Production of thermal and electrical energy</i>								
Electrical energy	billion kWh	30,961	31,811	31,829	35,054	30,405	34,890	32,192
The thermal energy	mln Gcal	73,496	74,383	69,733	67,454	67,769	72,475	68,960
<i>Building materials industry</i>								
Cement	thous. tonnes	3131	3495	3821	4219	4350	4531	4604
Wall materials, all of them:	mln standard bricks	2960,4	3640,6	4193,9	4389,2	3729,3	4087,3	4249,0
building bricks	-"-	838,1	934,9	1084,4	1102,8	960,4	1002,3	955,9
wall blocks of cellular concrete	-"-	1964,3	2477,6	2829,8	2982,0	2456,2	2772,4	2971,5
Lime	thous. tonnes	785	853	925	900	788	804	793
Limestone and dolomite flour	mln tonnes	2,506	2,273	2,092	1,874	1,940	1,929	1,684
Non-metallic building materials – total of which:	thous. m <sup>3</sup>	23154	27029	29819	34315	36567	41621	43785
rubble stone	-"-	36,1	130,1	66,9	49,3	69,3	107,9	104,1
crushed stone	-"-	8553	9493	10100	10753	11338	12089	13152
mortar sand	-"-	8934	10343	11137	11256	12720	15835	16677
gravel	-"-	649	781	1069	1448	1410	1369	1673
Glass - (all totally for SUP. Elektroarmaturnogo glass), including by type:	thous. m <sup>2</sup>	23746	23249	21268	21357	20880	21364	25354
building glass	-"-	1461	1322	1370	1130	1419	1711	1948
polished glass	-"-	20349	20151	18022	18428	17551	17275	20606
glass (stalinite)	-"-	93	130	153	138	101	121	160
patterned glass	-"-	475	397	420	558	380	546	692
glass reinforced	-"-	966	833	951	791	1138	1384	1720
Glass elektroarmaturnoe	thous.unit	402	416	352	312	291	327	228
<i>Ferrous metallurgy</i>								
Cast iron	thous. tonnes	270	301	346	366	276	303	359

**Sproge I., Curkina I., Jekabsone S., Tsilibina V., Rumyantseva J., Piletsky K. PRODUCTION AND FOREIGN TRADE OF MINERAL PRODUCTS IN LATVIA AND BELARUS**

Steel	-“-	2076	2297	2387	2660	2449	2672	2779
Finished rolled products	-“-	1839	2047	2192	2470	2298	2458	2454
Steel pipes	-“-	108	134	148	146	107,4	183,7	218
Metal cord	-“-	78,5	86,4	87,2	96,5	68,5	92,9	94,1

In the depths of Belarus found over 10 thousand deposits of various mineral resources, the most important of which are fields of energy resources (oil, associated gas, peat, lignite and oil shale), potash and rock salt, variety of minerals used in the production of building materials (building and facing stone, raw materials for the production of cement, lime, sand and glass construction, sand and gravel material, clay ceramic, refractory and lightweight aggregates, and other), fresh and mineral underground waters. In addition, deposits of iron ore, gypsum, rare metals, phosphorus, alumina-soda raw materials and industrial brines were identified. While Belarus buys oil, gas, raw materials for steel production, facing stone, glass sand, bentonite and kaolin clay, plaster and building materials based on gypsum, apatite, phosphorus.

The Republic of Belarus is now being developed oil fields, peat, potash and rock salt, dolomite, fresh and mineral underground waters on the basis of which work successfully industry.

At the present stage of development and the future site of the mineral resources base of Belarus is sufficient to provide of mineral commodities only industry of building materials (except for the production of glass), chemical and petrochemical industries in the production of potash and nitrogen fertilizers and fuel industries of the country.

Almost all industries have a high degree of dependence on imported mineral commodities and mineral resource production, which adversely affects the competitiveness of commercial products, the formation of the balance of foreign trade of the Republic of Belarus and the state of the economy as a whole.

Mineral resources play a dominant role in the commodity structure of foreign trade of the Republic of Belarus: in 2010 year, their share of total exports amounted to 28.2% and 35.4% of total imports. In 2011 year - 36.0% of total exports and 41.7% of total imports (Fig. 1, 2).

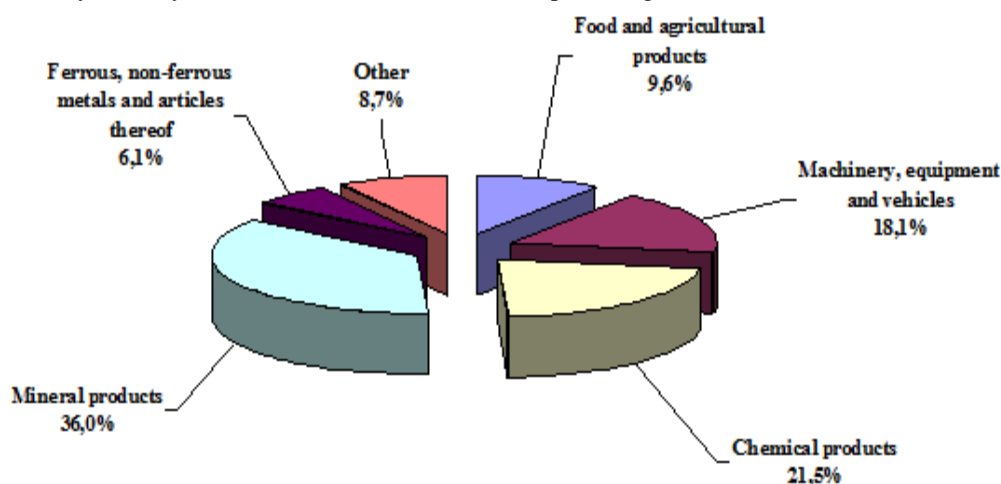


Fig. 1. – Commodity structure of exports in Belarus, 2011

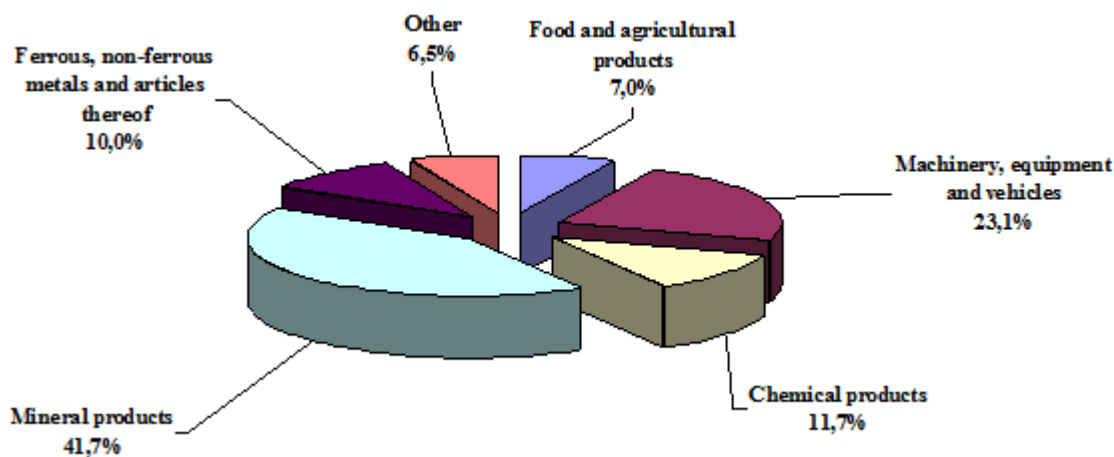


Fig. 2. – Commodity structure of imports in Belarus, 2011.

The main consumers of exports from Belarus mineral commodities are Russia, Ukraine, Moldova, Lithuania, Latvia, Poland [4, p. 25].

Given that the mineral resources is the basis of national security and sustainable development, to regulate its formation should be special state programs.

Belarus has adopted and implemented legal normative acts, which are a part of the national legislation, aimed at integrated use of mineral resources, including fuel and energy resources, improving performance for the involvement in the development of mineral deposits:

State exploration program for the development of mineral resources of Belarus for 2006-2010 and for the period up to 2020, approved by Edict of the President of the Republic of Belarus from 28 March 2006 № 184 [5],

Subsoil Code of the Republic of Belarus (14 July 2008),

The development strategy of the energy potential of the Republic of Belarus, approved by the Regulation of the Council of Ministers of the Republic of Belarus from 9 August 2010 № 1180 [6],

The program of development of mineral deposits and the development of mineral resources of the Republic of Belarus for 2011-2015 and for the period up to 2020, approved by the Regulation of the Council of Ministers of the Republic of Belarus from 4 April 2011 № 431 [7],

Water Code of the Republic of Belarus (15 July 1998),

National program of local and renewable energy sources for the period 2011-2015, approved by the Regulation of the Council of Ministers of the Republic of Belarus from 10 May 2011 № 586, etc.

Regulation similar public relations for the use of mineral resources, including fuel and energy resources, is carried out in the Russian Federation and other countries - members of the Commonwealth of Independent States [8, p. 131], and in the Commonwealth of Independent States. In particular, the basis of international legal cooperation among states in the use of mineral resources are:

Mining Charter of countries - members of the Commonwealth of Independent States from 27 March 1997,

Pact on cooperation in the field of exploration, development and use of mineral resources from 27 March 1997,

Pact on the basic principles of cooperation in the field of rational use and protection of transboundary waters from 11 September 1998,

Pact on cross-border cooperation in the field of exploration, development and protection of the subsoil from 31 May 2001,

Pact on cooperation of countries - members of the Commonwealth of Independent States in the field of

energy efficiency and energy savings from 7 October 2002, and

Memorandum of Cooperation between the Government of the Republic of Belarus and the Government of Latvia in the energy sector from 18 February 2009 [9].

Of particular interest to Belarus is expanding economic ties with the Baltic states - Lithuania, Latvia and Estonia. This is due to many factors, among which is the geographical proximity, and the overall economic past [10, p. 341].

Improving the legal security subsoil and the introduction of economic incentives of geological study of the subsoil and reproduction of mineral resources and the rational use of mineral resources will increase the investment attractiveness of the subsoil, to remove administrative barriers in regulating geological study of the subsoil and reproduction of mineral raw materials.

#### IV CONCLUSIONS

The share of value added, created in mining and quarrying industry in Latvia in 2011 was 0.5% of GDP.

Belarus is an important petroleum, petroleum product and related material import market for Latvia. 69% of the petroleum import value is attributable to the EU-27, 24% to Belarus and 7% to other countries outside the European Union.

In 2010 and 2011 trade in construction materials (lime, cement, and fabricated construction materials) turned to a positive balance of Latvian foreign trade with Belarus.

Mineral resources play a dominant role in the commodity structure of foreign trade of the Republic of Belarus: in 2011 year, their share of total exports amounted to 36% and 41.7% of total imports.

The strategic goal for Belarus is to increase the security of the country's own organic and mineral resources, a rational use and minimizing the negative impact of extraction on the environment, reducing the dependence on imports, as well as improving the quality of use of surface and ground water.

To achieve this goal in Belarus it is necessary:

-to improve the economic mechanism of production and use of mineral resources for complex processing environment;

-develop a comprehensive state program for the development of mineral resources of the country in which the strategy of exploration industry should be closely linked with the economical use of natural resources and increasing need in their separate ways;

-oriented economy to rational use of mineral resources;

-ensure the expansion of exploration on promising areas, the search for new deposits, as well as the use of related types of minerals, certain types of waste and recycled materials;

-support material and technical base of exploration industry at an optimal level;  
-improve the regulatory framework in the sphere of subsoil use in order to ensure the best possible country own minerals.

#### V ACKNOWLEDGMENTS

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