BULGARIAN ASSOCIATION OF THE METALLURGICAL INDUSTRY

METALLURGY IN BULGARIA
2024

November 2025

"Metallurgy in Bulgaria" is a specialized annual edition of the **Bulgarian Association of the Metallurgical Industry** (BAMI), which publishes data on Bulgarian metallurgical industry, European and global metallurgy, as well as the development and outlook of this key sector for each country. This publication is intended for a wide range of managers and specialists from metallurgical companies, lecturers, students and undergraduates from technical colleges and universities, Bulgarian and foreign partners, external experts, and readers interested in metallurgy.

The edition contains data on the volume and value of the production, on the investments undertaken in the renovation and modernization of the capacities and technologies, on the realization of the production and foreign trade of metals and metallurgical products.

The underlying sources of information on the production and realization of domestic output are the metallurgical enterprises that are members of BAMI. Most of the indicators are based on the official statistics of the Republic of Bulgaria and the European Union, published by the National Statistical Institute, the Bulgarian National Bank, and Eurostat. The edition annually presents data on foreign trade turnover by product type and by country, which is carried out through the information provided by the Ministry of Economy and Industry. That is a good example of effective cooperation between business and state institutions

The management and team of BAMI express their gratitude to the Ministry of Economy and Industry for the cooperation and useful information for the purposes of the current issue. We also thank all our companies that sent information and helped the working team to prepare "**Metallurgy in Bulgaria in 2024**" as well as BAMI for continuing an over 30-year tradition.

Additional information about the activities of the Bulgarian Association of the Metallurgical Industry is available on the website of the Association (www.bami.bg).

Apart from the indicated national sources, materials, and publications from external organizations such as Eurofer (www.eurofer.eu), World Steel Association (www.worldsteel.org), Eurometaux (www.eurometaux.eu), Eurostat (www.ec.europa.eu) and other international structures of ferrous and non-ferrous metallurgy were used during the preparation of the edition.

CONTENTS

PERCEIVED ABBREVIATIONS:

BAMI	-	Bulgarian Association of the Metallurgical Industry
GDP	-	Gross domestic product
GVA	-	Gross value added
BCLA	-	Branch Collective Labor Agreement
AC	-	Apparent Consumption
ACPC	-	Apparent Consumption Per Capita
RHC	-	Real Home Consumption
RFM	-	Rolled Ferrous Metals
HR	-	Hot-rolled (rolled steel)
EU ETS	-	European Union Emissions Trading Scheme
ZGP	-	Hot galvanizing plant
KCM	-	Non-ferrous metals plant
MSST	-	Minimum Social Security Threshold
NSSI	-	National Social Security Institute
CIS	-	Commonwealth of Independent States (former USSR)
PPS	-	Purchasing Power Standard
CR	-	Cold-rolled (rolled steel)
ASST	-	Average Social Security Threshold
HNFM	-	Heavy non-ferrous metals
CEE	-	Central and East Europe
NAFTA	-	North American Free Trade Agreement

DEAR LADIES AND GENTLEMEN,

I am pleased to present again this year the annual edition of BAMI, outlining the state and achievements of the Bulgarian metallurgical industry in 2024**.**

Notwithstanding the problems and challenges posed by the uncertain political and economic environment, Bulgarian metallurgy has continued to develop successfully. A significant increase has been achieved in the production and processing of metals and their alloys; investments in capacities and technologies are ongoing, and new high value-added products are being introduced. Strong performance indicators are a sign of sustainability, responsibility, and professionalism in the management of enterprises. Metals and products thereof continue to hold a leading position in Bulgaria's export structure, generating a positive trade balance of over 3 billion BGN.

One of the core policies of enterprises in the sector is their strong social responsibility — toward their employees, local authorities, trade unions, educational institutions, and civil society structures. Regions with developed metallurgy are among the most prosperous in the country, offering high levels of remuneration. Numerous national and regional events throughout the year have been sponsored by metallurgical companies. Through these initiatives, the industry promotes its achievements, the modernized image of production, and the contribution of metallurgy to both the national and European economy.

Today, the world faces new challenges that directly affect metal production. Alongside decarbonization and digital transformation, there is a growing focus on increasing the output of critical and strategic raw materials and ensuring independence from third-country suppliers. To be effective, we must be prepared for the changes and actively participate in these processes. The potential of our country is apparent, and our objective is to see it actualized.

I truly believe that the path we are following is the right one, and that together we will achieve the results we aspire to!

Good luck and useful work to all!

Yours faithfully,
PhD Eng. Nikola Rangelov
Chairman of the Board

SECTION ONE
ECONOMY IN 2024

1.1. POPULATION, LABOUR MARKET, RENUMERATION

The past year 2024 was marked by the ongoing war in Ukraine, political instability in the country, and the new U.S. foreign trade policy, with the resulting changes in global markets. The European Union continued its support for Ukraine and imposed new sanctions on Russia. Despite measures taken to reduce energy prices, they remained higher than in other regions of the world. To preserve competitiveness, many European countries continued to support energy-intensive industries affected by the crises by compensating for indirect greenhouse gas costs included in electricity prices. Bulgaria remained one of the few countries that did not apply the permissible state aid.

After a series of caretaker governments, early parliamentary elections in 2024 were held and a regular government was finally formed. Due to its coalition nature, no major economic reforms or decisions on urgent industrial matters are expected, which hinder the development of a long-term vision for production, slow down investment, and limit opportunities for growth. Due to its coalition nature, no major economic reforms or decisions on urgent industrial matters are expected, which circumstance hinders the development of a long-term vision for production, slow down investment, and limit opportunities for growth. The absence of a national strategy for the future of industry in the transition to a low-carbon and digital society leaves the country lagging behind in utilizing European funds and programs.

Two regulations adopted by the European Commission — the Critical Raw Materials Act (CRM) and the Net-Zero Industry Act (NZIA) — are directly relevant to the extraction and processing of metals. They create an exclusive opportunity for developing the potential of Bulgarian producers through participation in EC programs, which, however, has not yet been realized. There is a lack of active position and action by the executive and legislative authorities to involve the country in the processes of transformation and support for business in presenting suitable projects. With such initiatives, Bulgarian industry has a chance to bring the country closer to its strategic goal of catching up with other member states in terms of development and socio-economic convergence, and to achieving a higher standard of living for the population.

European goals for resource independence based on domestic extraction of strategic and critical raw materials for transformation, as well as high metal consumption, provide a new opportunity for product and technological restructuring of the metallurgical sector and for the adoption of new high value-added production processes.

The socio-economic environment, particularly the level and differences in living standards and conditions, drives to population movements within Europe between member states and within the territories of the countries themselves. This also affects life expectancy and related indicators such as fertility, healthcare, education, and other factors that ultimately impact population growth in the country.

Over a period of several decades, spanning the end of the 20th century and the first two decades of the 21st century, Bulgaria's population has been steadily declining. Figure 1.1 illustrates this negative trend over the last 25 years, during which the average annual decline exceeded 70, thousands of people.

Figure 1.1

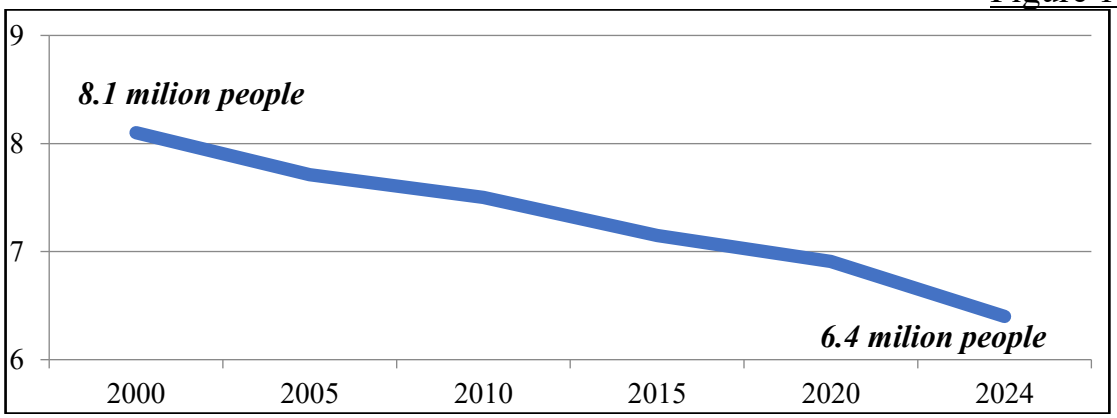


Figure 1.1

Population of Bulgaria, millions of people

Table 1.1 presents data on the population over the last five years and the changes in its structure and place of residence. The data from the official population census conducted by the NSI during this period are also reflected. The necessary adjustments to the census-based figures are reflected in 2022.

It is evident from the table that, up to 2022, the NSI data on population size were not fully accurate, as the decline exceeded the officially reported 50 thousands of people per year. A cumulative difference of 400 thousands of people emerged, which was corrected in the census year. Over the next two years, this decline slowed sharply and was reduced to a few thousands of people. It was lowest in 2023, at only 2,2 thousands of people compared to 2022, and reached 7,7 thousands of people in 2024.

It should be noted that the reduction in population is not due to external migration, which in both years contributed positively to population growth. The decline is entirely the result of a negative natural increase.

In 2024, 52 189 people settled in the country, while 13 002 emigrated, resulting in a net migration gain of 39 187 people, compared to 41 580 in 2023.

Internal migration affects the ratio between the urban and rural population. Once again, the trend of urban population growth at the expense of rural populations has resumed. This rule was broken only in 2023, probably under the influence of COVID-19.

The gender distribution remains uneven — the number of women has declined nearly twice as much as that of men, mainly among the rural population. Nevertheless, women still outnumber men by 247 thousands of people, compared to 250 thousands of people in 2023.

Table 1.1

Population by age and location, thousands of people

Population categories	**2020 г.**		**2021 г.**		**2022 г.**		**2023 г.**		**2024 г.**	
	Thousands of people	**%**	**Thousands of people**	**%**	**Thousands of people**	**%**	**Thousands of people**	**%**	**Thousands of people**	**%**
City/town	5 043.2	72.9	5 000.5	73.1	4 746.7	73.6	4 738.5	**73.5**	**4744.1**	**73.7**
Village	1 873.3	27.1	1 838.4	26.9	1 701.0	26.4	1 707.0	**26.5**	**1693.2**	**26.3**
Males	3 349.7	48.4	3 311.3	48.4	3 099.5	46.7	3 097.7	48.0	3095.1	48.1
Females	3 566.8	51.6	3 527.6	51.6	3 348.2	53.3	3 347.8	52.0	3342.2	51.9
Total:	**6916.5**	**100.0**	**6 838.9**	**100.0**	**6 447.7**	**100.0**	**6 445.5**	**100.0**	**6437.3**	**100.0**

Source: NSI

For the first time in 2023, the fertility rate in Bulgaria is higher than the EU(27) average, or 8.9‰ compared to 8.7‰ respectively. Accordingly, there are 601 more births, but the indicators for 2024 are falling again. There are 3,769 fewer live births than in 2023, and the fertility rate falls to 8.3 ‰.

Cyprus has the highest birth rate among EU member states at 11.2‰, followed by France at 10.7‰, Ireland at 10.5‰, and Sweden at 10.0‰. Italy has the lowest birth rate in the European Union at 6.7‰.

Demographic characteristics are also influenced by the average life expectancy of the population in the country. Unfortunately, compared to all EU (27) countries, even neighboring non-EU countries, life expectancy in Bulgaria is the lowest. According to the NSI data for the period 2022–2024, the overall average life expectancy is 75.55 years, with 79.28 years for women and 71.89 years for men. The COVID-19 pandemic had a negative impact on this indicator, leading to a decline of nearly two years across all groups and countries. By 2024, life expectancy in Bulgaria has already reached and slightly exceeded its pre-pandemic level, with an increase of one year for women and for the population as a whole, and a smaller increase for men. We still lag behind other European countries in terms of life expectancy, with a difference of five to six years.

Average life expectancy is increasing driven by improvements in living conditions, but combined with low birth rates, it generates serious demographic problems and labor shortages. In the short term, this can be swiftly compensated for by an increase in mechanical migration growth and in the longer term by natural growth. However, national policies are not sufficiently effective in both directions.

Demographic processes also change the age structure of the population and affect the labour market. The inactive population, including children under 16 and people over the retirement age of 65, now accounts for nearly 60% of the total population in the country, with the elderly group being three times larger than that of children. This ratio is slightly improved by positive migration indicators.

Table 1.2 presents data on the average annual number of employed persons under employment or civil service contracts, as well as income levels and other social indicators for the period 2020–2024.

Table 1.2

Average number of employed people, level of unemployment, inflation

Indicators	**2020 г.**	**2021 г.**	**2022 г.**	**2023 г.**	**2024 г.**
Average annual number of employed people (national calculations) in thousands	2 165.3	2 275.8	2 195.5	2 218	2 231.7
Average annual level of unemployment %	**6.7**	**5.3**	**4.3**	**4.3**	**4.2**
Inflation/deflation rate	**- 0.8**	**3.3**	**15.3**	**9.5**	**2.4**
Average monthly wage of persons under employment and service contracts, **BGN**	**1 387**	**1 550**	**1 760**	**2 012**	**2 323**
- public sector	1 441	1674	1 808	**2 077**	**2 400**
- private sector	1 369	1510	1 758	**1 991**	**2 297**
- for the processing industry	**1 204**	**1308**	**1 511**	**1 714**	**1 941**
Average monthly wage in activity 24 "Production of basic metals", incl.	**1 656**	**1 903**	**2 180**	**2 414**	**2 680**
• **Steel industry**	**1 800**	**1 980**	**2 500**	**2 760**	**3 064**
• **Non-ferrous metallurgy**	**2 158**	**2 506**	**2 687**	**2 980**	**3 308**
• **Metal casting**	**1 129**	**1 245**	**1 382**	**1 705**	**1 893**

*Source: NSI, *preliminary data*

The economic recovery that began in 2021 in Europe and worldwide continued in subsequent years, albeit at a slower pace. While the number of persons under employment contracts increased by 22.5 thousand in 2023, the increase in 2024 was only 13.7 thousand. The unemployment rate remained low, within the range considered healthy for the economy. Inflation also declined to a normal and acceptable level of 2.4%.

However, several problems persisted, including the high cost of electricity, market disruptions caused by excessive and illegal imports of metal products, reduced demand from key customers, and scrap supply constraints. Despite this

challenging environment, enterprises in the ferrous and non-ferrous metals sector managed to maintain both production and employment levels.

In 2024 earnings of employees under employment and civil service contracts marked an increase. For the country as a whole, the average wage rose by 115.5%, with increases of 115.6% in the public sector and 115.4% in the private sector. This growth, however, does not correspond to the main economic indicators, as it significantly exceeds both the annual inflation rate and the rise in labour productivity (which remained below 110%).

The average wage in the manufacturing sectors increased by 113.2%, reaching 1 941 BGN per month, though it remains below the average wage in the country. Differences across sectors are substantial, which can be seen from the values indicated in the metallurgical industry.

The average wage in ferrous and non-ferrous metallurgy exceeds 3 000 BGN per month, which ranks it among the highest not only in the processing industry, but also across all economic activities. The non-ferrous metallurgy is one of the leading industries in terms of basic remuneration and other supplementary benefits.

In addition to salaries, labour costs also include other supplementary payments and benefits provided individually by employers to their staff. These comply with existing labour legislation or stem from provisions in collective labour agreements. In metallurgy, such benefits account for a significant share of total remuneration — over 8%.

Table 1.3 presents the structure of employers' labour costs per employee, on average, both for the country and for specific sectors, including metallurgy. It is evident that in industries with specific working conditions, the share of salary costs is relatively lower, while other social payments and benefits are proportionally higher.

Table 1.3

Employers' Labour Costs by Sector

Sectors of the Economy	Wage	Insurances by the Employer	Compensations	Other Social Allowances*
Total for the country, %	82.35	13.95	1.57	2.13
Extractive Industry	73.65	17.71	2.81	5.83
Processing Industry, **incl. Metallurgy**	81.1 **71.43**	14.21 **16.82**	1.43 **2.01**	2.02 **9.74**
Energy	69.97	15.33	3.98	10.72
Information Technology and Telecommunications	88.39	9.85	1.09	0.67

**Includes taxes*

The assessment of remuneration for individual sectors based solely on the average wage does not reflect the actual situation. For this reason, the metallurgy

sector does not appear in rankings of high wages due to unreported additional remuneration.

Another indicator that captures all labour-related costs incurred by employers is the cost per one hour worked per employee under employment and civil service contracts

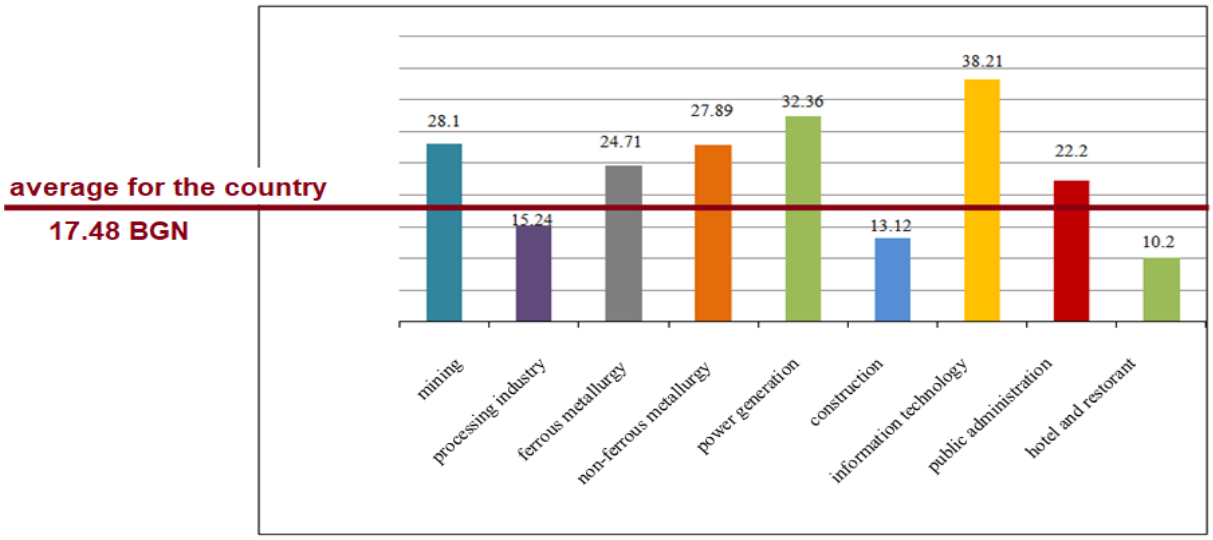
Figure 1.2. shows the data of the National Social Security Institute (NSSI) on the values of this indicator in key industrial activities in 2023. In addition to ferrous and non-ferrous metallurgy, Figure 1.2. includes also sectors with similar production and labour costs, as well as those with the highest and lowest costs.

Employers in the information technology sector report the highest average labour cost (38.21 BGN per hour), of which nearly 90% is paid in the form of wages. The energy sector follows, but values vary depending on the form of ownership. The average labour cost for the sector is 32.36 BGN per hour, with 42.59 BGN per hour in the public sector and 23.90 BGN per hour in the private sector. There is no clear economic justification for these large differences, except for the specific impact of the state-owned nuclear power plant. The value above 42 BGN is the highest average hourly cost for workers in all economic sectors in the country.

The extractive industry reports an average labour cost of 28.10 BGN per employed person per hour. Again, in the public sector costs are by 40 % higher than in the private sector – 34.14 BGN/hour and 24.71 BGN/hour, respectively. In non-ferrous metallurgy, the cost is 27.90 BGN/hour, an increase of 11.5% compared to the previous year. Ferrous metallurgy reports an annual growth of 20.8 % with an average cost of 24.71 BGN/hour.

Figure 1.2

Employers' labor costs, BGN per hour worked



Source: NSI

The average labour cost for the country is 17.48 BGN per hour, representing an increase by 11.4% compared to the previous year.

The lowest labour costs are found in **"**Hospitality and catering" sector - 10.02 BGN/hour, which represents 57% of the national average. Labour costs are also low in construction (11.45 BGN per hour). Both sectors employ a significant number of workers and retaining them usually requires higher wages. For this reason, some analyzers correlate these figures with the size of the informal economy in these sectors.

Over the period of four years (2020–2023), the employer's total labour costs per hour worked in the country has increased by 142.3%. In ferrous metallurgy, this increase was higher, reaching 150%, while in non-ferrous metallurgy it was 140%.

1.2. GDP, GVA, PRODUCTIVITY

In 2024, Bulgaria's economy recorded a real GDP growth by 102.8%, compared to 101.8% in 2023, but lower than the growth in 2022 by 3.9%. The country remains among the leaders in economic growth, while growth in the Eurozone was only 0.9% and 1% for the EU-27 economy as a whole. However, Bulgaria remains in last place in terms of GDP per capita among the EU member states, and it is still below 50% of the EU (27) average.

Table 1.4. shows Gross Value Added (GVA) and Gross Domestic Product (GDP) for a five-year period, for the country as a whole and by economic activity.

According to preliminary data from NSI for 2024, the GDP produced in Bulgaria at current prices amounted to 202 861 mln. BGN, compared to BGN 185 233 mln. BGN in 2023, which is an increase of 17.6 billion BGN. The achieved growth of 102.8% is not sufficient to reduce disparities with other EU Member States. The relatively low growth in the sectors of the real economy—industry and construction—is indicative of the country's development. However, there is a decline in agriculture – by nearly BGN 500 mln. BGN, or over 10%. The total GDP growth in industry reaches 3.6 billion BGN, and the increase in the services sector is BGN 14 billion.

Over the whole four-year period under review, except for 2023, industrial indicators have been rising, albeit at a slower pace than those in the services sector. As a result, the relative share of industry in the country's total GVA decreased from 26% in 2022 to 21.4% in 2023 and 21.3% in 2024.

All sectors in the service industry report growth in GDP and GVA. Added value increases by 5 billion BGN in trade and food sector. The value grew by the same amount in public administration, including education and healthcare. In transport, information and communication technology (ITC) products and services, *GDP* grows by 2.5 billion BGN.

Table 1.4

GDP by sectors and groups, mln. BGN

Economic sectors and groups	**2021**	**2022**	**2023**	**2024***
- agriculture and forestry	6 071	7 276	4 663	4 190
- mining and processing industry				
- power generation, water and sanitation (B-E)	**24 405**	**37 820**	**34 800**	**37 682**
- construction (F)	4 573	5 156	7171	7 933
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- trade, food, transport and communications (G-J)	37 556	42 801	50 951	54 684
- finance, insurance, real estate and other business services (K,L,M,N)	27 654	29 838	35 887	38 568
- public administration, education, healthcare (O-Q), others (R-U)	21 621	23 720	28 942	33 705
	======	======	======	======
	121 607	**145 614**	**162 414**	**176 761**
Total economy (GVA)	**17 405**	**19 770**	**22 918**	**26 101**
==========				
- adjustments /taxes/				
Gross Domestic Product /GDP/, mln. **BGN**	**139 012**	**165 384**	**185 233**	**202 861**
==========	======	======	======	======
Labor productivity, GDP per employee, BGN:				
Economy, total	33 439	40 771	43 730	**47 747**
Industry, total	33 259	49 438	48 917	**53 297**
Services, total	39 386	44 440	50 126	**54 374**
Agricultural sector	11 342	11 974	9 020	**8 570**

*Source NSI, * preliminary data*

Overall labour productivity of the Bulgarian economy in 2024, defined as value of GVA per employed person, also increases. For the entire industry, including extractive and processing industry, energy, and water supply sector, industrial production productivity has grown by 10% over the last two years, with the following values: 52 489 BGN value added per employee in 2023, and 57 794 BGN value added per employee in 2024.

Table 1.4 includes data for the industry as a whole, encompassing both industry and construction. Industry achieved higher production productivity than the service sector productivity in 2022 only. Overall productivity of the services sectors exceeds that of real production, but the difference has been small in the last two years, approximately 1 200 BGN.

Metallurgy is a key sector, producing exchange-traded products and sells them at internationally determined prices in a highly competitive global market. This limits its potential for generating high added value. Nevertheless, over recent years, one employee in the sector generates around 100 thousand BGN of added value, which is up to twice the average productivity in industry and the economy overall. Non-ferrous metallurgy generates up to 3 times higher added value, thanks to restructuring and modernization of capacities and technologies aligned with best global practices. New high-tech processes and products have been adopted, significantly transforming the sector. Adopted new high-tech processes and products change the characteristic of the sector.

Due to the sector's dependence on international markets and prices of the metals, production volumes fluctuate regardless of physical output. In 2023, the total value of metallurgical production was 13 443 mln. BGN, which is by 2.4 billion BGN less than in 2022.

Changes by subsectors under code 24 "Manufacture of basic metals" of the Statistical Classification of Economic Activities in the European Community (NACE Rev. 2), were as follows:

Steel and rolled metal–1 531 mln. BGN in total (lower by 297 mln. BGN)

Other steel products –2 182 mln. BGN in total (lower by 294 mln. BGN)

Non-ferrous metallurgy –10 666 mln. BGN in total (lower by 1 892 mln. BGN)

Metal casting – 341 mln. BGN in total (higher by 45 mln. BGN)

In addition to price effects, the decline in 2023 reflects a decrease in the quantities of produced basic metals — steel, copper, lead, and aluminum rolled products, which is reflected in the following sections.

Industrial production in the country in 2023 reached 95 123 mln. BGN, which is by 4 194 mln. BGN more compared to 2022 (90 929 mln. BGN) and a growth of 104.6%. Despite the decline in metal production, its relative share remained high, accounting for 14.1% of total industrial output.

Comparative data for 2023 on GVA per capita in EU Member States placed Bulgaria in last place with 14 691 EUR per person and only 38.5% of the EU(27) average GVA of 38 123 EUR per capita. Romania with 17 015 EUR per capita was the other country with a share below 50% of the EU average (44.6%). Countries slightly above 50% were Poland (19 902 EUR), Hungary (20 500 EUR), Latvia (20 766 EUR), and Greece (21 359 EUR).

Luxembourg (118 770 EUR) and Ireland (196 292 EUR) reported the highest GVA per capita, followed by Denmark (63 289 EUR), the Netherlands (59 719) EUR, and Austria (51 828 EUR). Sweden, Belgium, Finland, and Germany had around 50 000 EUR per capita.

Regarding the same indicator, referred to the Purchasing Power Standard (PPS), the values change, but the ratio remains the same. In 2023 Bulgaria again remained at last place with 24 336 EUR per capita, representing 64% of the EU (27) average (38 132 EUR). Romania (29 694 EUR) was ahead of a bunch of countries, like Greece (26 359 EUR), Latvia (26 862 EUR), Poland, Slovakia, and Hungary.

It is again evident that two countries stand out -Luxembourg (90 308 EUR) and Ireland, with values more than twice the EU (27) average.

GVA per capita is an indicator for assessing the economic development and prosperity of a country. These data reveal a significant gap between Western EU Member States and those from Central and Eastern Europe. However, there is a process of convergence among newly acceded countries, especially Romania, which has stood out in recent years. The facts show that Bulgaria has failed to leverage its advantages, including in industry, and remains significantly behind other member states.

The shifting global economic environment and the new EU policies on decarbonization, digital transformation, raw material independence, and a strong defense industry represent a new opportunity for accelerated development of Bulgaria. The new European directives and regulations on raw materials and zero emissions, as well as the European Steel and Metals Action Plan, create the potential for support in the implementation of plans and projects in the priority areas. Without a specialized unit at the national level to support appropriate developments and projects, as well as to assist and monitor their implementation, there is a real risk that the country might again fail to realize its potential.

Metals are a key part of this process, and Bulgarian producers have the potential to participate in upcoming transformations and contribute to achieving EU targets.

1.3. ENERGY CONSUMPTION, FREIGHT TURNOVER

The Bulgarian economy is recognized as having an energy intensity that is almost twice as high as the EU average (27). One of the main reasons is the high share of energy-intensive industries, such as metals, whose production accounts for approximately 12–15% of the volume of production in the manufacturing industry. High energy consumption is due to the specific technological processes operating at high temperatures. In individual enterprises, energy costs can reach 20–30% of total production costs, and for some metals even up to 40%.

Therefore, one of the key objectives for producers is to improve energy efficiency through new high-tech processes and to reduce losses along the technological chain. Sustainable development is also linked to energy and resource efficiency improvements, which are being achieved through the circular economy and by increasing the amounts of recycled secondary metal raw materials. The scrap from various non-ferrous metals used over the years has been increasing every year, reaching 180 thousand tons by the end of the last five-year period (2019–2023), which was an increase of 37 thousand tons or 125%.

For steel production, only scrap from ferrous metals is used, and processes are energy efficient.

Significant investments in restructuring and technological upgrades have been made over the years by the enterprises and each of them aiming to increase energy and resource efficiency. As a result, consumption of energy resources per unit of produced output in the period 2019–2023 decreased by 18% for steel, rolled metals,

and other rolled ferrous metal products, and by 24% for non-ferrous metals and their rolled non-ferrous metal products.

Notwithstanding the improvements, the metallurgical industry remains highly energy intensive and the largest industrial electricity consumer in the country. The recent crises and EU climate change policies have caused sharp increase in energy prices, especially affecting energy-intensive metallurgical industries, which are particularly sensitive to the surge in electricity prices. To compensate the higher electricity prices and emission costs, the European Commission has established mechanisms for granting state aid, a practice in place in most EU countries for nearly 20 years. Despite the active efforts of Bulgarian producers, including the involvement of BAMI, such aid has not been provided. As a result, Bulgarian enterprises continued to operate in a non-competitive environment compared to other EU countries and the global region.

According to the NSI energy balance for 2023, the final energy consumption in industry was 2 455 thousand tons of oil equivalent (toe), which represented 25.8% of the final energy consumption in the country. For 2022 the values were 2 701 thousand toe and 27.4% respectively, or a drop of 246 thousand toe (9.1%) was recorded. These figures demonstrate the effectiveness of measures and actions to reduce energy intensity of Bulgarian industry. The data prove the effect of measures and actions for reducing the energy intensity of Bulgarian industry.

The major energy sources in industry are electricity and natural gas, with almost equal shares of around 30%. They are followed by liquid fuels and other resources, with the fastest growth observed in renewable energy and biofuels.

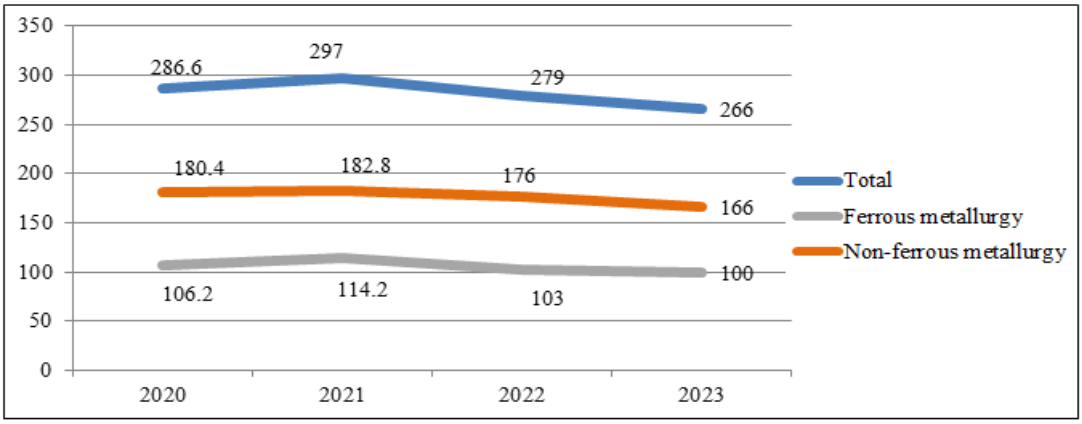
Within total energy consumption in the industrial sector, the chemical industry has the highest energy use - 686 thousand toe, followed by non-metallic mineral production - 520 thousand toe. Third and fourth places are shared by the "food and beverages" and "metals" sectors, which consumed 267 and 266 thousand toe, respectively, in 2023.

The policy of regulating household electricity prices and subsidizing them continues. Due to the lack of economic incentives for energy savings, the annual consumption of electricity in households is growing; in 2023, compared to 2022, the increase was 18 thousand toe and reached 2,047 thousand toe. These volumes are still lower than consumption in the industry.

Figure 3.1 illustrates energy consumption in ferrous and non-ferrous metallurgy, as well as total sectoral consumption over five consecutive years. Throughout the period, energy costs in non-ferrous metallurgy have been declining, which was due to two main factors: changes in the structure and technologies of production and their volume.

Figure 1.3

Energy consumption in metallurgy, thousands of tons of oil equivalent



In 2023, total energy consumption in metallurgy was 266 thousand toe (down from 279 thousand toe in 2022), of which 166 thousand toe (62%) was in non-ferrous metallurgy and 100 thousand toe (38%) in ferrous metallurgy. The decline of 13 thousand toe represented nearly 5% of total consumption.

The distribution by type of energy and fuel is determined by the technological processes. In ferrous metallurgy, electricity accounts for the highest share of 51.3% (51.3 thousand tons of oil equivalent), while natural gas accounts for 48%. The remaining minimal quantities are covered by liquid fuels and renewable energy sources. Electricity also accounts for the highest share in non-ferrous metallurgy – 53.7% of total consumption (89.2 thousand tons of oil equivalent), while the amount of natural gas is lower – 41.1 thousand tons or 24.8%. Sixteen thousand tons of liquid fuels and 9 thousand tons of thermal energy are also used.

Despite high achievements in energy efficiency and reduced energy costs, the metallurgical industry remains the largest industrial consumer of electricity in Bulgaria, with a consumption of 140 thousand toe in 2023, followed by the chemical industry with 108 thousand toe.

Regarding natural gas, metallurgy ranks third in consumption, with 89 thousand toe in 2023. The largest consumer is the non-metallic mineral sector with 235 thousand toe, followed by the chemical industry with 137 thousand toe of natural gas. The high material intensity of metallurgical production makes the sector as one of the largest freight generators in the country. Sustainable production for the extraction and processing of ferrous and non-ferrous metals, as well as their efficiency, depends not only on secure and reasonably priced energy supplies but also on the quality and cost of transport services.

The nature of raw materials and finished products, as well as their markets by countries and regions, require the use of all types of freight transport — land (including rail and road) and maritime.

The total freight turnover is approximately 7 mln. tons, distributed by type of cargo:

Bulk (ores, concentrates, by-products) – up to 2 mln. tons

Liquid (finished products, e.g., sulfuric acid) – 1.5–1.6 mln. tons

Solid in bulk form (secondary raw materials, products) – up to 4 mln. tons

Metallurgical enterprises producing metals from primary and secondary raw materials — steel, copper, zinc, and lead — are the largest freight generators on Bulgaria's rail transport network.

1.4. FOREIGN TRADE EXCHANGE, IMPORT AND EXPORT

The metallurgical industry is an export-oriented sector, with production is mainly intended for export. European market and those of the countries in the region are the main market for the metals and metallurgical products. Being exchange-traded commodities with wide application in industry and everyday life, metals are also sold in other regions of the world.

The total value of exported metals exceeds imports, resulting in a positive foreign trade balance of approximately 3–4 billion BGN annually.

Table 1.5. presents data from the Bulgarian National Bank (BNB) and NSI on foreign trade flows in recent years, which clearly demonstrate the high share of metals in exports and their contribution to reducing the country's trade deficit.

Inflation processes during and after the economic crises led to a significant increase in product prices, including metals.

This sharply increased the value of exports and imports. Total trade volumes for the country after 2022 approached or exceeded 100 billion BGN. After the stabilization of these trends yet in 2023 imports drop by 10.7 billion BGN, and exports by 6 billion BGN.

In 2024, imports remained at 2023 levels with a minimal increase of 300 mln. BGN, while the value of exported goods decreased significantly- total exports decreased by 2.6 billion BGN and the exports to the EU - by BGN 1.2 billion.

Table 1.5.

Foreign trade balance in trade exchange, billion BGN

Indicators	2019	2020	2021	2022	2023	2024
Imports of goods,	65.1	60.1	76.7	107.9	97.1	**97.4**
of which to the EU (27)	41.1	N/A	46.3	59.6	58.1	**55.8**
- basic metals and products	4.5	3.7	5.5	11.4	10.1	**9.9**
relative share, %	7.0	6.2	7.1	7.0	10.4	**10.1**
Exports of goods,	58.4	54.7	68.4	92.9	86.9	**84.3**
of which to the EU (27)	38.8	35.8	45.3	60.6	55.1	**53.9**
- basic metals and products	6.7	8.3	8.2	14.9	12.7	**14.2**
relative share, %	11.5	15.1	12,1	11.0	14.6	**16.8**
Foreign trade balance,	-6.9	-6.7	-5.4	- 8.3	-10.2	**-13.1**
incl. metals and products	+3.5	+2.2	+4.6	+2.7	+4.2	**+4.3**

*Source: NSI, preliminary data for 2023 u 2024; *BNB (Table 1.6)*

For this reason, the negative foreign trade balance in 2024 grew by 3 billion BGN and reached its highest value for the period of 13.1 billion BGN. For metals and metal products, the positive trade balance over these two years exceeded BGN 4 billion.

Table 1.6. presents the data of BNB on exports in euro by product groups over a five-year period. Total exports in 2024 decreased by 1 295.6 mln. EUR, or a decline of 2.9 %.

The European Union remains the largest trading partner of Bulgaria. In 2024, goods for 55.8 billion levs were exported to European markets, which is 2.3 billion BGN less than the previous year and accounted for 57.35% of total Bulgarian exports (63.8% for 2023). Exports amounted to 53.9 billion BGN and the negative balance were (-)1.9 billion BGN, higher than that in 2023 ((-)3 billion BGN).

Raw materials and supplies, including metals and metal products, take the largest share of Bulgarian exports, amounting to 17.4 billion EUR and a share of 40%. In 2024, their amount remained almost unchanged from 2023, with a slight decrease of 183.8 million EUR, or 1 %. Investment goods followed with 12.7 billion EUR and a share of 29.5%. They recorded growth in exports throughout the whole period, with the smallest increase in 2024 compared to 2023 by 283 million EUR or 2.3%.

In 2024, compared to 2023, the most significant changes in exports occurred in food raw materials, which decreased by 914 mln. EUR and corresponds to the decline in production in the agricultural sector. For the second consecutive year, exports of consumer goods dropped by 945.5 mln. EUR, mainly food, clothing, footwear, and other consumer products.

In 2024, exports of energy resources declined for the second year by 376.6 mln. EUR, or a drop of (-) 9%). The highest energy exports were recorded in 2022 during the peak of electricity prices in Europe, reaching nearly 7 billion EUR, with a share of 15% of total exports. In 2023, the energy exports decrease by 2.5 billion EUR and its decline continued in 2024 and the share falled by 8.8%.

Exports of metals increased in total by 746 mln. EUR, with the increase in exports of copper and copper products alone being of 886 mln. EUR.

According to the latest data (Table 1.6) and the analysis of BNB for 2024, the total value of exported ferrous and non-ferrous metals, products, and semi-finished goods (excluding precious metals) reached 7,265.6 mln. EUR, representing 16.8% of total merchandise exports. In 2023 this share was 14.6%. The exports of steel, steel products, and various steel items accounted 1 602.6 mln. EUR (22 %) and the exports of non-ferrous metals and their products accounted 5 663 mln. EUR (78 %).

Table 1.6

Foreign trade – export by types of goods, billion EUR

Commodity groups	2020	2021	2022	2023	2024
Consumer goods, incl.	**7646.8**	**8428.4**	**10780.1**	**10163,4**	**9217,9**
• Foods	1881.3	2322.5	3654.8	3047,8	2828.5
• Cigarette	53.5	54.0	82.9	113,6	127-1
• Beverages	210.4	158.9	142.9	156,5	149.7
• Clothes and shoes	1372.7	1383.6	1701.2	1612,4	1404.5
• Pharmaceuticals and cosmetics	1336.5	1269.3	1415.5	1623,4	1634-5
• Furniture and home interior	1274.0	1600.2	1646.7	1450,1	1441.5
• Other consumer goods	1518.4	1639.9	2136.0	2159,6	1632.2
Raw materials, incl.	**11644.0**	**15030.7**	**18774.7**	**17584.0**	**17400.2**
• ***Pig iron, iron, and steel***	***534.0***	***976.2***	***1100.9***	***894,8***	***782.9***
• ***Non-ferrous metals***	***2555.2***	***3202.9***	***4142.9***	***3466,1***	***4360.5***
• Chemical products	436.4	541.5	777.0	675,9	752.0
• Plastics, rubber	1178.2	1472.5	1757.1	1662,6	1696.8
• Fertilizers	157.7	297.5	639.5	385,2	374.8
• Textiles	494.5	571.0	709.9	656,4	543.9
• Raw materials for food production	2254.4	2987.8	3730.9	3895,7	2990.9
• Wood and paper, cardboard	520.6	674.4	853.9	656,7	661.1
• Cement	23.8	31.2	27.0	25,8	26.0
• Tobacco	109.5	111.1	108.8	115,6	105.3
• Other raw materials	3379.5	4164.6	4927.0	5046,5	5105.9
Investments goods, incl.	**6897.4**	**8419.3**	**11138.9**	**12445,4**	**12728.6**
• Machines, apparatus	1736.5	2082.0	2700.4	2738,2	2561.0
• Electrical machines	1120.5	1474.9	1807.4	2037,4	2115.9
• Vehicles	568.4	636.5	727.4	819,0	878.2
• Spare parts and equipment	1667.6	2012.1	2443.8	2749,7	2570.5
• Other investments goods	1804.5	2213.8	3459.8	4008,8	4603.0
Total non-energy goods, incl.	**26188.1**	**31878.4**	**40693.7**	**39997,7**	**39346.7**
Total energy resources	**1696.1**	**2889.7**	**6723.1**	**4167,3**	**3790.7**
• Petroleum products	1008.2	1120.9	3982.8	2681,8	2683.9
• Other non-petroleum products	687.9	1768.7	2740.3	1545,7	1106.8
Other	84.3	98.9	613.1	516,0	0.0
Exports total	***27969***	***34866.9***	***47508.1***	***44433,1***	***43137.5***

Source: BNB

SETION TWO
FERROUS METALLURGY IN BULGARIA

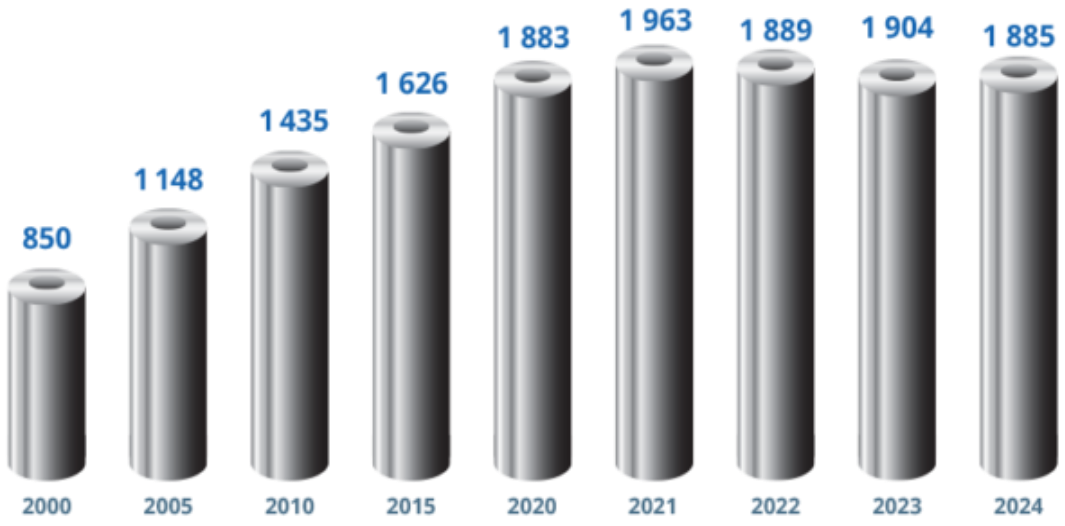
2.1. PRODUCTION OF FERROUS METALS AND ROLLED PRODUCTS

2.1.1. STEEL PRODUCTION IN THE EU AND IN THE WORLD IN 2024

Steel is one of the most important metals in the world. It ensures our modern lifestyle with its presence in everything, from the most spectacular infrastructure projects to the contents of kitchen cabinets. Steel is strong, resilient, and endlessly recyclable, without losing its qualities, and it will be the backbone of our future.

According to the World Steel Association, global crude steel production in 2024 amounted to 1,885 mln. tons, produced by more than 90 countries.

Figure 2.1



Source: World Steel Association

The top 10 steel-producing countries, shown in Table 2.1, in 2024 represented 84.5% of global production, maintaining their positions from 2023. China remained the world leader with 1,005 mln. tons of crude steel, representing 53.3% of global output. India ranked second with a share of 7.9%. The top 10 producers retained their positions in the 2024 ranking compared with 2023.

Table 2.2. represents the leading producers of crude steel in the world in 2024. The total production of the ten leading companies accounts for 27.6% of global crude steel production.

Table 2.1

The world leading countries - major producers in 2024

Position in the World production ranking	*Producers*	*Production in 2024 (mln. s of tons)*	*Production in 2023 (mln. s of tons)*	*Share of the World production in 2024 (%)*
	World total	1 885	1 904	
1	China	1 005	1 029	53.3
2	India	149	141	7.9
3	Japan	84	87	4.5
4	USA	80	81	4.2
5	Russia	71	76	3.8
6	Sought Korea	64	67	3.4
7	Germany	37	35	2.0
8	Turkey	37	34	2.0
9	Brasil	34	32	1.8
10	Iran	31	31	1.7

Source: World Steel Association

Table 2.2

The world leading steel producing companies (Top 10 in in 2024)

	Company	*Production (mln. s of tons)*	*Share of the World production* **(%)**
1	China Baowu Group	130	6.9
2	ArcelorMittal	65	3.4
3	Ansteel Group	60	3.2
4	Nippon Steel Corporation	44	2.3
5	HBIS Group	42	2.2
6	Shagang Group	40	2.1
7	Jianlong Group	39	2.1
8	POSCO Holdings	38	2.0
9	Shougang Group	32	1.7
10	Tata Steel Group	31	1.6

Source: World Steel Association

In 2024 global steel consumption reached 1,742 mln. tons. As in previous years, China remained the largest consumer, with a share of 49.2% (856.6 mln. tons) of world consumption, though its domestic demand declined by 5.4% compared to the previous year. Consumption in the EU(27) in 2024 amounted to 130.1 million tons, which was an increase of 300 thousand tons compared to the previous year.

In 2024 the world's top 10 steel consumers reported a decrease in consumption. The exceptions were India, Turkey, and Brazil, where consumption was expected

to grow by 11.4%, 0.8%, and 8.3%, respectively.

The distribution of steel consumption by sector reveals that construction and infrastructure are the main consumers of steel and steel products, accounting for 52% of total consumption. The machinery manufacturing industry takes a share of 16%, automotive sector- 12 %, metal goods and packaging -10%, transport -5%, electrical equipment - 3%, and household appliances - 2%.

The steel industry is a key factor for the future of the European Union, a cornerstone of its strategic autonomy and resilience, including defense and the green transition. In 2024, the steel sector remained a driver of the European economy, contributing 177 billion EUR to the EU's gross value added and supporting over 2.5 mln. jobs.

However, the European steel industry is increasingly affected by adverse pressures of external negative factors such as record global overcapacity, geopolitical tensions, unfair trade practices, high energy costs, high interest rates, and a lack of level playing field regarding climate ambitions. In 2024 alone, around 18 000 jobs were cut in the Union, and 9 mln. tons of production capacity were closed.

The European Commission's Net-Zero Industry Deal and the European Steel and Metals Action Plan, presented in early 2025, are a part of the necessary cross-sector industrial policy measures to address these challenges. They cover areas such as trade, climate, energy, access to critical raw materials, development of leading markets for green steel, and investment support.

Key priorities include adoption of a new, more effective trade instrument to replace the current inadequate EU safeguard measure on steel, particularly in light of the damaging increase in U.S. tariffs; closing loopholes in the Carbon Border Adjustment Mechanism (CBAM); reducing energy prices; and tackling the outflow of valuable secondary resources, especially steel scrap.

In 2024, EU crude steel production reached nearly 130 mln. tons, marking a slight increase of 2.7% compared to the record low level of 126 mln. tons in 2023. However, this remained by 56 mln. tons below the pre financial crisis level of 2008 and by 20 mln. tons below the pre-COVID-19 level. The EU(27) overall steel production took a share of 6.9% of world steel production, compared to 6.6% in 2023.

Table 2.2 presents the production levels of the 14 leading EU Member States in 2024 compared to 2023, and their positions in the global steel producers' ranking. These countries accounted for 96.7% of total EU steel output, showing little change in both volume and rank. The remaining Member States, including Bulgaria, together produced 4.2% of the Union's crude steel.

Table 2.3

EU Member states – main steel producers in 2024 compared to2023

		2024 г.		*2023 г.*	
Position in the EU production ranking	***Member state***	***Production (mln. s of tons)***	***Position in the World production ranking***	***Production (mln. s of tons)***	***Position in the World production ranking***
1	Germany	37.2	7	35.4	7
2	Italy	20.0	12	21.1	11
3	Spain	11.9	17	11.4	17
4	France	10.8	18	10.0	19
5	Belgium	7.1	23	5.9	25
6	Austria	7.1	24	7.1	22
7	Poland	7.1	25	6.4	23
8	The Nederlands	6.4	26	4.7	33
9	Sweden	4.0	34	4.3	36
10	Slovakia	3.9	36	4.4	35
11	Finland	3.7	39	3.8	38
12	Czech Republic	2.5	42	3.4	40
13	Portugal	1.9	44	2.0	44
14	Luxemburg	1.8	46	1.9	45
	EU (27)	**129.7**		**126**	

Source: World Steel Association

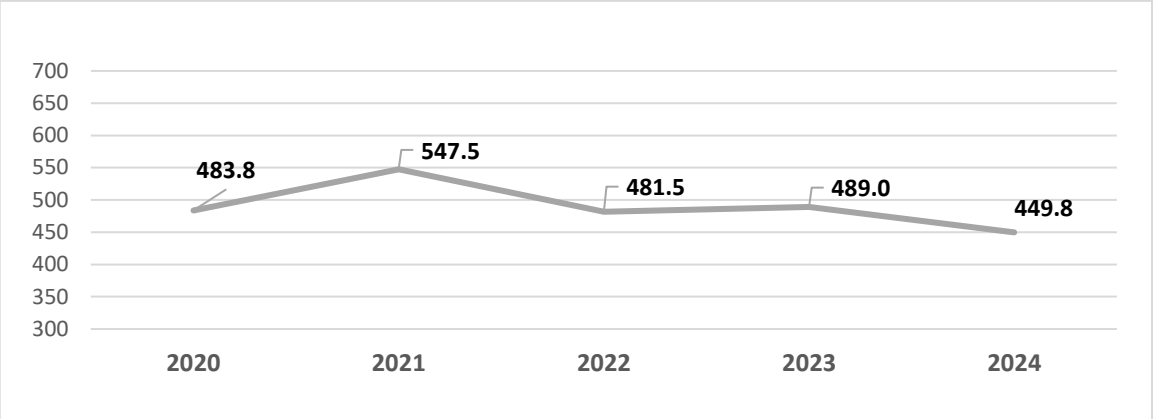
In 2024, steel demand in the EU declined for the third consecutive year. Apparent consumption volumes reached their lowest level of 129 million tons, which corresponded to consumption in 2020 and represented a 1.1% decrease compared to 2023, following previous declines of 6% in 2023 and 8% in 2022. Imports of semi-finished and finished steel products rose by 4% year-on-year, maintaining a historically high market share of 27% of apparent consumption.

2.1.2. CRUDE STEEL PRODUCTION IN BULGARIA

„Stomana Industry“ JSC, Pernik is the only producer of crude steel in Bulgaria. The steel is produced from steel scrap in electric arc furnaces. The company also manufactures flat and long steel products. In 2024, 449.8 thousand tons of crude steel were produced, which was 39.2 thousand tons (8%) less than the steel produced in 2023 (Fig. 2.4). Crude steel production in 2024 reached its lowest level in the past five years, well below the levels recorded during and after the COVID-19 crisis. This historical decline was due to a number of factors, such as reduced steel demand in the EU, geopolitical tensions, higher energy and production costs compared with other regions, and growing pressure from increasing global overcapacity, among others.

Figure 2.2

Crude steel production in Bulgaria, thousands of tons



Against the backdrop of the general collapse in EU steel production, accelerated action is required to resolve key issues facing the metal industry, such as: ensuring secure and affordable supplies of clean energy, effective implementation of the Carbon Border Adjustment Mechanism (CBAM), adjusting safeguard measures to reflect new market conditions, accelerating the adoption of circular economy models for the recycling of industrial waste, and restricting scrap exports, among others.

The annual production capacity of „Stomana Industry“ JSC exceeds 2 mln. tons of a wide range of products, including steel sheets, steel circles and spheres, long steel products, special steel profiles, and products of superior quality, fully compliant with the EU's rigorous standards. The company operates two high-performance electric arc furnaces running continuously, as well as a scrap sorting and separation facility with a processing capacity of 200 tons of scrap per hour. „Stomana Industry“ JSC is developing new steel grades and variations of existing ones, continuously improving its infrastructure and production technology to achieve higher quality and to enable the efficient introduction of new products.

2.1.3. PRODUCTION OF ROLLED FERROUS METALS

Rolled ferrous metals (RFM) are produced by „Stomana Industry“ JSC, Pernik, and „Promet Steel“ JSC, Burgas. Both enterprises produce long rolled products, while flat hot-rolled products are produced only by „Stomana Industry“ JSC. In 2024, the total volume of production of rolled ferrous metals in Bulgaria was 988.6 thousand tons, which compared to 2023 was less by 38.9 thousand tons, or a decrease of 3.8%. Table 2.4 and Figure 2.3 present the production data of rolled ferrous metals.

Long rolled products produced in 2024 were 771.2 thousand tons, by 2.4% less than in 2023. In 2024, Stomana Industry JSC produced 25.6 thousand tons less than in the previous year. „Promet Steel“ JSC's production reached 557.8 thousand tons, which was 7.0 thousand tons more than in 2023, or an increase of 1.3%. However, in the present year, production at „Promet Steel“ JSC was growing at a slower pace

(1.3%), compared to previous years, when the rate of production growth was more than 16% per year.

In 2024, „Stomana Industry“ JSC produced 217.5 thousand tons of flat rolled products, by 20.1 thousand tons less than in 2023, or a decline of 8.5%, compared to the growth of 3.7% in 2023. Traditionally, “Stomana Industry“ JSC produces a larger volume of long rolled products. However, in 2024 the trend was reversed, as the volume of flat rolled products exceeded that of long products by 3.8 thousand tons. In general, in 2024 compared to 2023, “Stomana Industry“ JSC reported a decrease of 8.5% in its total rolled steel production volume.

„Promet Steel“ JSC produces only long rolled products. The enterprise is owned by the Ukrainian holding group “Metinvest”. The steel used in billets/semi-finished products, which are the main raw materials for long rolled production at „Promet Steel“ JSC, is extracted, smelted, and cast in Ukraine from iron ore, coal, and other raw materials. “Kamet Steel”, a Ukrainian subsidiary of Metinvest delivers the billets.

Table 2.4

Production of rolled ferrous metals (RFM), thousands of tons

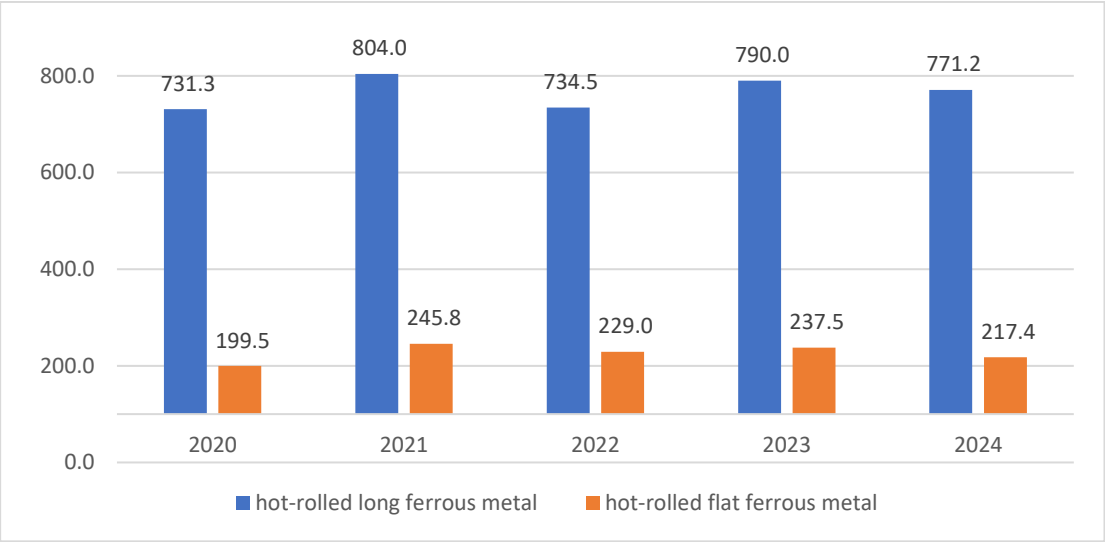
Types of RFM	Companies	2020	2021	2022	2023	2024	2024/23 +/-	2024/23 %
Hot-rolled long	„Promet Steel” JSC	501.1	585.1	467.1	550.8	557.8	7.0	101.3
	„Stomana Industry” JSC	230.2	218.9	267.4	239.2	213.6	-25.6	89.3
	Total Hot-rolled long	731.3	804.0	734.5	790.0	771.2	-18.8	97.6
Hot-rolled flat	„Stomana Industry” JSC	199.5	245.8	229.0	237.5	217.4	-20.1	91.5
Hot-rolled metal total	„Promet Steel” JSC	501.1	585.1	467.1	550.8	557.8	7.0	101.3
	„Stomana Industry” JSC	429.7	464.7	496.4	476.7	421.0	-55.7	88.3
Total RFM		930.8	1049.80	963.50	1027.50	988.60	-38.9	96.2

Source: Company data

In 2024, “Promet Steel“ JSC continues its growth trend, achieving a 7.0% increase over 2023, though it still did not reach the 2021 level, which remains its strongest production year. Despite the ongoing disruptions in billet supply chains caused by the war in Ukraine, as well as significant rises in energy and production costs, the company manages to stabilize and expand its output. Figure 2.3 illustrates the five-year production dynamics of rolled ferrous metals in Bulgaria.

Figure 2.3

Production of hot-rolled ferrous metals by assortment, thousands of tons



In consistent with the capacity of existing facilities, Bulgaria traditionally produces long rolled products in quantities 2-3 times higher than those of flat rolled products. In 2024, the ratio between long and flat products remained unchanged (Figure 2.4), with long rolled production exceeding flat rolled production by a factor of 3.6.

Figure 2.4

Production of long and flat rolled metals in 2024

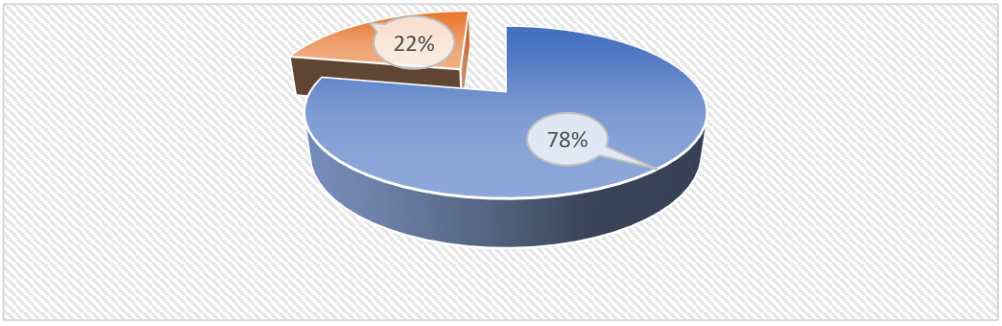
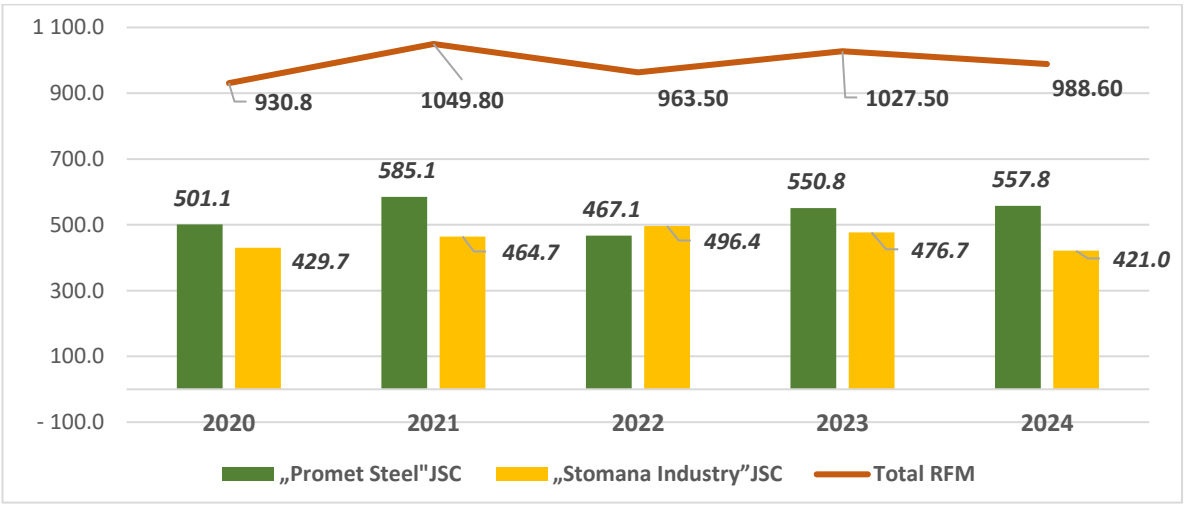


Figure 2.5 shows the production trends by manufacturer over the past five years.

Figure 2.5

Production of long and flat rolled metals, thousands of tons



2.1.4. PRODUCTION OF ROLLED FERROUS METAL ARTICLES

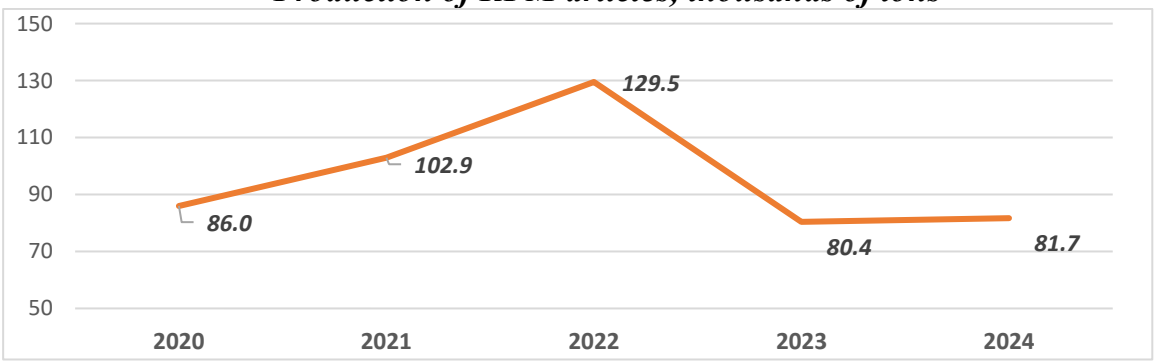
Products made from rolled ferrous metals (RFM) include steel pipes, galvanized sheet metal, steel grinding balls for mills, wire and wire products, and others. They are next-stage products in the value chain, with raw materials supplied either by Bulgarian metallurgical enterprises or through imports (such as sheets, strips, and wire rod).

Table 2.5 presents production data for RFM-based products manufactured by companies that are members of the Bulgarian Association of the Metallurgical Industry (BAMI). There are also other Bulgarian producers of welded pipes and various steel and rolled metal products outside the BAMI membership. In 2024, 81.4 thousand tons of RFM products were produced, which is an increase of 1.3 thousand tons compared to 2023. Production growth of 1.6% was reported.

Between 2020 and 2022, there was a rapid increase in the production of rolled ferrous metal products by the enterprises that are members of BAMI, followed by a sharp decline in 2023 and below the 2020 level. Despite the reported increase in the production of RFM products in 2024, the 2020 production level has not yet been reached. Figure 2.6 illustrates the five-year production trend of RFM products among BAMI member enterprises.

Figure 2.6

Production of RFM articles, thousands of tons



„EMC Distribution“ Ltd, Ruse, produces a wide range of electric-welded steel pipes and profiles in various shapes and dimensions, including corrosion-protected (galvanized) pipes and pipes and fittings for electrical installations made of low-carbon cold-rolled sheet steel in coils. The product range of the company includes over 3 700 different products.

„Stomana Industry“ JSC is the other producer of steel pipes, whose production range covers a wide variety of round, square, and rectangular profiles, as well as combinations of different thicknesses used in numerous applications. These products are made from hot-rolled, cold-rolled, and hot-dip galvanized steel coils.

Steel grinding balls, used in mills for ore grinding in gold, copper, iron, zinc, and silver extraction, are produced by „Stomana Industry“ JSC and „El Stomana“ Ltd.

„ZHITI“ JSC, Ruse, manufactures a variety of wires and wire products of different types and sizes.

Table 2.5

Production of RFM articles by companies, thousands of tons

Articles	Company	2020	2021	2022	2023	2024	2024/23	2024/23
							+/-	%
Steel pipes, welded	„EMC Distribution“ Ltd	37.7	41.8	36.2	30.7	33.3	2.6	108.5
	"Stomana Industry" JSC	4.4	16.2	14.3	15.3	15.9	0.6	103.9
Steel balls for mills	“Stomana Industry” JSC „El Stomana“ Ltd	31.7	32.3	38.9	22.8	23.3	0.5	102.2
Wire and wire articles	„ZHITI“ JSC	12.2	12.6	11.4	11.6	9.2	-2.4	79.3
	Total RFM articles	**86.0**	**102.9**	**129.5**	**80.4**	**81.7**	**1.3**	**101.6**

Source: Company data

2.2. TRADE TURNOVER AND CONSUMPTION OF ROLLED FERROUS METALS AND PRODUCTS THEREOF

2.2.1. IMPORT OF SCRAP, ROLLED FERROUS METALS AND ARTICLES THEREOF

In 2024, according to the customs statistics, Bulgaria imported 2 210.1 thousand tons of rolled ferrous metals (RFM) and products thereof, including scrap, amounting to 3 180.5 mln. BGN. There has been a decline in imports of ferrous metals and products for the second consecutive year. Compared to the reported decline in imports of 1.5% in 2023, the decrease in 2024 compared to 2023 was 0.7%. In 2024, the imports of RFM and products thereof decreased by 16.4 thousand tons compared to 2023, with a total value of 226 thousand BGN. Table 2.6 presents the import quantities by commodity groups for the last five years.

In 2024, Bulgaria imported 128.8 thousand tons of ferrous scrap, used as a raw material for crude steel production. This represented a reduction of 80.8 thousand tons compared with 2023 levels. The raw material was mainly imported from Serbia, whose imports accounted for 64.2% of total scrap imports in Bulgaria, followed by Romania with 30.6%. Smaller shares were imported from Ukraine (2.5%), Czechia (2.3%), and North Macedonia (0.3%).

Table 2.6

Imports of ferrous metals and articles thereof, thousands of tons

Goods	2020	2021	2022	2023	2024	2024/23 +/-	2024/23 %
Non-alloyed total	**1734.7**	**1676.5**	**1739.2**	**1795.2**	**1792.4**	**-2.8**	**99.8**
cast iron - ingots, granules, powder	13	15.3	21.1	26.4	18.3	-8.1	69.4
Ferroalloys	15.3	14.6	20.8	19	24.0	5.0	126.2
Scrap	185	130.3	157.6	209.6	128.8	-80.8	61.4
Semi-finished products	547.6	567.2	554.9	620.1	573.8	-46.3	92.5
Hot-rolled metal (coils and sheets)	557.4	486.6	491.5	446	542.5	96.5	121.6
Cold-rolled metal (coils and sheets)	103.1	126.6	102	95.9	85.7	-10.2	89.4
Wire rod	151.4	169.2	194.3	169	201.3	32.3	119.1
Bars	84.2	88.3	119.8	123.5	124.6	1.1	100.9
Merchant bars/profiles	77.7	78.4	77.2	85.8	93.4	7.6	108.9
Alloyed total	**87.5**	**105.4**	**218.5**	**118.7**	**104.2**	**-14.5**	**87.8**
Hot-rolled and cold-rolled coils and sheets	60.1	62.8	150	77	74.7	-2.3	97.0
Bars and profiles	27.4	42.6	68.5	41.7	29.5	-12.2	70.7
Articles from rolled ferrous metals	**456.7**	**206.4**	**303.8**	**312.6**	**313.6**	**1.0**	**100.3**
Seamless pipes	25.6	0	37.3	33.2	30.4	-2.8	91.4
Welded pipes	204.4	0	32.5	49.2	44.8	-4.4	91.1
Coated sheets	195.4	182	201.9	191.3	205.7	14.4	107.5
Wires ropes etc..	31.3	24.4	32.1	38.9	32.7	-6.2	84.1
Total	**2278.9**	**1988.3**	**2261.5**	**2226.5**	**2210.1**	**-16.4**	**99.3**
Value, mln. EUR	**1266.5**	**1529.7**	**2270.8**	**1741.7**	**1626.1**	**-115.6**	**93.4**
Value, mln. BGN	**2477.1**	**2991.8**	**4441.3**	**3406.5**	**3180.5**	**-226.0**	**93.4**

Source: Custom statistics, NRA

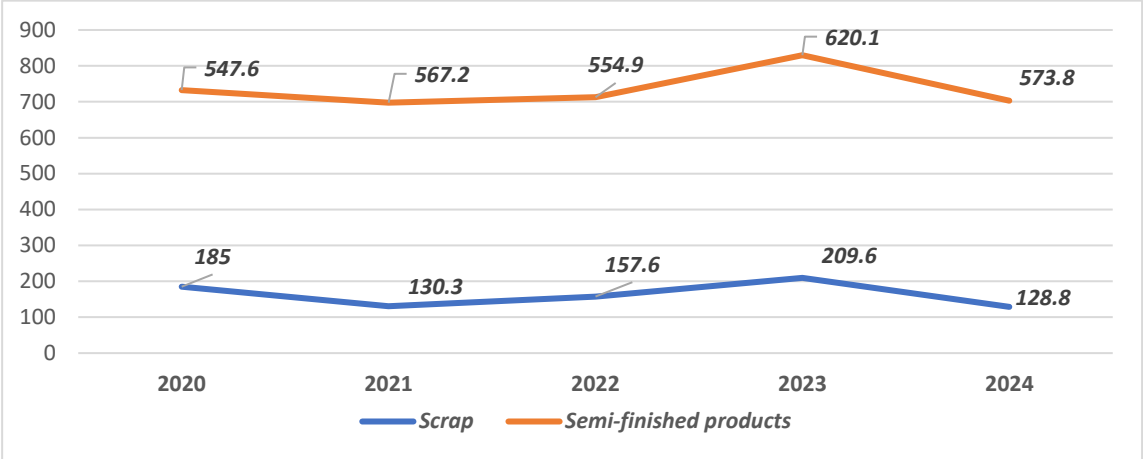
In 2024, imports of semi-finished products declined after reaching a five-year peak of 620.1 thousand tons in 2023. Imports amounted to 573.8 thousand tons, which was 46.3 thousand tons less than the previous year, or a drop of 7.5%. Ukraine took a share of 95.1% of the total import of semi-finished products, followed by Greece (4%), while Iran, Spain, and Denmark supplied minor quantities (below 1%).

Figure 2.7 illustrates the import dynamics of scrap and semi-finished products in Bulgaria for the period 2020–2024. After further processing into value-added products, these materials were sold both domestically and for export.

Imports of flat and long rolled products for the period 2020–2024 are shown in Figure 2.8.

Figure 2.7

Imports of scrap and semi-finished products, thousands of tons



In 2024, Bulgaria imported 702.9 thousand tons of hot-rolled (HR) and cold-rolled (CR) flat products made of carbon and alloy steels. Compared to 2023, the increase was 84 thousand tons, or a growth of 13.6%. Imports of non-alloy hot-rolled (HR) products (coils and sheets) reached 542.5 thousand tons, which was more by 96.5 thousand tons compared to the previous year.

Cold-rolled flat products are not produced domestically, but their imports have shown a steady downward trend in recent years. In 2024, 85.7 thousand tons of CR flat products were imported, which was by 10.2 thousand tons (10.6%) less than the previous year, 2023. The main importers were Turkey (53.6% of the total import) and Ukraine (34.9%). Imports from our neighboring countries, Serbia and Romania, together accounted for a share of less than 10%. Insignificant quantities were also imported from Egypt and EU countries.

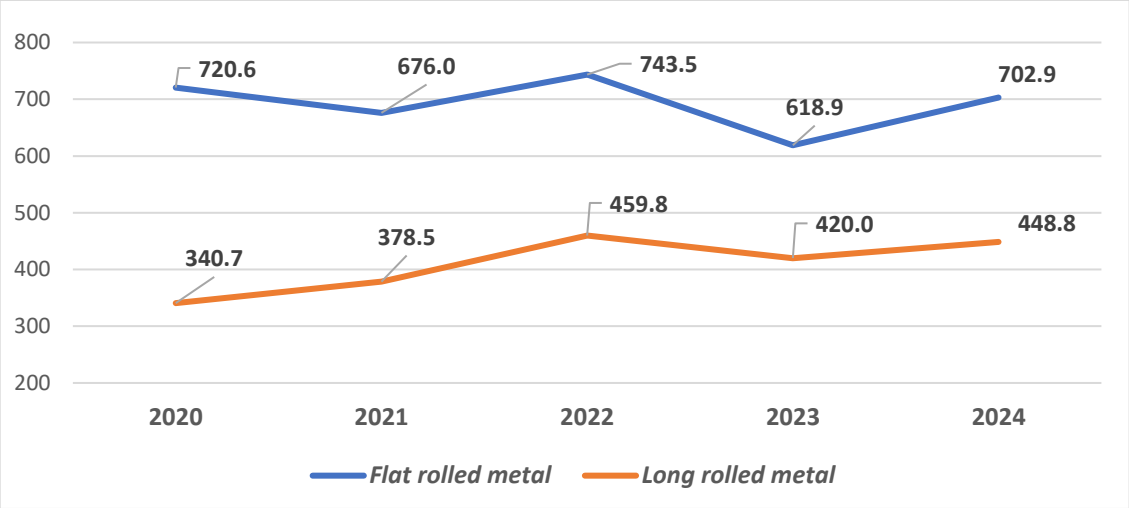
In 2024, total imports of long products (bars and profiles made of carbon and alloy steels, wire rod) reached 448.8 thousand tons. The increase compared to 2023 was 6.8%, or 28.8 thousand tons more. Turkey was the main importer, with a market share of 29.8%. Turkey together with Greece (21.4%), Egypt (16.1%), and China (5.2%) reached nearly 73% of the total import of long product in Bulgaria in 2024. The remained imports were originating in the EU countries, Ukraine, and the neighboring Balkan countries.

In 2024, 218 thousand tons of bars and profiles made of non-alloy steels were imported into the country. The imported volume was more by 8.7 thousand tons (4.1%) compared to 2023. Imports of wire rod increased to 201.3 thousand tons, which was 32.3 thousand tons (19.1%) more than in 2023.

In 2024, the geographical distribution of the import of long product into Bulgaria was as follows: Greece – 36.1%, Turkey – 24%, Egypt – 15.3%, Vietnam – 9.6%, and Ukraine – 7.8%. The remaining imports came from our neighboring Balkan countries.

Figure 2.8

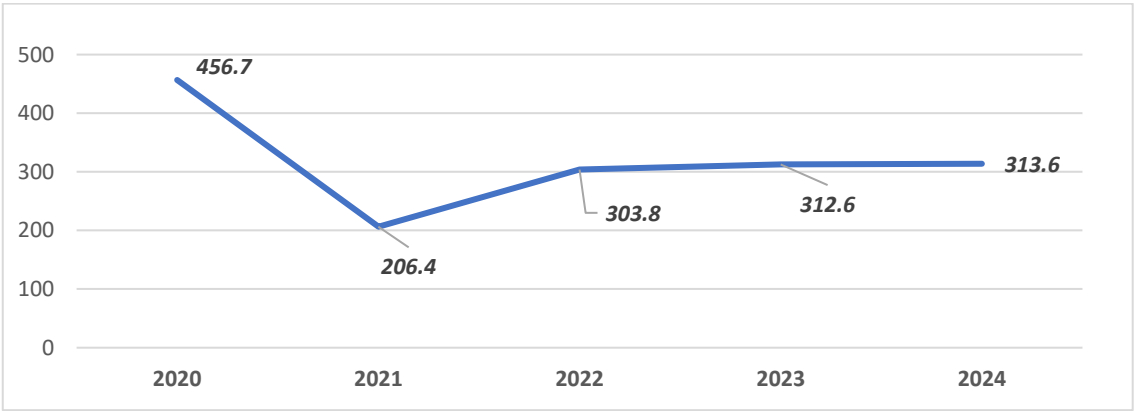
Imports of flat and long rolled metal, thousands of tons



In 2024, the gradual upward trend in imports of rolled ferrous metal products continued. A total of 313.6 thousand tons was imported, one thousand tons more than in 2023, marking a 0.3% increase. Figure 2.9. presents imports of RFM products over the last five years.

Figure 2.9

Imports of rolled ferrous metal articles, thousands of tons



In 2024, imports of seamless and welded steel pipes amounted to 75.2 thousand tons, or compared to 2023, the decrease was 7.2 thousand tons (8.8%). Imports of wires and ropes also decreased by 15.9%. The combined reduction in imports of steel pipes and wires led to an overall decrease of 0.7% in the import volume of rolled ferrous metal products in 2024 compared to the previous year.

2.2.2. EXPORT OF SCRAP, ROLLED FERROUS METALS AND ARTICLES THEREOF

According to the customs statistics, the total quantity of metal raw materials (cast iron, scrap, semi-finished products), rolled products, and rolled ferrous metal products exported from Bulgaria in 2024 amounted to 1 508,2 thousand tons,

valued at 2,331 mln. BGN. Compared to 2023, there was a 3.2% decrease in the exported quantities of metal raw materials, semi-finished products, and articles.

Although 50.2 thousand tons less were exported, the total value increased by 214 mln. BGN, which depends on steel prices on international and regional markets. Table 2.7 reflects the quantitative dimensions of exports by commodity groups over the last five years.

The data show that after the growth recorded in 2021, exports have been declining for the third consecutive year. In 2024, the exports dropped below the 2020 level. A decrease in exported quantities was observed across all commodity groups except semi-finished products and ferrous metal articles.

Scrap exports continued to decline for the third consecutive year. In 2024, exported quantities of metal scrap were 8.4%, which was lower than in 2023. Despite this seemingly positive trend, scrap exports remained substantial, leading to a shortage of raw material for the only producer of crude steel in Bulgaria – “Stomana Industry” JSC.

The data for 2024 on exports of flat and long rolled products, which are value-added products, indicated a decrease in exports of both flat and long rolled products. Compared to 2023, exports of flat rolled products declined by 5.6%, and those of long rolled products by 8.1%. Figure 2.11. presents export data for both categories.

According to the customs statistics, in 2024, 226.3 thousand tons of flat rolled products were exported from Bulgaria, which compared to the previous year was less by 19.9 thousand tons. Flat-rolled producers also reported a 9.1% drop (18.7 thousand tons less) compared to the previous year. Exports by manufacturing enterprises to EU countries also declined. The volumes exported by the producers were by 4.5 thousand tons (2.7%) flat rolled products less than in 2023. As for the export of flat rolled products it decreased by 4.5 thousand tons, or a drop of 2.7%. In 2024, over 85% of the exports of flat non-alloy metal products were destined for EU countries, with the main destinations being Romania (29.1%), Poland (14.2%), Slovakia (8.8%), Hungary (8.3%), and Greece (8.3%). The share of exports to Turkey declined from 10.5% in 2023 to 6.3% in 2024, while exports to neighboring Balkan countries (Serbia, North Macedonia, Bosnia and Herzegovina, Albania, and Kosovo) accounted for 4.6%.

Table 2.7

Exports of ferrous metals and articles thereof, thousands of tons

Goods	2020	2021	2022	2023	2024	2024/23 +/-	2024/23 %
Non-alloyed total	**1160.7**	**1373**	**1197.1**	**1217.80**	**1148.6**	**-69.2**	**94.3**
cast iron-ingots, granules, powder	0.7	1.3	0.1	0.1	0.1	0.0	123.0
Ferroalloys	6.3	5.2	7.5	9	9.0	0.0	99.8
Scrap	452.9	582.7	545.2	486.5	445.8	-40.7	91.6
Semi-finished products	2.6	16.2	3.8	4.2	9.0	4.8	214.2
Hot-rolled metal (coils and sheets)	203.2	210.2	234.7	222.6	207.6	-15.0	93.2
Cold-rolled metal (coils and sheets)	5.6	7.4	5.2	3.4	2.6	-0.8	75.0
Wire rod	1.9	1.1	0.7	3.1	1.1	-2.0	37.0
Bars	459.6	516.8	381.7	471.2	459.7	-11.5	97.6
Merchant bars/profiles	27.9	32.1	18.3	17.8	13.7	-4.1	77.2
Alloyed total	**49.1**	**67.4**	**79.2**	**73.2**	**56.5**	**-16.7**	**77.2**
Hot-rolled and cold-rolled coils and sheets	12.2	17.7	23.3	20.2	16.1	-4.1	79.9
Bars and profiles	36.9	49.7	55.9	53.1	40.4	-12.7	76.0
Articles from rolled ferrous metals	**336.8**	**325.6**	**291.3**	**267.4**	**303.1**	**35.7**	**113.4**
Seamless pipes	2	4.7	1.8	0.5	0.8	0.3	154.7
Welded pipes	296.8	283.7	252	235.4	261.2	25.8	110.9
Coated sheets	10.4	13.8	13.6	8.5	11.7	3.2	137.4
Wires ropes etc..	27.6	23.4	24	23	29.5	6.5	128.3
Total	**1546.6**	**1766**	**1567.5**	**1558.4**	**1508.2**	**-50.2**	**96.8**
Value, mln. EUR	720.7	1216.7	1460.7	1082.5	1192.0	**109.5**	**110.1**
Value, mln. BGN	**1409.6**	**2379.7**	**2857**	**2117.2**	**2331.3**	**214.1**	**110.1**

Source: Custom statistics, NRA

For long products, customs data show that in 2024 exports of Bulgaria of bars, profiles, and rebars decreased by 5.6% compared to 2023. A total of 514.9 thousand tons of long rolled products was exported, which is less by 30.3 thousand tons than the previous year. Domestic producers of bars, profiles, and rebars also reported a 4.4% decline (23.9 thousand tons less).

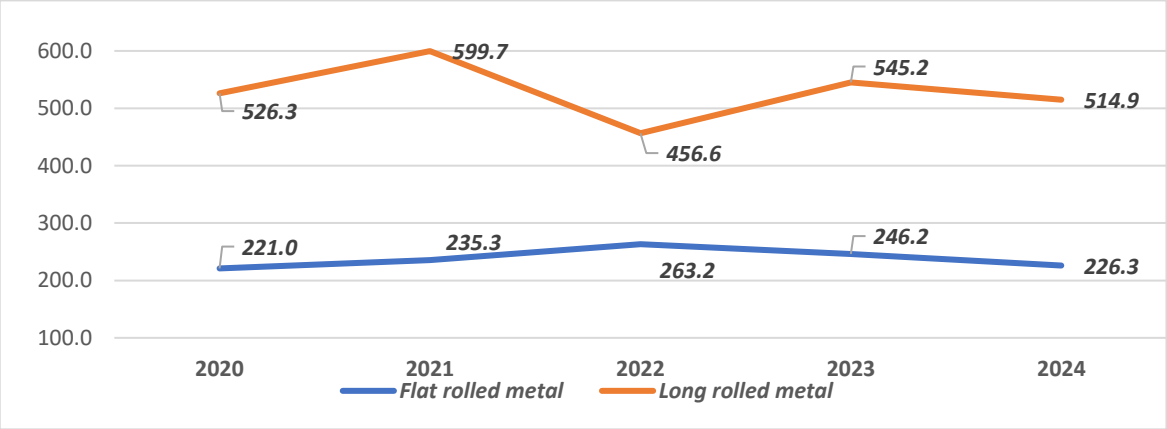
Approximately 52% of exports of bars, profiles, and reinforcing bars were directed to the EU countries, with Romania accounting for the largest share of exports of 28.8% of the total exports of long products, followed by Greece with 13.6%. Exports to the USA took a share of 25.6%, Canada – 12.6%, and

neighboring Balkan countries (North Macedonia, Serbia, Bosnia and Herzegovina) – 6.4%. Exports to Turkey represented only 0.6% of the total exports of long product.

Exports of non-alloy steel bars, which are the core production of Bulgarian steelmaking, in 2024, reached 459.7 thousand tons, which compared to 2023 was a decrease of 2.4%. The 2024 level returned to that of 2020, far below the export peak in 2021 of 516.8 thousand tons (11.1% higher).

Figure 2.11

Exports of flat and long rolled metals, incl. alloyed ones, thousands of tons



Customs statistics show that in 202 the USA is the main trading partner of Bulgaria in the export of non-alloy steel bars, with a share of 28.7% of total exports of the product. Traditionally, about half of Bulgarian exports of non-alloy steel bars were destined to the EU countries (49.7% in 2024), with Romania (26.7%) being the main destination, followed by Greece (15.0%), Cyprus (4.0%), etc. Exports to Canada accounted for 14.2%, while to neighboring Balkan countries – 4.3% (North Macedonia – 2.6%, Serbia – 1.1%). Exports to Ukraine represented 1%, and to Turkey – 0.3%.

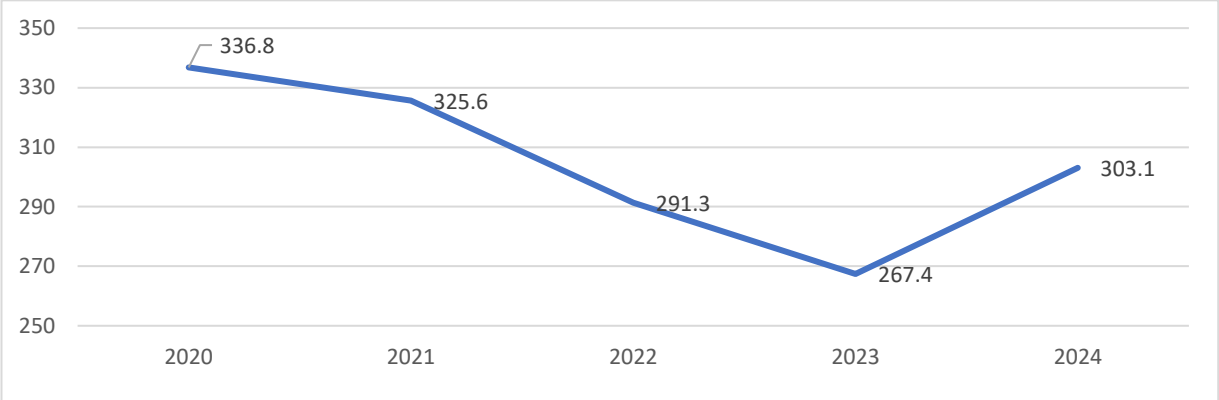
The negative trend of decreasing exports of non-alloy steel profiles observed over the last five years continued in the current year. In 2024, a sharp drop was recorded, with the exports of the profiles reaching its lowest level in the period 2020–2024. The exported volumes were more than 50% smaller than the volumes exported in 2020. In 2024, a total of 13.7 thousand tons was exported, by 4.1 thousand tons less than in 2023 (22.8% decrease). Over 90% of the exports of non-alloy steel profile were destined for neighboring countries: Romania (32.7%), North Macedonia (22.2%), Serbia (18.3%), Bosnia and Herzegovina (16.5%), and Croatia (3.7%).

In 2024, the only increase in exports was observed for rolled ferrous metal products (see Figure 2.12). A total of 303.1 thousand tons was exported, 35.7 thousand tons more than in 2023, representing an increase of 13.4%. Figure 2.14. presents the data for the export under consideration. Exports enlarged across all the categories of rolled ferrous metal products - welded pipes (with a share of 54.7% of the exports of the product), seamless pipes (10.9%), coated sheet metal (37.4%), and wires, ropes, and others (28.3%). The figures of the production of rolled ferrous

metal products shown in Table 2.4 are lower because there are other producers in the country.

Figure 2.12

Exports of rolled ferrous metal products, thousands of tons



2.2.3. *FOREIGN TRADE EXCHANGE OF ROLLED FERROUS METALS AND FINISHED PRODUCTS*

Bulgaria's foreign trade statistics for ferrous metal products characterize the sector as a net importer, with a negative trade balance.

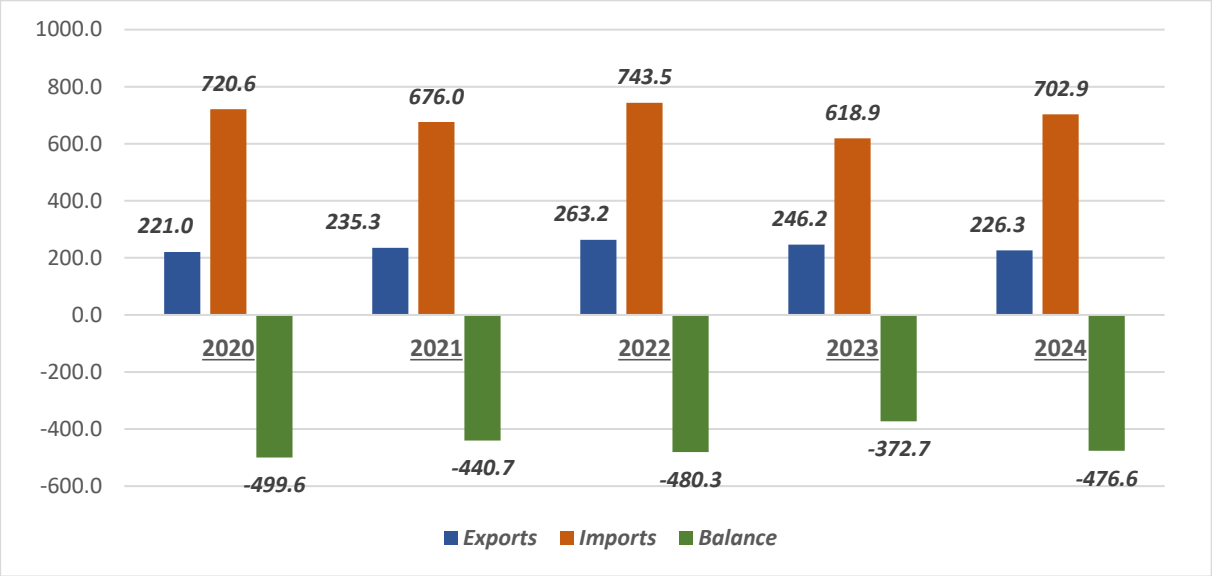
In 2024, the tradition of imports of flat rolled metal significantly exceeding its exports continued, with the ratio again being more than 3 to 1 in favor of imports. The trade balance in flat products remained negative, as imports exceed exports by 476.6 thousand tons, while a contraction in export volumes and an increase in imports was also observed. The import growth rate increased by 13.6% compared to the previous year, while the export growth rate decreased by 8.1%. The import growth rate enlarged by 13.6% compared to the previous year, while the export growth rate diminished by 8.1%. The diagram in Figure 2.13 shows the development of exports, imports, and trade balance of flat rolled metal in the period 2020–2024.

For long products (Figure 2.14), the trade balance over the last five years has been positive, except in 2022, when it was slightly negative.

In 2024, the balance was positive, with exports (514.9 thousand tons) exceeding imports (448.8 thousand tons) by 66.2 thousand tons.

Figure 2.13

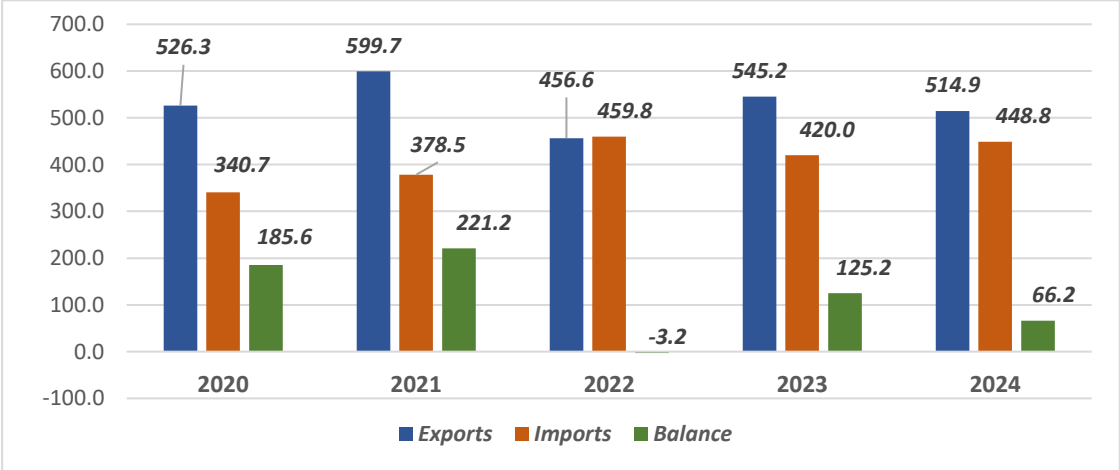
Exports and imports of flat rolled ferrous metal, thousands of tons



However, despite the positive trade balance, the same worrying trend of shrinking export volumes and boosting import volumes can be observed as in the case of trade with flat products. The export growth rate declined by 5.5% compared to the previous year, while the import growth rate climbed by 6.8%.

Figure 2.14

Exports and imports of long rolled metal, thousands of tons



The existing production capacity for long products in the country has the ability to satisfy a considerable part of the demand and could be a prerequisite for reducing the imports of ferrous metal products. However, several previously mentioned negative factors affect domestic production and sales. Furthermore, imports from certain third countries, as well as some neighboring countries that apply unfair trade practices exert serious price pressure on the Bulgarian market for steel products. Despite safeguard measures adopted by the European Commission for steel, the Bulgarian market faces growing imports of steel products from third countries, mainly from the region.

Figure 2.15 presents data on imports, exports, and trade balance of rolled ferrous metal products over a five-year period.

The data show no clear trend for rolled ferrous metal products. Imported and exported quantities fluctuate due to frequent changes in regular domestic demand, which is covered either through domestic production or imports. In the current year, a positive trend was observed, with exports increasing by 35.7 thousand tons compared to the previous year, which was growth of 13.4%. Imports, however, increased slightly by 0.3% in 2024, unlike in 2023.

Figure 2.15

Exports and imports of rolled ferrous metal products, thousands of tons

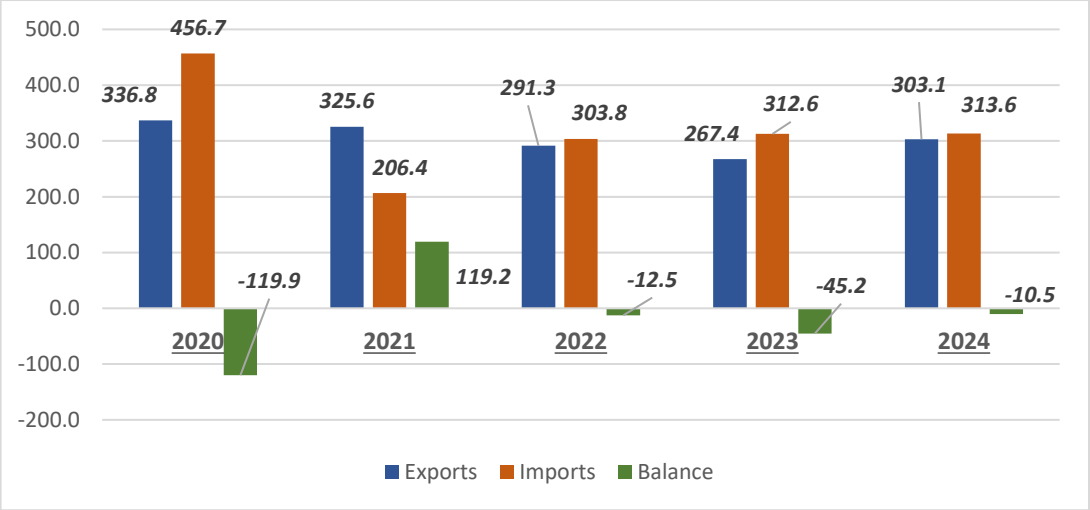


Table 2.8 presents a summary of the foreign trade balance, reflecting the difference between exports and imports of all raw materials, products, and ferrous metal articles. In 2024, the negative trade balance was (-) 668.7 thousand tons. For comparison, the balances in previous years were as follows: 2023 - (-)797.7 thousand tons, 2022 – (-)659.6 thousand tons, 2021 – (-)288.8 thousand tons, 2020 – (-)711.0 thousand tons, and 2019 – (-)810.1 thousand tons.

Table 2.8

Foreign trade balance of ferrous metals in 2024

Production	***Export thousands of tons***	***Import thousands of tons***	***Difference***
Semi-finished products	9.0	573.8	-564.8
Flat rolled metal	226.3	702.9	-476.6
Long rolled metal	514.9	448.8	66.2
Finished products	303.1	313.6	-10.5
Scrap	445.8	128.8	317.0
Total	**1499.1**	**2167.8**	**-668.7**

Source: Custom statistics, NRA

The data for the period under review show:

- **Semi-finished products** - Bulgaria is a net importer of billets, which are the raw materials for further processing along the value chain in the metals industry. In 2024, the balance in trade of billets was (-)564.8 thousand tons, compared to (-)616 thousand tons in 2023.

- **Flat rolled metal**– this group also shows Bulgaria as a net importer. In 2024,

imports exceed exports by (-)476.6 thousand tons, compared to (-)538.7 thousand tons in 2023.

- **Long rolled metal**– domestic production capacities underpin the positive trade balance in this product group. In 2024, the positive trade balance was 66.2 thousand tons.

- **Rolled ferrous metal products** – in 2024, the balance was negative (-)10.5 thousand tons, and in 2023, it was (-)45.2 thousand tons. The reduction in the negative result was due to the faster increase in exports in 2024 (13.4%) compared to the increase in imports (0.3%). The balance was negative for all rolled ferrous metal products except welded pipes, where exports went beyond imports by 216.3 thousand tons.

- **Scrap** – exports of scrap again outpaced imports. The positive trade balance amounted to 317 thousand tons, compared to 276.9 thousand tons in 2023. Bulgaria continued to be a net exporter of raw materials rather than value-added products.

Table 2.9 presents the foreign trade turnover in physical terms for rolled ferrous metals and products thereof over five consecutive years. The data excludes cast iron, ferroalloys, and scrap. In 2024, the total turnover of ferrous metals, including billets, was 2 461.92 thousand tons, 164.5 thousand tons less than in 2023, or a shrink of 6.3%.

Contrary to the increase in imports of rolled ferrous metals observed in previous years, in 2024 there was a turn-down. Imports were 102.5 thousand tons (5.6%) less than the previous year.

Table 2.9

Foreign trade turnover of rolled ferrous metals and products thereof, thousands of tons

Rolled ferrous metals and products thereof	**2020**	**2021**	**2022**	**2023**	**2024**	**2024/23**	**2024/23**
Rolled ferrous metals							
- Imports (incl. Semi-finished products)	1608.9	1621.6	1758.2	1827.9	1725.4	-102.5	94.4
- Exports (incl. Semi-finished products)	749.9	851.2	723.5	798.5	736.5	-62.0	92.2
Turnover total	**2 358.80**	**2 472.80**	**2 481.60**	**2 626.40**	**2 461.92**	**-164.5**	**93.7**
Balance (Export-Import)	**-859**	**-770.4**	**-1034.7**	**-1029.4**	**-989.0**	**40.4**	**96.1**
Rolled ferrous metal articles							
- Import	456.7	206.4	303.8	312.6	313.6	1.0	100.3
- Export	336.8	325.6	291.3	267.4	303.1	35.7	113.4
Turnover total	**793.5**	**532**	**595.1**	**580**	**616.7**	**36.7**	**106.3**
Balance (Export-Import)	**-119.9**	**119.2**	**-12.5**	**-45.2**	**-10.5**	**34.7**	**23.1**

Source: Custom statistics, NRA

In 2024, exports also declined by 7.8% compared to 2023. In the current year, the trade balance as throughout the entire period remained negative and accounts for (-)989.0 thousand tons, but was improved by 40.4 thousand tons, or 3.9%, compared to 2023.

In 2024, the total trade turnover of rolled ferrous metal products was 616.7 thousand tons. Compared to 2023, an increase of 36.7 thousand tons was observed, which was a result of the accelerated growth of exports by 13.4% relative to the increase in imports by 0.3%. The trade balance in 2024 remained negative, as imports exceeded exports by 10.5 thousand tons.

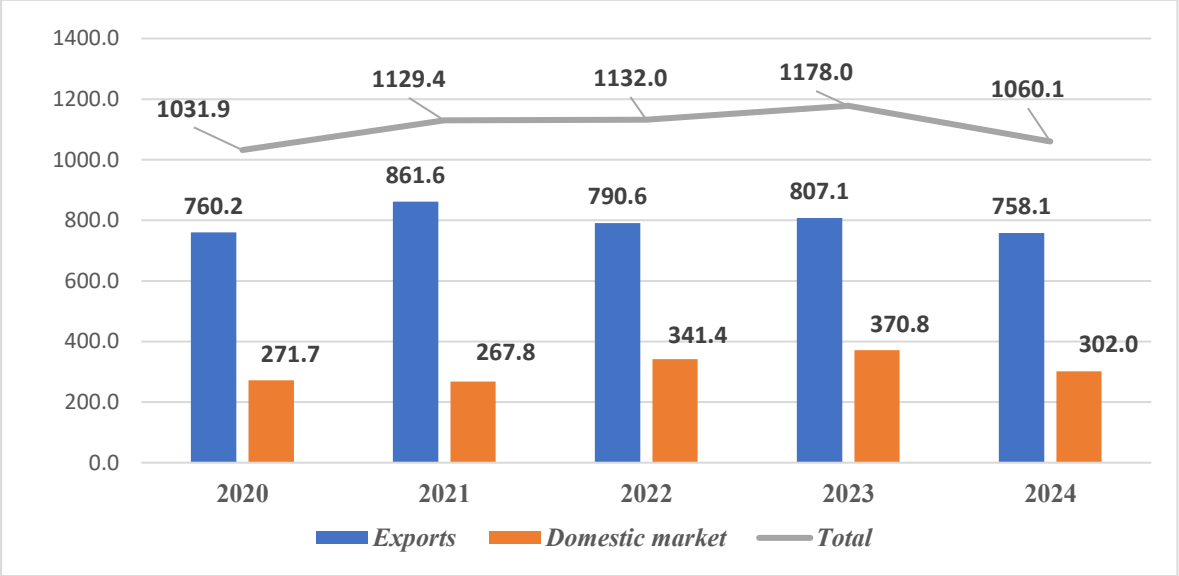
2.2.4. SALES OF ROLLED FERROUS METALS AND ARTICLES THEREOF

In 2024, domestic sales of ferrous metals and products thereof manufactured by the members of BAMI amounted to 302 thousand tons. Sales on the domestic market decreased compared to 2023 by 49 thousand tons (6.1%). In 2024, the total sales of ferrous metals and products thereof, realized by the members of BAMI amounted to 1 060.1 thousand tons. The reduction in the level of overall sales was 117.9 thousand tons, or 10%. The downturn is due to the contraction in both domestic sales and exports. In 2024, the speed of the contraction in exports was (-) 6.07 %, while those of the domestic sales was (-)18.6%. Figure 2.16 presents the dynamic of sales of rolled ferrous metals and products thereof in the period 2020-2024.

Table 2.10 presents the data for the sales of flat and long rolled metal products over the last two years, excluding articles of rolled ferrous metals. In 2024, overall sales of flat and long rolled metal products were 976.9 thousand tons.

Figure 2.16

Sales of rolled metal products, thousands of tons



**Company data*

In 2024, the quantities realized are by 22.1 thousand tons less than those in 2023, or there was a decrease of 2.2% in sales volumes. Bulgarian production of rolled ferrous metals and products thereof is export oriented. Typically, exports of long and flat rolled metal products reach 2.5 to 3 times the domestic market sales.

Table 2.10

Sales of rolled metal products, thousands of tons (RMP)

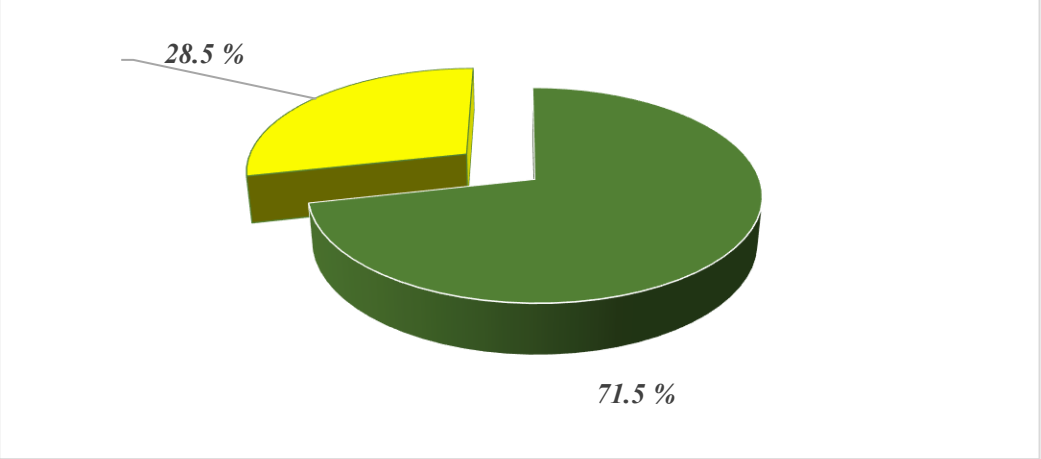
Production	Exports		Domestic market		Total sales	
	2023	2024	2023	2024	2023	2024
Long rolled metal	547.3	523.4	213.5	235.3	760.8	758.6
Flat rolled metal	206.9	188.1	31.3	30.2	238.2	218.3
Total rolled metal	754.2	711.5	244.8	265.4	999.0	976.9

*Company data

The export/domestic market ratio in 2024, shown in Figure 2.17, was 71.5/28.5 for the basic metallurgical products (flat and long rolled metal products).

Figure 2.17

Export/domestic market correlation for the main metallurgical products



Source: Company data

2.2.5. ACTUAL DOMESTIC CONSUMPTION (ADC) OF STEEL PRODUCTS

The steel industry is the backbone of strategic ecosystems that are founded on strong cooperation between a number of sectors, such as ceramics, ferroalloys, galvanizing machines, graphite electrodes, hydrogen, industrial gases, lime, mining, packaging, refractory materials, steel pipes, and the energy sector.

Therefore, a key indicator of the state and strategic autonomy of any economy is the consumption of steel and steel products.

The Real Domestic Consumption (RDC) in Bulgaria of rolled ferrous metals and products thereof is determined by the sales of the producers on the domestic market and by the imports of these products into the country. Table 2.11 presents data on RDC in the period 2022–2024. Figure 2.18 reflects changes in RDC in the period 2020–2024.

Table 2.11

Real domestic consumption of steel products, thousands of tons

Products	2022 г.			2023 г.			2024 г.			2024/2023	
	*DS**	*Import*	*RDC**	*DS**	*Import*	*RDC**	*DS**	*Import*	*RDC**	*Difference*	*%*
Long rolled ferrous metal	211.2	459.8	671.0	216.3	419.9	636.2	235.3	448.8	684.1	47.9	107.5
Flat rolled ferrous metal	29.1	743.4	772.6	31.2	618.9	650.1	30.2	702.9	733.1	83.0	112.8
Total rolled ferrous metal	240.3	1203.3	1443.6	247.5	1038.8	1286.3	265.4	1151.7	1417.1	130.8	110.2
Rolled ferrous metal products	53.2	303.8	357.0	47.9	312.6	360.5	36.5	313.6	350.1	-10.4	97.1
Total	**293.5**	**1507.0**	**1800.5**	**295.4**	**1351.4**	**1646.8**	**302.0**	**1465.3**	**1767.3**	**120.5**	**107.3**

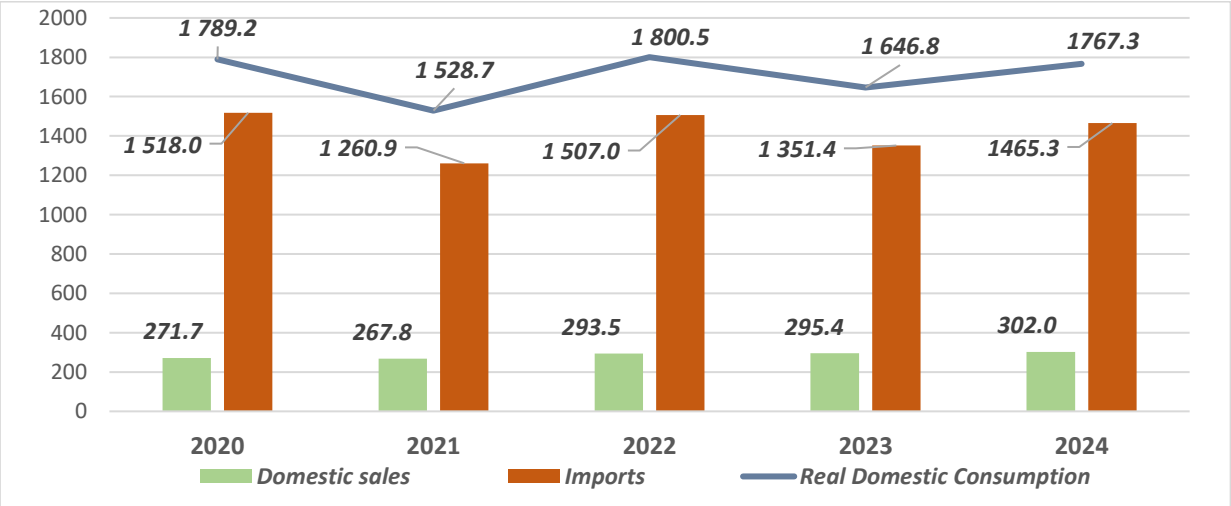
**DS – Domestic sales; RDC – Real domestic consumption*

Source: Customs statistics and NRA (import)& Company data (domestic sales)

In 2024, RDC of steel products in Bulgaria amounted to 1,767.3 thousand tons, which compared to 2023 was more by 120.5 thousand tons (7.3%). Nevertheless, the unprecedented threat of the spread of global steel overcapacity continued to negatively impact the domestic steel consumption in Bulgaria even in 2024

Figure 2.18

Real domestic consumption (RDC) of steel products, thousands of tons



A key indicator of industrial development is the **Apparent Consumption in kilograms Per Capita (ACPC)**, calculated using the following formula:

$$AC = (P + I) - E$$

Where:

- AC – Apparent consumption, thousand tons
- P – Produced steel products, thousand tons
- I – Imported steel products, thousand tons
- E – Exported steel products, thousand tons (excluding pig iron, ferroalloys, scrap)

Apparent consumption of steel products, including apparent consumption per capita by year, is presented in Table 2.12. In 2024, Bulgaria's apparent consumption (AC) of steel products was 1 379.9 thousand tons, representing an increase of 4.8% compared to 2023.

ACPC is an indicator of economic structure and in developed industrial countries it typically reaches or exceeds 500 kg/ person. In Bulgaria, ACPC ranges between 150–200 kg/person, compared to an EU (27) average of over 300 kg/person.

There are various factors for which real domestic consumption (RDC) and apparent consumption (AC) of steel for Bulgaria indicate different values, such as stock levels held by producers, consumers, and traders, re-exports, and other unrecorded quantities. However, both indicators display the same trend regarding increases or decreases in steel consumption for the respective year. This serves as a marker for the state and structural changes in the Bulgarian economy during the year, as well as growth in activities with high metal consumption.

Table 2.12

Apparent consumption of steel products, thousands of tons

Year	Production	Imports	Exports	Apparent consumption	Apparent consumption per capita (kilograms)
2015	953.5	1 338.6	923.1	1 369.0	191.4
2016	1 023.2	1 473.3	1 039.3	1 457.2	205.2
2017	946.6	1 398.2	1 326.8	1 018.0	144.4
2018	1 130.9	1 290.7	1 111.9	1 309.7	192.4
2019	968.3	1 611.8	1 054.8	1 525.3	219.4
2020	930.8	1 518.0	1 084.1	1 364.7	197.3
2021	1 049.8	1 260.9	1 160.6	1 150.1	168.2
2022	963.5	1 507.0	1 010.9	1 459.6	225.8
2023	1 027.6	1 351.4	1 061.7	1 317.3	204.4
2024	**988.6**	**1 434.8**	**1 043.6**	**1 379.9**	**214.4**

Source: Company data (production), Customs data (Imports and Exports)

In 2024, ACPC in Bulgaria reached 214.4 kg/person, which was an increase of 4.9% compared to the previous year. According to the data of World Steel

Association, the global ACPC in 2024 was 214.7 kg/person. Countries with the highest ACPC in 2024 are listed in Table 2.13.

Table 2.13

Countries with the highest apparent consumption per capita in 2024 г.

Country	*Apparent consumption per capita(kilograms)*
Sought Korea	923.5
Taiwan (China)	745.7
China	601.1
Czech Republic	532.3
Turkey	443.6
Japan	419.0
Italy	388.5
Austria	335.9
Canada	329.4
Poland	320.5
Germany	312.7

Source: World Steel Association

The average ACPC for EU (27) countries in 2024 was 290.7 kg/person, almost unchanged from the previous year, providing a clear indication of the slowdown in EU economic growth. The average value of this indicator in 2020, during the COVID-19 pandemic, was 293.5 kg/person, while in 2021, during the post-pandemic recovery, it reached 346.1 kg/person. In subsequent years, the average value decreased, and in 2024, the ACPC for the EU (27) is lower than it was during the pandemic.

2.3. PRODUCTION OF REFRACTORY MATERIALS AND PRODUCTS

The main producers of refractory materials and products, an activity directly linked to the metallurgical industry, are the companies ”Shamot El Pe 2007” Ltd and “Refran” Ltd. Figure 2.19. presents the data on the production of refractory materials by the two companies in the period 2020–2024.

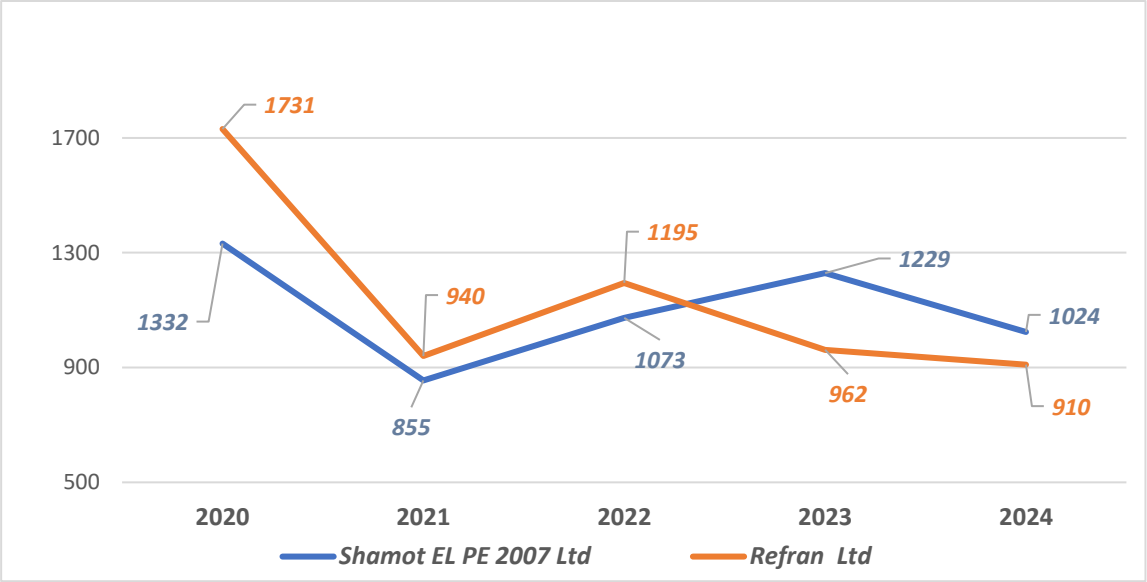
“Refran” Ltd, Elin Pelin produces technological unshaped refractory products and items, primarily from secondary refractory materials, for the metallurgical industry, cement industry, thermal power plants, and other sectors. The company also carries out construction and renovation of thermally loaded facilities. In 2024, “Refran” Ltd produced 857 tons of unshaped refractory materials and 35 tons of shaped products, which was 52 tons less than in 2023, representing a decrease of 5.4%. The market sales amount to 65 tons of refractory and thermal insulation products.

”Shamot El Pe 2007” Ltd, Novi Han, produces thermal isolation chamotte products, acid-resistant bricks, clinker products for exterior and interior flooring, and household products. The company has facilities for the production of semi-dry shaped and unshaped chamotte refractory products and materials for steel casting.

In 2024, production of ”Shamot El Pe 2007” Ltd reached 1 024 tons, which was by 205 tons (16.7%) less than in 2023. The quantities of finished products sold on the domestic market amounted to 1 066 tons.

Figure 2.19

Production of refractory materials, tons



Both enterprises produce refractories that are limited in type and quality, and production depends on the quantities required for annual repairs of furnace units and the construction of new ones in the metallurgy and energy sectors. In 2024, the overall production of refractory materials and products by ”Shamot El Pe 2007” Ltd and “Refran” Ltd was 1 934 tons, which was less by 257 tons (11.7%) compared to 2023.

SECTION THREE
NON-FERROUS METALLURGY IN BULGARIA

3.1. PRODUCTION OF NON-FERROUS METALS

Non-ferrous metallurgy holds a leading position in the metallurgical industry of the country. In terms of the value of production and its share in the total exports of metals and metallurgical products, basic non-ferrous metals - copper, lead, zinc, precious and associated metals—as well as products made from non-ferrous metals and their alloys, account for over 70%.

In the product composition of exports (Table 1.7), copper and copper articles have the highest value among all commodity groups and occupied the top position in recent years. This indicator is determined not only by the higher market price of copper but also by the quantities of production. "Aurubis Bulgaria" JSC, Pirdop, is one of the largest copper extraction companies in Europe and is currently expanding its capacity. Another significant factor is the successful restructuring of "Sofia Med" JSC and the increase in its capacity for processing cathode copper and copper alloys into rolled products and finished items with new added value. The production of rolled and pressed copper products has nearly doubled in the last ten years.

Bulgaria is also a significant producer of other heavy non-ferrous metals—zinc and lead. Modern processing facilities for lead and zinc concentrates have been established in the country – in "KCM" JSC, Plovdiv, as well as capacities for utilizing secondary raw materials, basically from end-of-life lead-acid batteries. "KCM" JSC, Plovdiv is the largest producer in the region of lead and zinc from primary and secondary raw materials. The company operates on an integrated technological scheme based on circular economy and complex extraction of contained metals.

"Monbat Recycling"JSC, Montana, produces lead-acid batteries through battery waste processing in modern facilities, applying closed-cycle technologies. Over the past two years, "El Bat" JSC, Dolna Banya, has tripled its capacities for processing secondary lead from end-of-life batteries. In 2024, the company processed the largest volumes of secondary lead raw materials.

Bulgaria does not produce primary aluminum. It has built-in capacities for processing aluminum blocks into rolled and pressed products and capacities for production of a variety of long and flat aluminum products as well as aluminum and alloys articles. Primary aluminum is imported for capacity utilization. The imported quantities are the largest of all imported metals by established commodity groups (Table 3.13).

3.1.1. PRODUCTION OF COPPER (ANODIC AND ELECTROLYTIC)

"Aurubis Bulgaria" JSC, part of the Aurubis Group, Germany is the only producer of anode/cathode copper from primary and secondary raw materials. The other valuable metals contained in the raw materials used are concentrated in an intermediate product – anode sludge, which is exported for processing outside the

country. The company has modern metallurgical facilities for autogenous smelting of ore concentrate. Energy-efficient and environmentally friendly technologies are applied, in which both the heat from sulfur combustion and the generated gases are used for the production of sulfuric acid. The resulting anode copper is refined into cathode copper or exported to other EU enterprises within the Aurubis Group for further processing.

In the Electrolytic Plant, copper impurities are separated from the anode copper and then refined into high-purity cathode copper, registered under the "Pirdop" brand on the London Metal Exchange. The production of sulfuric acid ensures a high degree of sulfur utilization in the concentrates. The technology complies with the best available techniques.

Metallurgical slags are processed in a concentrator plant and the copper contained in them is extracted into copper concentrate, which is returned to the production cycle. The residual product is a fayalite concentrate (iron silicate), which is mainly used in construction as a commercial product. The deployed scheme is a model for a circular economy, which closes the cycle of processing primary and secondary raw materials with high utilization of the valuable components and environmental protection.

There is also a hydrometallurgical plant operating in the country for extracting copper from old mine dumps and electrolysis of solutions for separating metallic copper. It was built by “Asarel Medet” JSC and produces around 2 thousand tons per year. Data on processed primary raw materials/concentrates and secondary copper at ”Aurubis Bulgaria” JSC for successive years are presented in Table 3.1.

In 2024, the metallurgical production processed nearly 1.4 mln. tons of copper concentrates with a higher copper content, by 168 thousand tons more than in 2023. Only 21% of this copper came from domestic deposits, while the remaining 79% came from imported concentrates. The largest amounts were imported from Turkey, with Latin America (Brazil, Peru, Chile) being the largest regional supplier. In 2024, the amounts of processed secondary raw materials also increased by 5.4 thousand tons compared to 2023.

Table 3.1

Processed raw materials for the production of anodic copper

Product	**2020**	**2021**	**2022**	**2023**	**2024**	**Difference 2024/2023**	
						+/-	**%**
Concentrates, tons	**1 346 197**	**1 177 643**	**1 441 149**	**1211822**	**1379886**	**168064**	**113.87**
- copper contents, %	22.17	22.23	22.22	22.26	23.14	-	-
- metal contents, tons	**298 452**	**261 790**	**320 257**	**269752**	**322893**	**53141**	**119.70**
incl.: in imported	228 276	195 501	251 258	197090	251186	54096	127.45
In local	70 176	66 312	68 999	72698	68159	-4539	93.76
Scrap (purchased), tons	**43 759**	**36 701**	**45 283**	**40858**	**46287**	**5429**	**113.29**

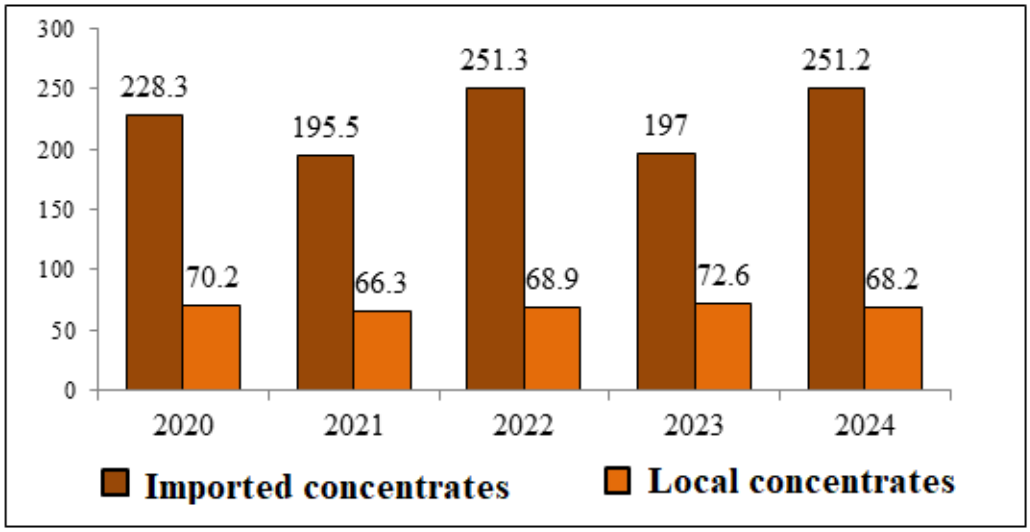
Source: Company data.

Despite the development of copper ore extraction in the country, domestic concentrates cannot meet the needs of metallurgical capacities, and significant

imports will continue in the coming years. The ratio between imported and domestic raw materials depends on annual production but remains at a minimum level of 3:1.

Figure 3.1

Processed concentrates, thousands of tons of metal



Secondary copper scrap is an important resource. Its processing improves several performance indicators, such as reducing energy consumption, decreasing waste products, protecting the environment, and lowering emissions. The company works under a technological scheme that allows the processing of all copper scrap generated in the country, regardless of quality. Nevertheless, around 10 thousand tons of copper scrap are exported annually. In 2024, 8.7 thousand tons of copper scrap were exported.

Table 3.2 and Figure 3.2. present the produced anode and electrolytic copper at ”Aurubis Bulgaria” JSC in 2024 and the previous five years.

Table 3.2

Production of anodic and electrolytic copper, tons

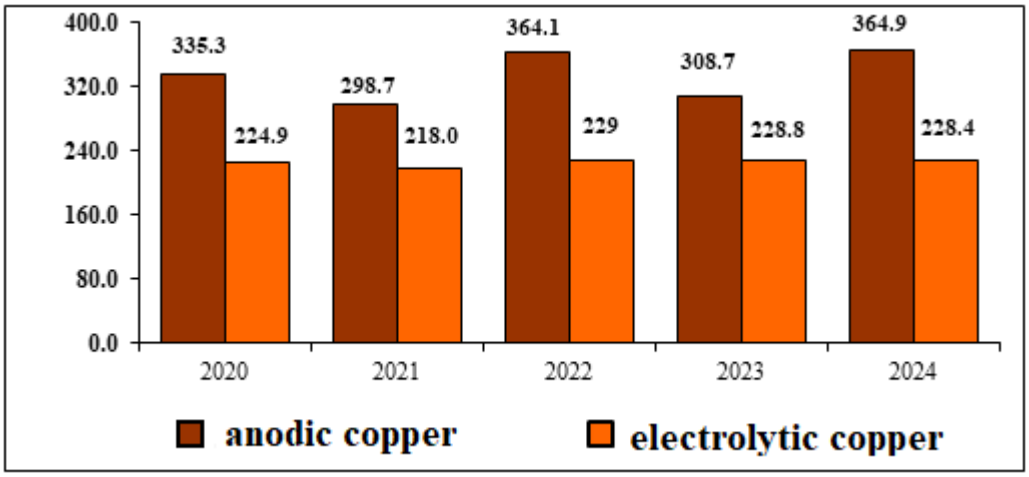
Product	**2020**	**2021**	**2022**	**2023**	**2024**	**Difference 2024/2023**	
						+/-	**%**
Anodic copper	335 306	298 728	364 178	308726	364964	56238	118.2
Electrolytic copper	224 880	218 020	229 070	228831	228447	-384	99.8

Source: Company data

In 2024, a record amount of 365 thousand tons of anode copper was produced, which compared to 2023 is more by 56 thousand tons (118%). Electrolytic copper showed a slight decrease of 384 tons, corresponding to existing production capacity. For 2024 and previous years, the quantities of electrolytic copper were limited by the capacities of the electrolytic plant. This limitation will be addressed with the construction of new electrolysis capacities.

Figure 3.2

Production of anodic and electrolytic copper, thousands of tons



Copper concentrates are sulfide-based, and during smelting in furnaces and converters, heat and sulfur oxide gases are released. These sulfur oxides, after purification, serve as raw materials for sulfuric acid production. The utilization rate is high and corresponds to the Best Available Techniques. In 2024, 1,356 thousand tons of sulfuric acid were produced, 144 thousand tons more than in 2023.

Copper is one of the most widely used non-ferrous metals and is of strategic importance for national economies, security, and development. Due to the high energy intensity of copper production technologies, production costs are strongly dependent on energy prices.

High electricity prices reduce the competitiveness of all energy-intensive industries. Only the large investments in new high-tech and energy-efficient metallurgical facilities make the company competitive in EU and global markets.

In 2024, over 100 mln. EUR were invested in copper production at ”Aurubis Bulgaria” JSC for the following projects:

- Over 15 mln. EUR in modernization and replacement of existing electrical equipment with new energy-efficient equipment, including the construction of photovoltaic installations to cover self-consumption.
- Expansion of electrolysis production for cathode copper –20 mln. EUR.
- Over 10 mln. EUR for modernization and expansion of the industrial wastewater treatment plant.
- Modernization of technology and equipment for cooling pyrometallurgical slags in the beneficiation plant –15 mln. EUR.
- 40 mln. EUR for replacement and modernization of existing equipment.
- Over 3 mln. EUR for renovation of road infrastructure, building facilities, water supply networks, and installations.

Investments in these projects will continue in the coming years.

Due to high copper consumption across the economy and expected growth driven by decarbonization and digital transformation, global production is increasing. To comply with demand and ensure the raw material independence of

the EU, copper is included in the list of critical and strategic raw materials in the CRM Regulation of the European Commission.

Table 3.3 shows the production of electrolytic copper by regions of the world. In 2024, global production reached 27 486 thousand tons**,** compared to 2023 more by 939 thousand tons (103.54%). As with other metals, Asia was the largest producer, with 15 642 thousand tons**,** which was an increase of 5% and a share of 60%. Copper production in Africa increased aggressively (+339 thousand tons, 114%), exceeding for the first time that of the EU by 363 thousand tons.

Table 3.3

World production of electrolytic copper, thousands of tons

Regions	**2022**	**2023**	**2024**	**Difference 2024/2023**	
				+/-	**%**
Asia	14 130	14 907	15 642	735	104.93
America	4 214	4 113	3 984	-129	96.86
Europe	3 725	3 701	3 585	-116	96.87
incl.EU-27	2 569	2 467	2 405	-62	97.49
Africa	2 163	2 426	2 765	339	113.97
Other	1 409	1 400	1 510	110	107.86
Total	**25 641**	**26 547**	**27 486**	**939**	**103.54**

Source: ICSG

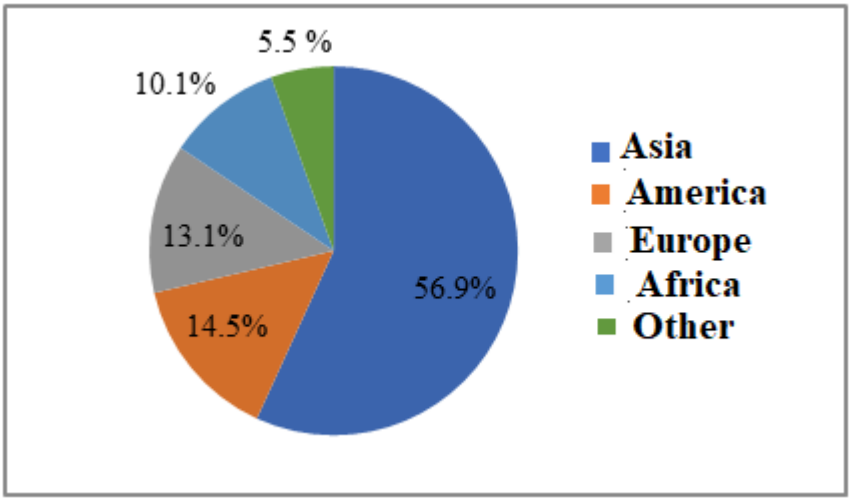
America took second place with 3 984 thousand tons, although its share decreased from 15.5% to 14.5%. Europe remained third, also reducing its share from 14% in 2023 to 13% in 2024. In 2024 compared to 2023 only these two economically developed regions, America and Europe, decreased their production by 129 and 116 thousand tons, respectively, of which 62 thousand tons was the decline in the EU (27).

Despite the annual decline in electrolytic copper production in Europe, the EU (27) remained the largest producer with 2 405 thousand tons in 2024**,** accounting for 68% of total European production. Figure 3.3 shows the regional distribution of global electrolytic copper production.

The EU's share of global production has steadily declined from 10.8% in 2021 to 10.0% in 2022, 9.3% in 2023, and 8.7% in 2024. So far, the European Commission has not taken concrete measures to change industrial policy and economic growth.

Figure 3.3

Production of electrolytic copper by regions, 2024 г., %



Bulgaria is a significant producer of electrolytic copper, and the development of capacities and technologies continues. This strengthens the country's role in achieving EU objectives for raw material independence from third countries and ensuring the supply of non-ferrous metals, including copper for the Green Deal.

Electrolytic copper produced by "Aurubis Bulgaria" JSC in 2024 represented 9.5% of EU production, compared to 9.3% in 2023. Its share in global production was 0.83%, limited by existing capacities.

The 365 thousand tons of anode copper produced in 2024 represented 15.2% of total EU (27) copper, up from 12.5% in 2023. Bulgaria's share of global anode copper production was 1.33% in 2024, up from 1.16% in 2023.

Copper production in Bulgaria is developing sustainably, with over 1.2 billion BGN invested in improving technological and environmental parameters. Successfully are being implemented consecutive programs for energy efficiency, construction of renewable energy sources, new technological equipment, improved infrastructure, etc.

In 2024, a large-scale 4-year program "Investments for Progress. Bulgaria 2027" began, with a budget of 800 mln. EUR. The planned projects aim to develop competitive production and achieve carbon neutrality by 2050.

3.1.2. LEAD PRODUCTION

Bulgaria is a significant producer of lead and lead alloys from primary raw materials (concentrates) and lead-containing secondary raw materials, mainly accumulator (battery) waste. The modern metallurgical capacities and production technologies comply with the Best Available Techniques, European environmental requirements, good occupational safety standards, and energy efficiency.

There are three lead-producing enterprises in the country: "KCM" JSC, "Monbat Recycling"JSC, and "El Bat" JSC. The only enterprise for processing lead concentrates and the largest producer of lead blocks from primary and secondary raw materials in the country and Southeast Europe is "KCM" JSC, Plovdiv. The company operates a complete cycle for processing raw materials and intermediate

products, integrating technological schemes for lead and zinc production. These primary productions exemplify the implementation of circular economy models, aiming at comprehensive and efficient utilization of used raw materials.

At ”KCM” JSC**,** high-tech autogenous smelting processes are applied in lead production, comply with strict European environmental and energy standards. The integrated lead and zinc production processes ensure the extraction of contained precious metals and other accompanying elements (gold, silver, cadmium, tellurium, bismuth, antimony), as well as using the sulfur oxides generated during smelting for sulfuric acid production.

With the implementation of the new technology in lead production, processing of lead-containing secondary and intermediate products has increased, reducing the share of primary lead concentrates. The enterprise processes both domestic, including its own, and imported concentrates. Domestic lead-zinc ore production does not provide sufficient lead and zinc concentrates for production. For normal functioning and optimal capacity utilization, annual import of primary raw materials is necessary. To improve production efficiency, environmental protection, and occupational safety, “KCM” JSC continued to invest, with 19.3 mln. BGN allocated in 2024. Key investments include hazardous waste repository, reconstruction and repair of furnaces and equipment, and construction of new storage facilities.

Table 3.4 presents the data on processed primary concentrates (both domestic and imported) and secondary raw materials for lead production over the past five years. Figure 3.4 shows the amount of metal from imported and domestically mined concentrates.

Table 3.4

Raw materials for production of primary lead, tons

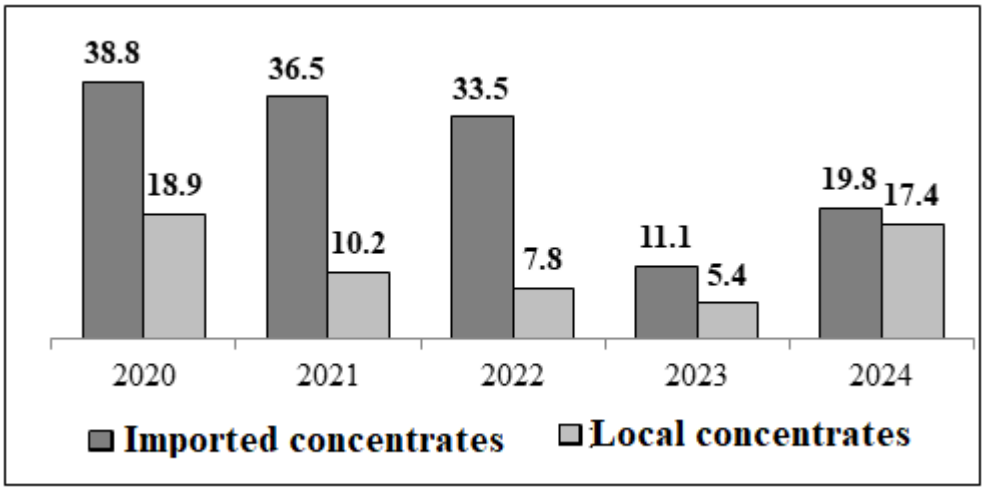
Product	**2020**	**2021**	**2022**	**2023**	**2024**	**2024/23 +/-**	**2024/23 %**
Metal in concentrates	**57 793**	**46 672**	**41 297**	**16 439**	**37 249**	**20 810**	**226.59**
incl.: in imported	38 873	36 479	33 472	11 057	19 814	8 757	179.2
in local	18 929	10 193	7 825	5 382	17 435	12 053	323.95
Waste/ semi-finished (imported	**18 226**	**24 967**	**33 101**	**29 715**	**39 978**	**10 263**	**134.5**
Total	**76 019**	**71 639**	**74 398**	**46 154**	**77 227**	**31 073**	**167.32**

Source: Company data.

In 2024, there was a significant increase in processed primary and secondary raw materials. The largest increase was in own concentrates – more than 3 times. Processed secondary raw materials from external deliveries increased by over 10 thousand tons compared to 2023. The total metal content in the raw materials increased by 31 973 tons**.**

Figure 3.4

Processed concentrates, thousands of tons of metal/lead



The new technological scheme at ”KCM” JSC changes the ratio between primary and secondary raw materials. Over the five-year period, the ratio of metal in concentrates to that in waste in the total furnace charge changed from 70:30 in 2020 to approximately 50:50 in 2024.

“Monbat Recycling”JSC**,** Montana, and ”El Bat” JSC**,** Dolna Banya, are enterprises with modern capacities for processing lead-acid battery waste and end-of-life lead-acid batteries. These facilities ensure processing of collected used lead-acid batteries and associated waste generated in the country.

“Monbat Recycling”JSC recycles lead-acid battery scrap and lead scrap, bateries, plates, lead slags, pastes, fractions, and other wastes in lead and lead–calcium alloys. The company is developing sustainably within the structure of Monbat Group JSC**,** where effective vertical integration has been achieved from the supply of raw materials to the final commercial product - lead-acid batteries. Its production facilities comply with the European environmental standards. Sodium sulfate is produced as a by-product. Annual investments in modernization and equipment replacement are made, including replacement of the heat exchanger in the battery recycling installation in 2024.

“El Bat” JSC is the fastest-growing metallurgical enterprise, with modern processing installations for separation, recycling, and utilization of end-of-life batteries and accumulator waste. Over the last two years, the capacity for processing secondary lead raw materials and producing block lead and lead alloys has increased more than three times. To expand capacities and improve environmental performance, over 10 mln. BGN was invested in the last two years, of which 6 mln. BGN in 2024 alone.

Bulgaria has a national system for purchasing, using, collecting, and recycling lead-acid batteries, as well as monitoring quantities of end-of-life accumulators and their waste. Lead is highly recyclable, and its production from secondary resources is more energy-efficient and environmentally friendly, with lower carbon intensity. The facilities built in the country comply with best available technics and European and Bulgarian environmental legislation, ensuring a high recycling rate of secondary lead raw materials.

Data on lead block and lead alloy production from primary and secondary raw materials by producing companies are presented in Table 3.5, with relative shares shown in Figure 3.5.

In 2024, "KCM" JSC produced 74.4 thousand tons of lead, 29.8 thousand tons more than in 2023, which was an increase of 167%. This was the highest quantity for the last five years, with slightly more than half produced from secondary resources. Bulgaria thus achieved a recycling efficiency of secondary lead among the best in the world.

The two enterprises processing secondary lead raw materials, "Monbat Recycling" JSC and "El Bat" JSC, produced a total of 68 780 tons of lead and alloys, 21 thousand tons more than the previous year. This amount is the result of a 172.7% increase in production of "El Bat" JSC.

Table 3.5

Lead production, tons

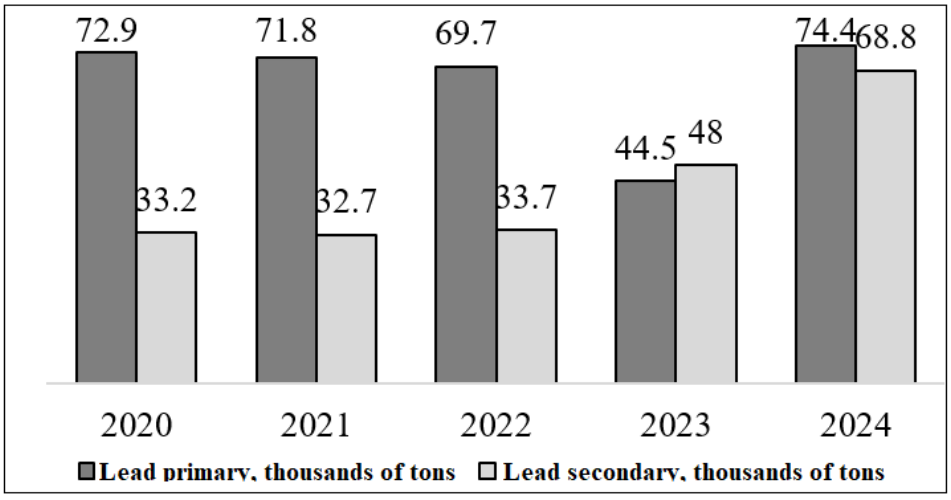
Product	**2020**	**2021**	**2022**	**2023**	**2024**	**2024/23 +/-**	**2024/23 %**
Lead, ingots /primary/	**72 992**	**71 822**	**69 709**	**44 542**	**74 367**	**29 825**	**166.96**
„КЦМ" JSC	72 992	71 822	69 709	44542	74 367	29 825	166.96
Lead and alloys, secondary	**33 153**	**32 673**	**33 719**	**48 032**	**68 780**	**20 748**	**143.20**
"Monbat Recycling"JSC	18 153	17 693	18 729	19 252	19 080	-172	99.11
"EL BAT" JSC	15 000	14 980	14 990	28 780	49 700	20 920	172.69
Lead - total	**106 145**	**104 495**	**103 428**	**92 574**	**143 147**	**50 573**	**154.63**

Source: Company data

The total annual production reached 143 thousand tons, a record for the country, marking a 155% increase, with 50.5 thousand tons more than in 2023 (30 thousand tons from "KCM" JSC and 20 thousand tons from "El Bat" JSC.

Figure 3.5

Lead production, thousands of tons



Global lead production by regions and major producing countries over the last five years is presented in Table 3.6. Figure 3.6 shows relative shares of global lead production by regions in 2024.

Asia remained the leading region but, for the first time, reported a decline in production due to reduced output from China - 410 thousand tons less, or a drop of 7.2%. Nevertheless, China remained the largest producer in 2024 with 5 288 thousand tons**,** and 40.5% of global production. The region Asia took a share of 66.5% of global annual production, compared to 2023 less by 67.3%.

Table 3.6

World lead production, thousands of tons

Country/Region	2021	2022	2023	2024	2024/23 +/-	2024/23 %
Asia, incl.	**8 547**	**8 623**	**8 912**	**8 674**	**-238**	**97.3**
- China	5 448	5 471	5 687	5 277	-410	92.8
-India	923	966	1 022	1 100	78	107.6
- Republic of Korea	790	760	776	835	59	107.6
Europe	**2 034**	**1 780**	**1 768**	**1 833**	65	103.7
- EU (27)**,** incl.	1 431	1 299	1 302	1 371	69	105.3
Germany	310	227	310	300	-10	96.8
Spain	192	192	192	217	25	113.0
Poland	158	154	155	151	-4	97.4
Bulgaria*	106	104	93	143	26	154
Belgium	122	109	116	112	-4	96.6
Italy	158	133	66	87	21	131.8
America, incl.	**2 100**	**2 081**	**2 178**	**2 145**	**-33**	**98.5**
the USA	976	960	1 019	1 018	-1	99.9
Mexico	420	419	435	435	0	100.0
Brasil	265	278	286	286	0	100.0
Canada	203	182	191	164	-27	85.9
Total	**12 552**	**13 019**	**12 801**	**13 039**	**238**	**101.9**

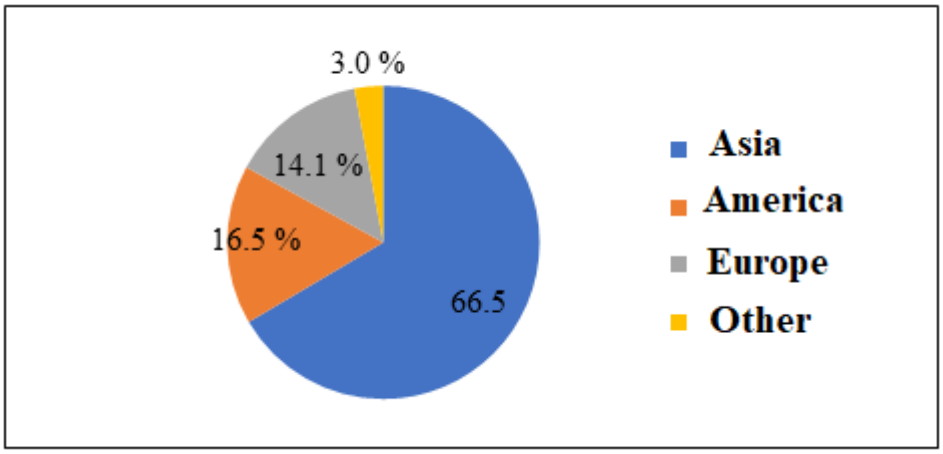
*Source: ILZSG (International Lead and Zink Study Group), *Company data*

America ranked second place with a 16.5% share and the USA the largest producer with 1 018 thousand tons in 2024, a decline of 1 000 tons. The total production of the region decreased by 33 thousand tons.

Europe, after two years of decline, recorded a growth of 103.7% (65 thousand tons), remaining third with a 14% share. This growth was due to increased production in EU (27) countries. A total of 1,371 thousand tons were produced, 69 thousand more than last year, representing a 105.3% increase.

Figure 3.6.

Lead production by regions in 2023, (%)

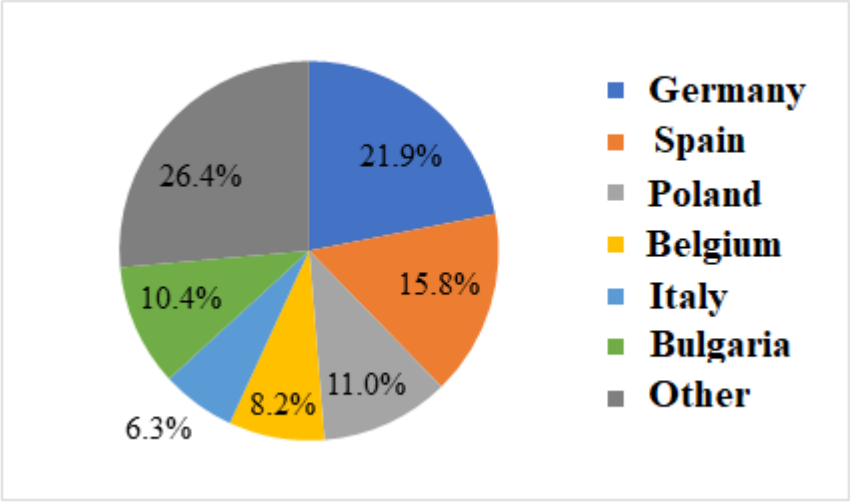


According to data for 2024, our country reported the highest percentage growth of 154%, followed by Italy with 131.8% and Spain with 113%. The increased production elevated the position of Bulgaria as a lead producer compared to other member states. In 2024, Bulgaria ranked fourth in the EU in terms of lead production, compared to its traditional fifth or sixth place.

Lead produced in the EU accounted for 75% of total production of lead in Europe and 10.5% of global production. Figure 3.7 shows relative shares of major producers in the EU.

Figure 3.7

Countries – main producers of lead in EU-27 in 2024 г. (%)



In 2024, the largest producers of lead blocks in the EU were: Germany – 300 thousand tons (22%), Spain – 217 thousand tons (16%), and Poland – 151 thousand tons (11%).

The 143 thousand tons produced in Bulgaria in 2024 represented 10.4% of the total EU (27) lead production, compared to a 5.3% share in 2023. Bulgarian lead accounted for 1.1% of global production.

3.1.3. ZINC PRODUCTION

"KCM" JSC is the producer of zinc from ore concentrates in Bulgaria. The existing hydrometallurgical scheme with electrolytic deposition of zinc from solutions is integrated with the lead production process. This allows parallel extraction of other valuable components from the raw materials, such as sulfur for sulfuric acid production, cadmium, precious metals, and tellurium. Through a circular economy approach, the company achieves comprehensive utilization of both primary and secondary zinc and lead raw materials.

Data on processed concentrates from domestic sources and imports, as well as purchased and used secondary products in terms of metal content, are presented in Table 3.7.

In 2024, the processed concentrates contained 54 788 tons of zinc**,** by 1 007 tons less than in 2023 (98.2%). The production of domestic zinc concentrates cannot provide the quantities required by the company, so concentrates are imported annually, mainly from countries in the region.

Table 3.7

Processed raw materials for the production of zinc, tons

Product	**2020**	**2021**	**2022**	**2023**	**2024**	**2024/23 +/-**	**2024/23 %**
Metal in concentrates, incl.:	**60 299**	**61 730**	**53 242**	**55 795**	**54 788**	**-1 007**	**98.20**
In imported	44 610	47 174	39 480	41 600	40 286	-1 314	96.84
local	15 689	14 556	13 762	14 195	14 502	307	102.16
Processed waste (imported)	**18 907**	**14 855**	**19 055**	**19 190**	**18 405**	**-785**	**95.91**
Total	**79 206**	**76 585**	**72 297**	**74 985**	**73 193**	**-1 792**	**97.61**

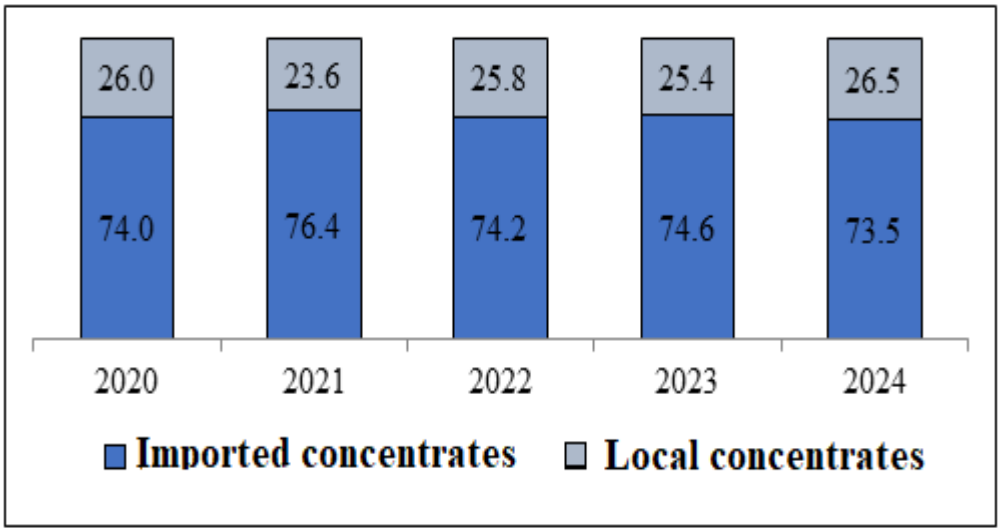
Source: Company data

In 2024, compared to the previous year, domestic concentrates contained 307 tons more metal, while imported zinc was 1.3 thousand tons less. The ratio between imported and domestic concentrates over recent years has remained roughly the same, with domestic concentrates representing approximately 25–26% of the total metal in processed raw materials.

Figure 3.8 shows the percentage ratio of processed primary raw materials from imports and domestic production over recent years.

Figure 3.8

Processed concentrates in 2024, (%) metal



KCM 2000 Holding is expanding its ownership of lead and zinc mining sites, and mining output is expected to grow, consequently increasing the quantity of domestic concentrates. In 2024, secondary zinc accounted for 18.5 thousand tons. Processed secondary products decreased by 4% compared to 2023.

In ”KCM” JSC**,** 69,695 tons of zinc were produced in 2024, 2,629 tons less than in 2023, a decrease of 3.7% (Table 3.8).

Table 3.8

Zinc production, tons

Product	**2020**	**2021**	**2022**	**2023**	**2024**	**2024/23 +/-**	**2024/23 %**
Zinc - Total	74 520	72 418	72 527	72 324	69 695	-2 629	96.3

Source: Company data

In 2024, global zinc production also declined, by a total of 440 thousand tons, with decreases in all regions worldwide. Total production reached 13 495 thousand tons**,** with major producers concentrated in Asian countries.

Table 3.9 presents global zinc production data by regions, and Figure 3.9 shows the regional shares as percentages of total world production.

Again, Asia had the largest share of zinc production in the world - 68.9% of the total output. In 2024, 9.3 million tons of zinc were produced in the countries of the region, 334 thousand tons less than in 2023. In 2023, this share was higher-69.2%. For comparison, it was lower in 2022—68.4% and 66% in 2021.

The higher shares in recent years were due to larger declines in production in other regions. China was the largest producer with 6 620 thousand tons in 2024, representing 71.2% of zinc production in Asia and 49% of global production. China alone produced more than three times the zinc output of all Europe.

Despite declining annual production in Europe, with 2 095 thousand tons of zinc produced in 2024, the region retained its second position in the world.

One of the reasons for the decline in zinc production in recent years, both domestically and in Europe, was the high cost of electricity, which sharply increases electrolysis expenses and makes production less efficient.

Table 3.9

World zinc production, thousands of tons

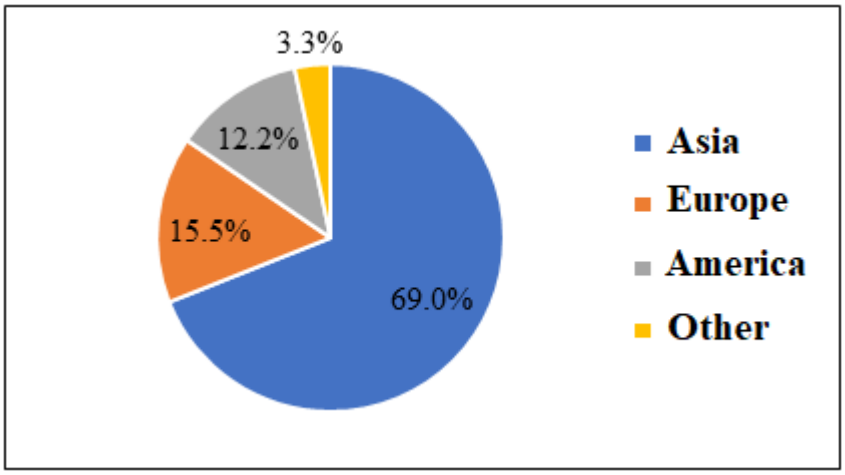
Country/Region	2021	2022	2023	2024	2024/23 +/-	2024/23 %
Asia, incl.	**9 168**	**9 162**	**9 637**	**9 303**	**-334**	**96.5**
China	6 408	6 358	6 850	6 620	-230	96.6
Republic of Korea	840	868	862	753	-109	87.4
India	779	838	836	857	21	102.5
Europe, incl.	**2 494**	**2 211**	**2 155**	**2 095**	**-60**	**97.2**
EU (27), incl.:	2 116	1 834	1 786	1 772	-14	99.2
Spain	509	505	520	515	-5	99.0
Finland	291	294	294	302	8	102.7
Belgium	282	240	260	240	-20	92.3
The Netherlands	282	209	239	155	-84	64.9
Bulgaria*	73	73	72	70	-3	95.9
America, incl.	**1 808**	**1 635**	**1 664**	**1 646**	**-18**	**98.9**
Canada	643	485	504	509	5	101.0
Mexico	340	349	346	350	4	101.2
Peru	340	349	346	341	-5	98.6
the USA	220	220	220	220	0	100.0
Total world	**13 939**	**13 408**	**13 935**	**13 495**	**-440**	**96.8**

Source: ILZSG

In 2024, the share of the EU of total European production in 2024 was 84.6%**,** and its share of global production was 13.1%. A total of 1 772 thousand tons of zinc were produced, with Spain being the largest producer – 515 thousand tons, followed by Finland – 302 thousand tons, Belgium – 240 thousand tons, and the Netherlands – 155 thousand tons. Bulgaria, producing 70 thousand tons of zinc in 2024, was also a significant producer, both in the region and in the EU, with a share of 4%.

Figure 3.9

World zinc production (by regions), 2024, (%)



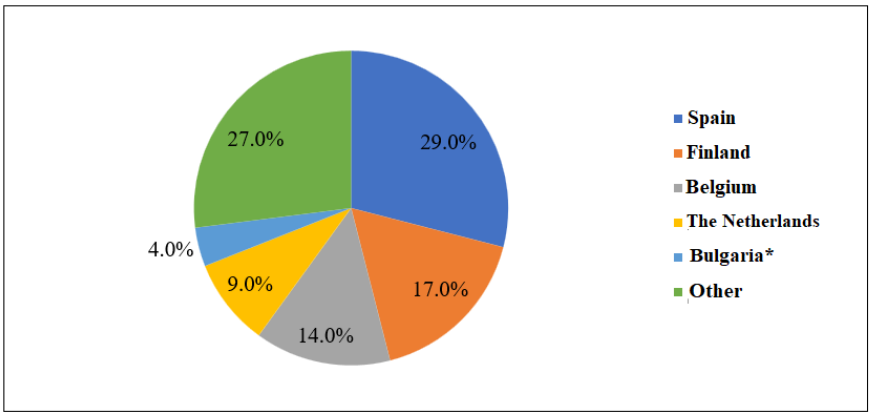
In 2024, compared to 2023 zinc production in Europe went down by 60 thousand tons (97.2%), and only in the EU – by 14 thousand tons. Main European producers reported a higher decline, such as Belgium with (-)20 thousand tons, the Netherlands with (-)84 thousand tons. In this period of crisis in the EU, some production capacities in Germany and Italy were shut down.

In 2024, the zinc production in America was 1 646 thousand tons, only 18 thousand tons less than in 2023, placing the region third with a 12.2% share of world production. In 2022 this share was 12%.

Figure 3.10 shows the distribution of EU (27) zinc production by major producing countries.

Figure 3.10

Leading EU-27 zinc producers in 2024, (%)



In 2024, zinc produced in Bulgaria from the processing of mainly primary raw materials (zinc concentrates) decreased by nearly 3 thousand tons. However, secondary zinc was also extracted at the newly built plant ”Harmonee 2012” Ltd from the waste products of the closed plant in Kardzhali. Currently, zinc was captured as zinc-containing dust, but there is a project to build additional capacity for producing zinc blocks.

Among the main non-ferrous metals produced in Bulgaria, only copper is included in the EU list of critical and strategic raw materials under the adopted Critical Raw Materials (CRM) Regulation.

European metal producers, joined by BAMI**,** are advocating for inclusion of lead and zinc in the critical raw materials list due to their applications in battery production for energy storage, galvanization of key equipment in renewable energy installations, and zero-emission products.

3.1.4. PRODUCTION OF PRECIOUS, BYPRODUCT METALS, ALLOYS AND CHEMICAL PRODUCTS

The raw materials processed in metallurgy for the production of base non-ferrous metals have a complex composition and contain other valuable elements in quantities that allow their efficient recovery into final commercial products. In the integrated primary technological schemes at ”KCM” JSC for processing lead and zinc raw materials, besides producing block lead and zinc, other metals and chemical products are also obtained, such as sulfuric acid, cadmium, tellurium, gold, and silver**.**

At ”Aurubis Bulgaria” JSC, the sulfur contained in copper is also used to produce sulfuric acid, while accompanying elements, mainly precious metals, are concentrated in anode slime**,** which is exported for processing abroad.

The quantities of additional metals and other commercial products depend on the volume and chemical composition of the processed concentrates and secondary resources. Table 3.10 presents these productions by type and quantity for 2024 and for the last four-year period.

Table 3.10

Production of precious and byproduct metals, alloys and chemical products (tons, kilograms)

Products	2020	2021	2022	2023	2024	Difference 2024/2023	
						+/-	%
Cadmium, ingots, tons	311	343	315	306	379	73	123.8
Silver, kilograms	32 760	31 816	20 247	15 261	32 490	17 229	212.9
Gold, kilograms	70.52	53.76	33.88	66.95	50.1	-16.85	74.8
Tellurium, kilograms	3 676	2 797	2 790	1 087	1 652	565	151.9
Sulfuric acid, tons	1519940	1328712	1576459	1320294	1487708	167414	112.6

Source: Company data

”Aurubis Bulgaria” JSC and ”KCM” JSC are the only producers in the country of sulfuric acid from the sulfur contained in raw materials. Both enterprises process non-ferrous metal concentrates. In 2024, “Aurubis Bulgaria” JSC produced 1 356 097 tons of sulfuric acid, representing 91% of the total production of the product, and ”KCM” JSC produced 131 611 tons**.**

The production of gold and silver depends not only on their content in the raw materials but also on the quantities processed under tolling. Therefore, variations over the years are significant. Sodium sulfate is produced as an accompanying by-product in the technological process of treating end-of-life batteries

3.1.5. PRODUCTION OF ROLLED/PRESSED NON-FERROUS METALS AND ALLOYS

Bulgaria has a well-functioning and sustainably developing metallurgical industry for the processing of non-ferrous metals and their alloys. Our rolled products and items are competitive on foreign markets with increasing added value. The share of products produced in the country and intended for consumption in prestigious automobile brands manufactured by European companies is steadily growing.

The main processing capacities are for copper and copper alloys, as well as aluminum and its alloys. Table 3.11 shows the quantities of rolled products produced in 2024 by enterprises that are key producers and members of BAMI.

Copper and other heavy non-ferrous metals (Pb, Zn) and their alloys are processed at the largest industrial enterprise in the capital, ”Sofia Med”JSC, Sofia, part of the Greek corporate group VIOHALCO. Over 95% of its production, with a value reaching up to 1 billion BGN, is intended for export.

The largest producer of aluminum products is “Alcomet”JSC, Shumen, which operates a full-cycle production from raw materials to finished products, including melting, casting, rolling, pressing, and additional processing for final products for industrial and household use. Its capacity reaches 100 thousand tons per year, with ongoing investments to further increase this capacity.

Within the Etem Corporate Group, aluminum billets are extruded into rods and profiles of various shapes and sizes. Welded aluminum tubes and other profiles made from aluminum strips/sheets are produced at “ EMC Distribution” Ltd, Ruse. Other capacities for aluminum profiles and construction systems exist in the country but are not included in this analysis.

Concerning the metallurgical processing of primary non-ferrous metals, in 2024, a total of 210 106 tons of rolled products were produced from base non-ferrous metals, which compared to 2023 was an increase of 23 264 tons, representing 112.4% growth. Of them, 93 665 tons (44.58%) were from copper-based products, and 116 441 tons (55.42%) were aluminum products. This ratio favoring aluminum production has been consistent over the years, except in 2023 when “Alcomet”JSC reached a critically low production level of 57 thousand tons.

In 2024, produced 93 665 tons of copper products were slightly less than the previous year by 1 454 tons (98.5%). For the second consecutive year, copper rolled products declined by about 1.5–2 thousand tons, with a small increase in brass rolling by 133 tons compared to 2023.

Table 3.11

Production of rolled/pressed non-ferrous metals and alloys, tons

Product/producer	2020	2021	2022	2023	2024		Difference 2024/2023	
					Tons	%	+/-	%
Rolled/pressed heavy non-ferrous metals and alloys, "Sofia Med" JSC, incl.	**82 913**	**90 447**	**93 491**	**95 119**	**93 665**	**44.58**	**-1 454**	**98.5**
- coper	66 665	73 139	79 404	77 601	76014	-	-1587	98.0
- brass	16 248	17 308	14 087	17 518	17651	-	133	100.8
Rolled/pressed aluminum and alloys, - Total, incl.	**98 297**	**113 108**	**99 506**	**91723**	**116 441**	**55.42**	**24 718**	**126.9**
- "Alkomet" JSC, of which:	73 515	88 883	70 903	57 381	81 096		23 715	141.3
- rolled	47.1	59.8	45.8	32.4	57.0	-	24.6	175.9
- pressed	26.4	29.0	25.1	24.9	24.0		-0.9	96.3
- "Etem Gestam Aluminum Extrusions"- pofiles	23 329	23 000	27 567	21 007	21 569	-	562	102.6
- "Etem Gestam Automotive" – processed aluminum products	-	-	-	12 321	12 811	-	490	103.9
- "EMC Distribution" LTD	1 453	1 225	1036	1 014	965	-	-49	95.1
TOTAL	**181 210**	**203 555**	**192 997**	**186 842**	**210 106**	**100**	**23 264**	**112.4**

Source: Company data

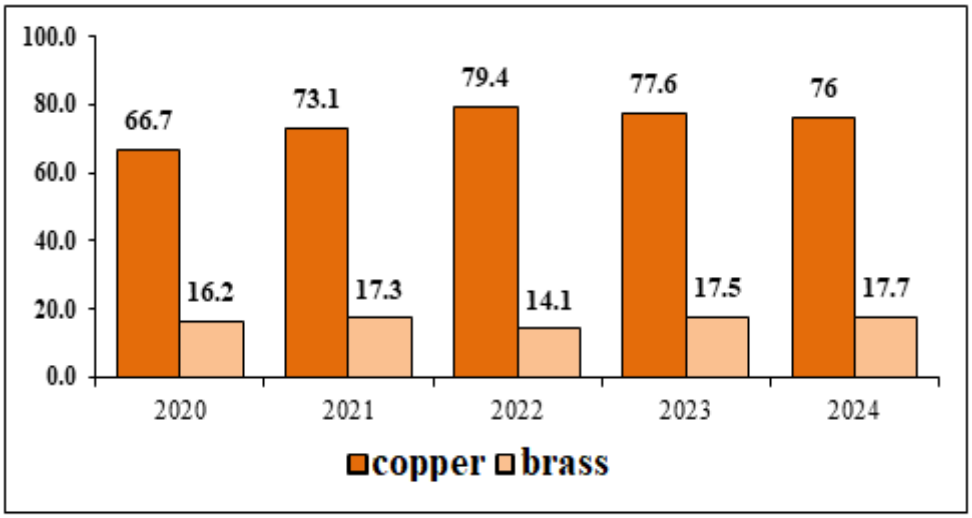
Flat (rolled) and long (pressed) copper products, produced at "Sofia Med" JSC, are made from high-purity copper cathodes and copper scrap. Brass rolling, which is exclusively rolled, uses mainly copper scrap and block zinc. For brass rolled products, which are produced exclusively by rolling, the primary inputs are copper scrap and zinc in ingot form. Increasing the use of copper scrap is a strategic goal, reducing production costs and enhancing competitiveness. In 2024, a total of 37 829 tons of copper and brass scrap were processed, of which only 990 tons were brass scrap. The copper scrap of 36 839 tons was mostly imported (35 711 tons), with only 1 127 tons from the domestic market. Compared to 2023 (33 810 tons), processed secondary raw materials increased by 4 019 tons, enabled by higher imports.

Processed scrap increased both in absolute terms and as a proportion of total production, rising from 35% in 2022 to 40% in 2024. Copper scrap is a scarce raw material on the Bulgarian market but continues to be exported. In 2024, 8 700 tons of copper scrap were exported to China and Turkey. As a strategic raw material, under new trade protection schemes, exports of copper scrap from the EU to third countries were expected to be restricted.

Figure 3.11 shows the quantities of rolled copper and copper alloy (brass) products in the period 2020–2024. The ratio of copper to brass rolled products has remained around 4:1, and for 2024, it is 81% copper : 19% brass.

Figure 3.11

Production of rolled/pressed heavy non-ferrous metals, thousands of tons



The ratio between flat (59 489 tons, including 17 651 tons brass) and long (34 176 tons copper) rolled products also remained roughly constant at 2:1; for 2024, this ratio slightly shifted in favor of pressed products (1.7:1).

To meet higher demand and growing foreign market needs for rolled products, major production facilities have been technologically and product-wise restructured and updated over the years. Hundreds of millions have been invested for sustainable and competitive development, improving quality, launching new products, providing good working conditions, and efficient use of energy and other resources. In 2024, 35.901 mln. BGN were invested in this ongoing process.

”Alkomet”JSC, Shumen is the largest processor of aluminum and aluminum alloys in Bulgaria and the region. It operates entirely on imported raw materials – block primary aluminum – which goes through a full production cycle in dedicated units: melting and casting, rolling of flat products, pressing of long products, and additional processing. Activities for post-processing and increasing added value have expanded in recent years.

Data from Table 3.11 for aluminum rolled products over the past five years show a decline in production in 2022 and 2023, mainly for flat products, representing a 30% decrease. Such a decline was unusual in continuous metallurgical production except due to extraordinary circumstances. At ”Alkomet”JSC, the drop was due to deteriorating economic and market conditions and crises following the COVID-19 pandemic.

In 2024, the company successfully recovered, with rolled production increasing by 24.6 thousand tons (176% growth). Total flat and long rolled production reached 81,000 tons (141% increase). In 2024, the company was operating successfully, and a high growth has been achieved, as by 24.6 thousand tons more were produced in rolling production, or an increase of 176%. Total production of rolled and pressed products was 81 thousand tons, an increase of 141%.

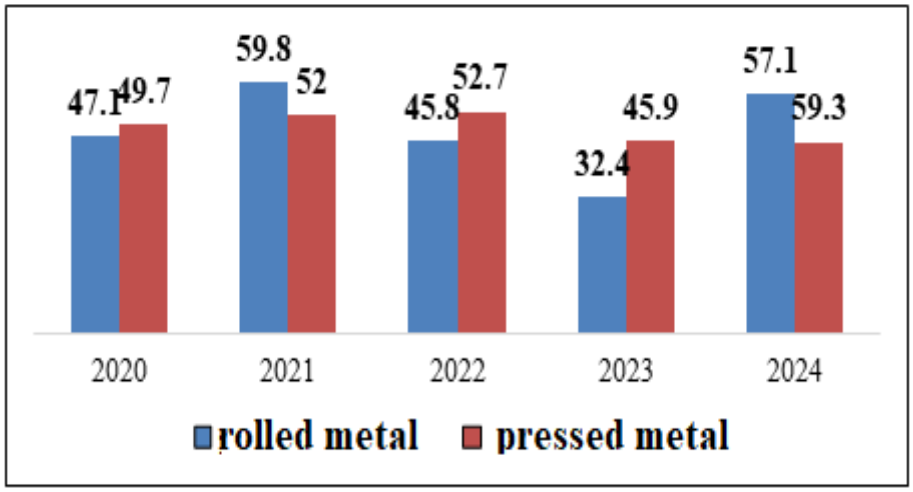
This rapid recovery reflected the sustainable development of the company, competitiveness, and the results of extensive modernization and expansion projects, supported by hundreds of millions in investments. In 2024, 30.4 mln. BGN were invested in new equipment, rolling capacities expansion, and environmental projects.

Being the only producer of flat rolled products in the country, the production of ”Alkomet”JSC consistently exceeded long rolled products in quantity and assortment, up to twice as much. In 2024, the difference was even larger – 70% flat vs 30% long products.

Figure 3.12 shows the combined ratio of flat to long rolled products for the two enterprises; despite variations in volumes at ”Alkomet”JSC and 3-0, the ratio remains close to 50:50.

Figure 3.12

Total production of aluminum rolled/pressed metal and articles thereof, thousands of tons



The key raw material for the production process in ”Alkomet”JSC is block primary aluminum. In 2024, 133.6 thousand tons were imported into the country, mainly for the metallurgical industry. Processed secondary raw materials accounted 7 177 tons, of which over 4 thousand tons were imported. This amount was by 1 526 tons less than in 2023 (8 703 tons).

“Etem Gestam Aluminum Extrusions”JSC, Sofia produces extruded aluminum profiles from imported billets. “Etem Gestam Automotive Bulgaria” JSC performs additional processing of aluminum profiles to receive finished products and components for the construction and automotive industries, including Porsche, BMW, and Stellantis. The product development strategy of the companies focuses on designing next-generation, high-efficiency, and environmentally friendly solutions. Construction products are lightweight, modern, energy-efficient, and versatile in architectural applications. In 2024, both enterprises invested 52 mln. BGN in additional rolling capacities and 16 mln. BGN in processing capacities for new products.

“EMC Distribution” Ltd, Ruse produces welded aluminum tubes and profiles from aluminum strips/sheets. Production quantities have decreased annually, with a total decline of 36% over the analyzed period, reaching 965 tons in 2024, down by 488 tons compared to 2020.

3.1.6. UTILIZATION OF NON-FERROUS METAL WASTE

Metals are raw materials with an essentially "endless" life cycle, achievable through multiple cycles of processing in extraction and processing metallurgical facilities. In Bulgaria, a system for collecting waste from basic metals – iron, copper, lead, aluminum, and zinc – has been implemented. However, there is still no satisfactory solution regarding primary separate collection, nor for the utilization of metals from electronic scrap and industrial waste (slag, refractory materials). Challenges remain for more efficient recycling and utilization of secondary metals from processing enterprises for the production of rolled products and items due to their insufficient quality.

Table 3.12. presents data on the quantities of non-ferrous metals used in metallurgical enterprises in the period 2020–2024. There is a clear positive trend, with overall quantities increasing. In 2024, a record processing volume of 228 thousand tons was achieved for the period.

Table 3.12

Processed non-ferrous metal waste, tons

Waste	**Total**					**Difference 2024/2023**	
	2020	**2021**	**2022**	**2023**	**2024**	**+/-**	**%**
Copper	70 253	67 036	77 291	74 668	83 126	8 458	111
Lead	56 802	62 024	80 126	84 270	118 870	34 600	141
Zinc	18 907	14 855	19 055	19 190	18 405	-785	96
Aluminum	8 639	9 590	2 014	8 793	7 177	-1 616	82
Total non-ferrous metals	**154 601**	**153 505**	**178 486**	**186 921**	**227 578**	**40 657**	**122**

Source: Company data

In 2024, the total quantity of processed non-ferrous metal waste increased by 40 thousand tons compared to 2023. The largest increase was observed in lead waste, with a significant rise in copper waste as well. The type and origin of these secondary resources vary from clean metal scrap to powders and sludges.

The largest portion was processed lead-acid battery waste, which has doubled over the last five years, with a large share being imported. The import of copper scrap was also high – over 92% of the total used.

Utilization of secondary aluminum raw materials remains low. Most of it is exported as scrap, with only a small portion (15–20%) being melted into secondary blocks, which are also exported. Due to their mixed composition, the quality of these materials does not allow their use in aluminum rolled products production.

3.2. TRADE EXCHANGE AND CONSUMPTION OF NON-FERROUS METALS

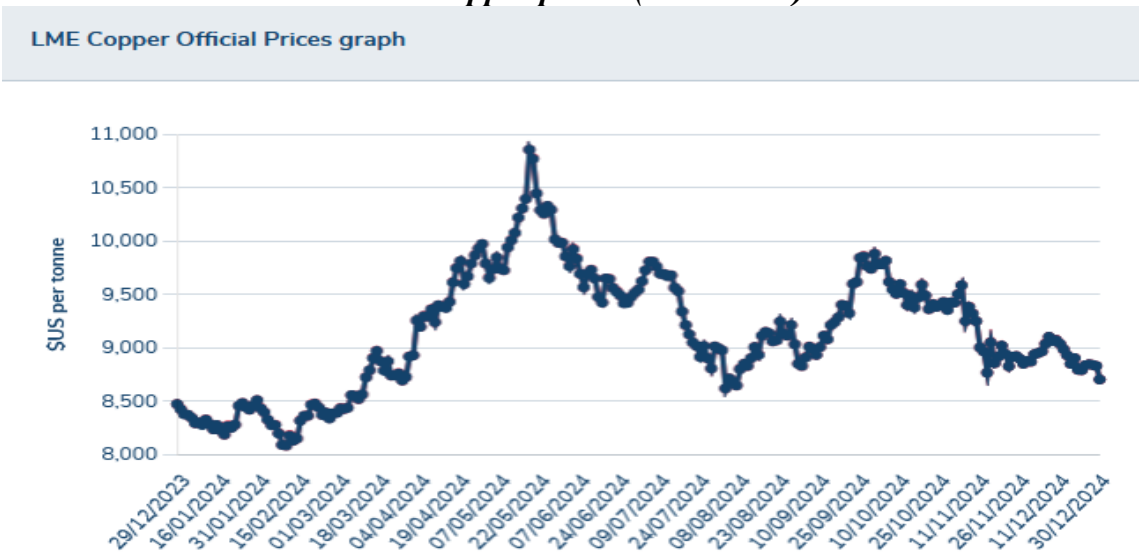
Prices of non-ferrous metals are determined by international exchanges and are strongly influenced by the global economic and political environment. Within just one year, changes in these market prices compared to average values ranged

from +/- 20% to 30%. As an export-oriented sector, which exports over 70% of its production while simultaneously importing raw materials for production, the performance of the metallurgy industry is highly dependent on annual price levels and their fluctuations.

Figures 3.13 to 3.16 present monthly price graphs for copper, lead, zinc, and aluminum for 2024.

Figure 3.13

Copper prices (USD/TNE)



In 2024, the exchange price of copper fluctuated significantly. The lowest price was in February at 8 000 USD per ton, while the highest was in early June, reaching 11 000 USD per ton, a difference of 37%. Prices were slightly higher than in 2023 and close to the levels in 2022, when the peak price of 11 000 USD per ton for cathode copper was also reached.

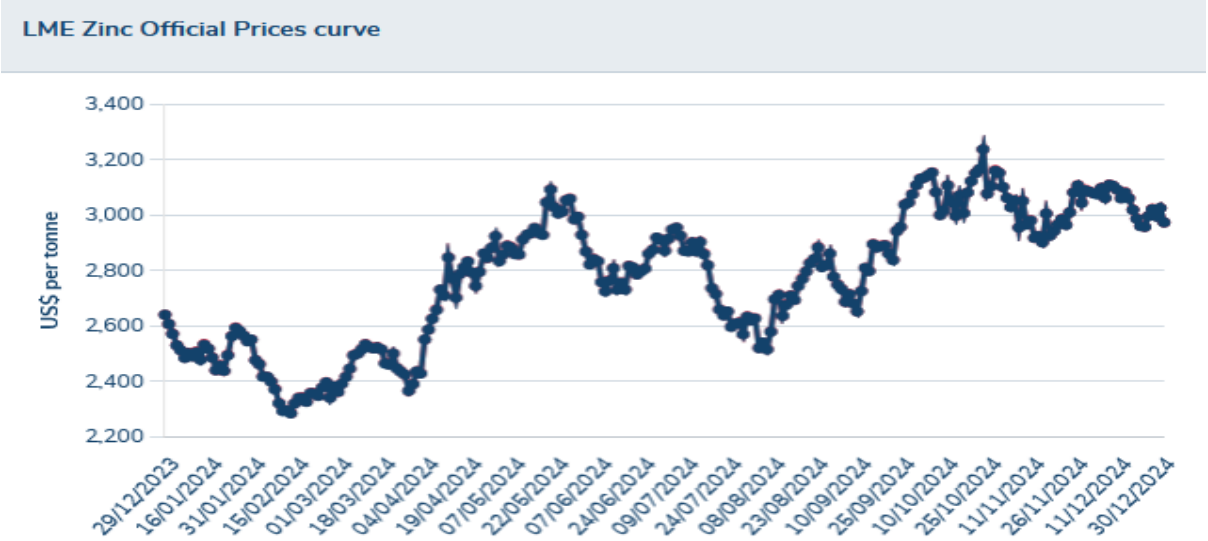
Lead prices on the London Metal Exchange (LME) in 2024 started at around 2 000 USD per ton, followed by minor peaks and declines, reaching the annual maximum of 2 300 USD per ton, an increase of 17.5%, which is roughly half the relative increase seen for copper. The average price was lower compared to the previous two years, with a clear downward trend during the year.

Figure 3.14

Lead prices (USD/TNE)

Figure 3.15

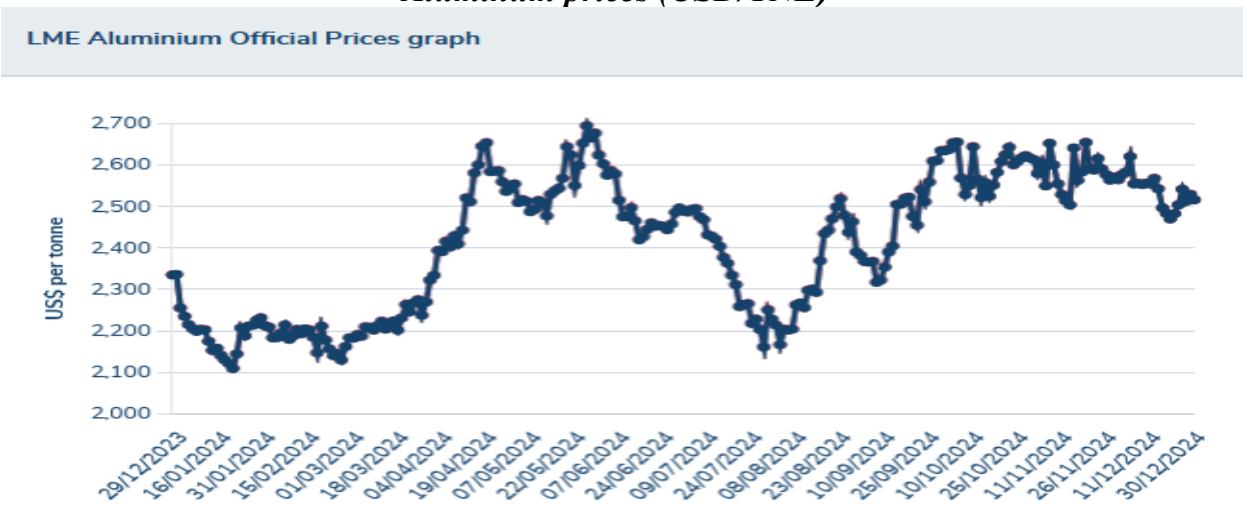
Zinc prices (USD/TNE)



Zinc prices in 2024 continued the trend observed in 2023, remaining relatively low compared to recent years, under 3 000 USD per ton. The lowest zinc price was recorded in February, at approximately 2 200 USD per ton, the lowest value in several preceding years.

Figure 3.16

Aluminum prices (USD/TNE)



For aluminum, 2024 started with a slight decline, reaching a minimum price of 2 100 USD per ton, followed by a strong increase, peaking at 2 700 USD per ton around mid-year (28% growth). The graph shows that exchange prices were dynamic throughout the year, with an upward trend and stabilization at higher levels (around 2 500 USD) toward the end of the year.

3.2.1. IMPORT OF NON-FERROUS METALS AND FINISHED PRODUCTS

Data on imported non-ferrous metals and metallurgical products, including metal scrap, for the five-year period under review are presented in Table 3.13. Although imports represent a relatively small share, there is a clear upward trend. The highest physical volume was recorded in 2022, while the highest value was in 2024.

Table 3.13

Imports of basic non-ferrous metals and products thereof, tons

Products	2020	2021	2022	2023	2024	Difference 2024/2023	
						+/-	%
Copper, total, incl.	**112240**	**104 445**	**130 917**	**137235**	**141 066**	**3 831**	**102.79**
Anodes	1	4.5	1 009	4	954	950	23850
Cathodes, alloys, billets	26 567	28 049	29 320	32 891	28 328	-4 563	86.13
Scrap	60 873	52 300	68 739	71 347	79 766	8 419	111.80
Bars and profiles	5 619	5 648	4 749	4 721	4337	-384	91.87
Wire	15 604	15 090	21 146	22 747	22 643	-104	99.54
Sheet metal and foil	1 376	1 209	2 028	1 893	2 444	551	129.11
Pipes, other	2 200	2 144	2 454	3 632	2 594	-1 038	71.42
Lead, total, incl.	**36 634**	**35 423**	**60 592**	**54571**	**41 430**	**-13 141**	**75.92**
Ingots and alloys	24 995	16 509	21 354	39 267	35 984	-3 283	91.64
Scrap (metal	10 203	13 939	34 843	11 705	3 305	-8 400	28.24
Rolled/pressed metal	1 436	4 975	4 394	3 599	2 141	-1458	59.49
Zinc, total, incl.	**5 790**	**5 099**	**5 040**	**3 644**	**9 610.6**	**5 966.6**	**263.74**
Ingots and alloys	5 257	4 768	4 368	2 585	9 194	6 609	355.67
Scrap	16	75	21	1	17.6	16.6	1760.00
Rolled/pressed metal	517	256	650	1 058	399	-659	37.71
Aluminum, total, incl.	**169 711**	**183 148**	**207 793**	**187997**	**196 968**	**8 971**	**104.77**
Ingots and alloys	120 516	129 589	144 931	121914	133 629	11 715	109.61
Scrap	2 217	1 739	4 838	5 963	4 226	-1 737	70.87
Bars and profiles	18 444	29 649	27 367	30 730	24 970	-5 760	81.26
Wire	4 449	4 373	6 116	7 342	7 099	-243	96.69
Sheets and strips	18 354	13 262	18 556	13 620	20 523	6 903	150.68
Foil	4 341	3 451	4 522	4 006	4 043	37	100.92
Pipes	1 390	1 085	1 462	4 422	2 478	-1944	56.04
Total, tons	**324 375**	**328 115**	**402 873**	**383 447**	**389 075**	**5 628**	**101.47**
Value, EUR mln.	**976.2**	**1 294.8**	**1 932.4**	**1 773.7**	**2 125.8**	**352.1**	**119.85**
Value, BGN mln.	**1 909.3**	**2 532.3**	**3 779.4**	**3 469.0**	**4 157.7**	**688.7**	**119.85**

Source: Custom statistics and National Revenue Agency

Over the five-year period, the imported quantities of non-ferrous metal products increased by 20%, and their value more than doubled. These developments are driven by constant changes on international markets, with prices tending to increase.

In 2024, imported metals from the listed commodity groups that are also produced in Bulgaria amounted to 389 thousand tons, which was by 5.6 thousand tons more than in 2023, or a growth of 101.5%, while their value increased by 120%.

The situation deferred across commodity groups and was inconsistent. In general, the aluminum group had the largest physical import volume, while the value was dominated by the copper group. The relative shares of imported commodity groups of major non-ferrous metals and their products for 2024 are presented in Figure 3.17.

In the copper group, the largest quantity was that of imported scrap – 79 thousand tons from 35 countries, including 14 EU member states. Imports from Greece and Romania were the largest, each contributing 16 thousand tons, representing a 20% share for each country. During the year, 28 thousand tons of copper and copper alloys were imported as raw materials, primarily from Serbia (17 thousand tons) and Tanzania (6 thousand tons).

Imports of copper wires, which are not produced domestically, are larger. A total of 22.6 thousand tons is imported annually, mainly from Turkey. In 2024, Turkey imports 20 thousand tons of copper wires into the country.

The highest by import volume remains the import of aluminum ingots and alloys, which Bulgaria does not produce, but has well-established and well-functioning facilities for processing into end products. In 2024, 134 thousand tons of aluminum raw materials were imported, compared to 2023 more by 12 thousand tons, or a growth of 110%. The largest quantities were imported from Turkey (30 thousand tons, representing a share of 22%), followed by Russia (20 thousand tons), and Mozambique (18 thousand tons). Significant imports also came from Greece (16.5 thousand tons), Bahrain (9 thousand tons), United Arab Emirates (UAE) and 29 other countries.

Although Bulgaria produces a wide range of long and flat rolled products, foil, and other aluminum products, imports remained significant and exceeds 60 thousand tons. For flat products, 25 thousand tons were imported from 35 countries, including 4 thousand tons of foil, with half coming from EU countries and the rest from various third countries. In 2024, the largest import was from Oman (8 thousand tons), while Poland, Turkey, Italy, and Germany import smaller quantities (2–3 thousand tons each).

The import of long products covered 25 thousand tons of bars and profiles of various sizes from 39 countries. The imports from Turkey accounted for 14 thousand tons (56%), Greece 3.3 thousand tons, and Italy 2.5 thousand tons. Imports of foil from China accounted 1 000 tons, followed by Turkey, Germany, and Poland.

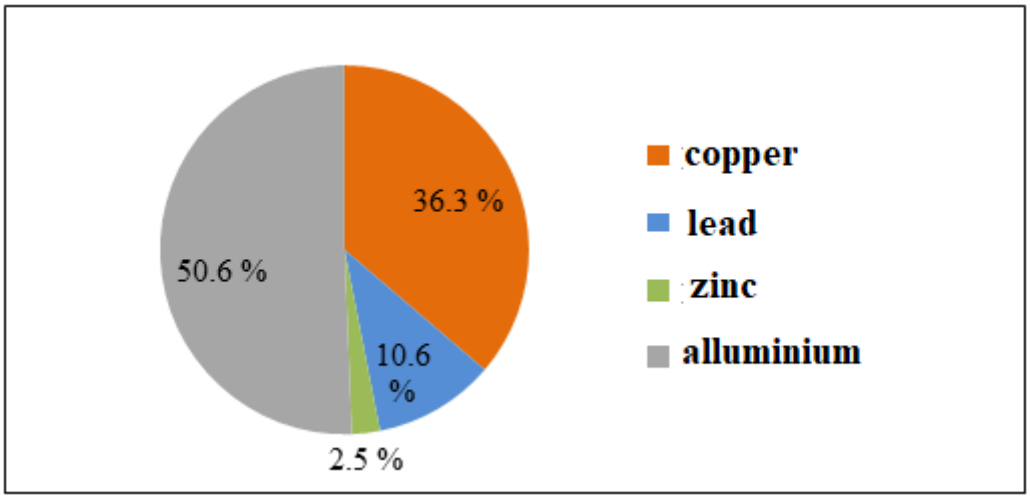
In 2024, the total quantity of imported aluminum products reached 197 thousand tons, representing 50.6% of the total volume of imported basic non-ferrous metals.

In the group of lead raw materials, the import of block lead only was significant (36 thousand tons), as the market often demands lead of a lower quality than that of Bulgarian production. Raw lead was imported from Romania (36%), Serbia (30%), Italy, and 25 other countries.

In 2024, imports in this group declined: raw lead decreased by 3.3 thousand tons, lead metal scrap by 8.4 thousand tons, and lead rolled products also fell, with a total reduction of 13 thousand tons, or 74% of the 2023 volume. The imports of the group represented 10.6% of total imports, compared to the previous year a decline of 14%.

Figure 3.17

Structure of the imported non-ferrous metals and products thereof, 2024



Zinc products are imported in limited quantities, usually around 4–5 thousand tons annually in recent years. In 2024, imports of block zinc increased more than 3.5 times, reaching 9 thousand tons, mainly from EU countries, with Spain (4.4 thousand tons) and Belgium (3.3 thousand tons).

3.2.2. EXPORT OF NON-FERROUS METALS AND FINISHED PRODUCTS

The Bulgarian metallurgical industry is an export-oriented industry, exporting finished products and block metals primarily to EU markets, as well as to all regions of the world. In recent years, there has been an increase in exports to the Middle East, North Africa, the Americas, and other regions. Table 3.14. presents the volumes of exported non-ferrous metals and metallurgical products, including metal waste, for the last five years.

The total volume of exports in physical terms in 2024 amounted to 774 thousand tons, representing an increase of 100 thousand tons or 115% compared to the previous year, 2023. In value terms, exports reached 10 096.9 mln. BGN, which was an increase of almost 2 billion BGN (124%). The higher growth rate in the value of exported goods compared to their physical volume was due to the increase in metal prices on global exchanges and consequently in market prices.

The physical volume of exports shows an increase across all product groups, with the exception of zinc. This corresponds to the annual production levels of metals and metal products, which are primarily sold on foreign markets. Domestic consumption also has an influence, but it still remains limited in volume.

Table 3.14

Exports of non-ferrous metals and products thereof and scrap, tons

Products	2020	2021	2022	2023	2024	Difference 2024/2023	
						+/-	%
Copper, total, incl.	**392 483**	**319 649**	**422 694**	**376 467**	**441 746**	**65 279**	**117.34**
Anodic copper	110 683	68 654	131 441	84752	132 938	48186	156.86
Electrolytic copper	190 639	168 584	183 195	187 258	202 361	15103	108.07
Scrap	7 868	8 357	10 855	8 201	8 712	511	106.23
Bars and profiles	25 690	22 448	31 870	32 239	32 293	54	100.17
Wire	2 079	1 678	4 823	4 695	6 321	1626	134.63
Sheet metal and foil	55 449	49 847	60 480	57 668	59 064	1396	102.42
Pipes	75	81	28	49	57	8	116.33
Lead, total, incl.	**87 979**	**79 525**	**98 662**	**84 209**	**122 487**	**38 278.1**	**145.46**
Lead ingots	87 460	79 386	98 135	81 232	122 047	**40 815**	**150.24**
Rolled/pressed metal	271	139	527	211	433	**222**	**205.21**
Scrap (metal)	248	0	0	2 765	7.1	**-2 757.9**	**0.26**
Zinc, total, incl.	**69 768**	**61 324**	**63 922**	**72 989**	**68 887.3**	**-4 101.7**	**94.38**
Zinc ingots	69 344	60 922	63 518	72 694	68 402	-4 292	94.10
Rolled/pressed metal	3	70	3	7	0.3	-6.7	4.29
Scrap	421	332	401	283	485	202	171.38
Aluminum, total, incl.	**135 816**	**148 407**	**152 148**	**140 345**	**141 276**	**931**	**100.66**
Aluminum ingots	12 219	5 679	14 804	16 064	7 970	-8 094	49.61
Scrap	33 218	40 006	36 721	35 085	36 043	958	102.73
Bars and profiles	32 773	39 463	46 914	47 262	39 513	-7 749	83.60
Wire	665	130	153	103	601	498	583.50
Strips and sheets	15 860	23 145	13 331	11 957	16 543	4 586	138.35
Foil	29 881	30 037	33 005	22 352	33 063	10 711	147.92
Pipes	11 065	9 947	7 217	7 521	7 543	22	100.29
Total, tons	**686 046**	**608 905**	**737 427**	**674 004**	**774 396**	**100 392**	**114.89**
Value, EUR mln.	**3 009.2**	**3 421.0**	**5 241.1**	**4 170.5**	**5 162.5**	**992**	**123.79**
Value, BGN mln.	**5 885.5**	**6 691.9**	**10 250.8**	**8 156.8**	**10 096.9**	**1 940.1**	**123.79**

Source: Custom statistic u National Revenue Agency

The quantities and values of exported products from the copper group were the highest. In 2024, exports of the copper group reached 442 thousand tons, which compared to 2023 was an increase of 65 thousand tons, representing 117% growth. It accounted for 57% of the total physical export volume (compared to 56% in 2023). Among them, cathodes represented the largest volume, with a 45% share, exported primarily to European countries, including Italy (87 thousand tons), Turkey (75 thousand tons), Croatia, Greece, and the Netherlands. There were also exports to other regions, including China and Korea. Copper anodes were exported for electrolytic refining in Germany and Belgium.

Within the copper group, a significant contribution also came from the export of rolled copper and copper alloy products. Both in production and in exports, flat-

rolled products dominated — 59 thousand tons, sold in 45 countries worldwide. Exports to the EU were higher- Germany (16 thousand tons and 23%), Italy (14 thousand tons and 20%), and France (4.4 thousand tons). Exports to the United States amounted to 4 thousand tons of copper sheets.

Long copper products (bars and profiles) in the amount of 32.3 thousand tons were exported to 43 countries, of which 20 were EU members. The largest export was to Poland – 7.9 thousand tons, Germany – 6.3 thousand tons, and Italy – 3 thousand tons.

In 2024, the exports of copper scrap amounted to 8.7 thousand tons, remaining at the same level as in 2023 (an increase of 511 tons). Traditional markets have been preserved - 3 thousand tons were exported to China and 3.5 thousand tons to Turkey, or a total of 75% of copper scrap was exported to these two countries.

Metal scrap is a valuable input for processing and a resource that is scarce on international markets and for which Bulgaria has available processing capacities. In the context of the EU's decarbonization policies, secondary metal raw materials are considered critical and strategic for the Union's economy, and changes in trade policy and restrictions on scrap exports to third countries are expected.

Exports within the lead and zinc product groups consist mainly of block metals. Other products, such as rolled materials or waste, are exported in insignificant quantities. In 2024, exports of refined lead were 122 thousand tons, an increase of 41 thousand tons, or a growth of 150%. Exports were concentrated mainly within the region and the EU. In 2024, Turkey imported 40 thousand tons (33%), Greece – 28 thousand tons, Slovenia – 14 thousand tons, and Italy – 12 thousand tons.

The zinc produced in Bulgaria was also mainly intended for export. In 2024, 69 thousand tons were exported to EU countries such as Slovakia, Romania, Greece, and Italy, each importing around or above 6 thousand tons per year. Larger volumes were exported to third countries from neighboring regions – Turkey (21 thousand tons; 30%), as well as Serbia, Ukraine, North Macedonia, Belarus and 22 other countries overall.

Bulgaria has a developed aluminum processing industry, based on imported raw materials – billets and ingots. Therefore, the aluminum product group includes exports of finished products such as sheets, strips, foil, profiles, and tubes. In addition, there were exports of secondary aluminum ingots and alloys, produced from aluminum scrap, as well as substantial quantities of unprocessed aluminum waste (scrap).

Secondary aluminum ingots were exported mainly to Romania (75%) and Slovenia (15%). Aluminum waste was not sorted with sufficient quality for processing into finished products, and relatively large quantities were exported. In 2024, 36 thousand tons were exported to 23 countries. Within the EU, the largest quantities were exported to Romania (9 thousand tons) and Greece (7.5 thousand tons). Other third-country destinations are Turkey (7.8 thousand tons), India (4.2 thousand tons), Thailand, China, and others.

In 2024, exports of long aluminum rolled products encompassed 39.5 thousand tons of rods and profiles, as well as smaller quantities of wire and tubes.

The main export destinations were EU countries, including Germany (10.2 thousand tons), Poland (5 thousand tons), the Netherlands (3.8 thousand tons), and Belgium (2.7 thousand tons). There were also exports to Romania, Greece, Austria, and the United Kingdom in quantities of around 1.5–2 thousand tons, and the total number of countries was 54.

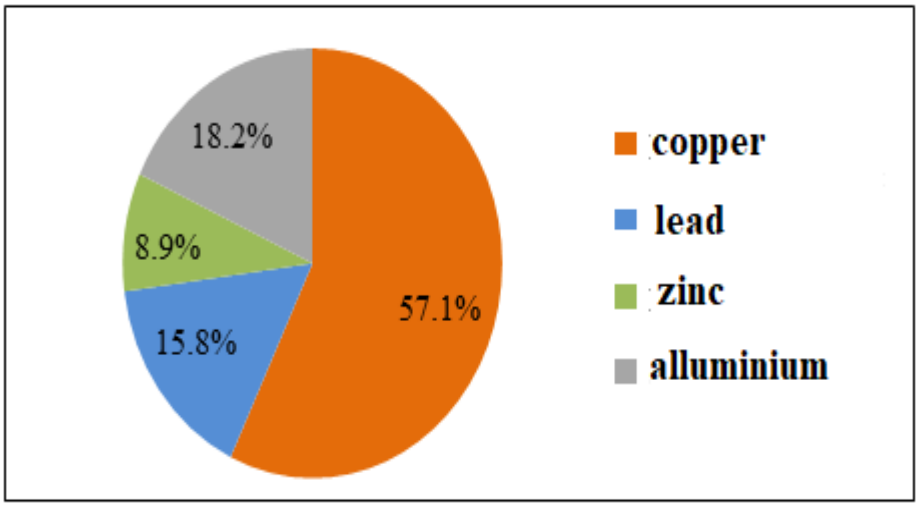
Out of the 16.5 thousand tons of sheets and strips exported to 36 countries, the biggest amount was to the USA (4.4 thousand tons). Within the EU (27), major destinations included Italy (3.8 thousand tons), Poland (2.4 thousand tons), Germany (2 thousand tons), Romania and Spain.

In 2024, the highest export of aluminum foil was to the USA and Italy — 6.5 thousand tons each. The Bulgarian manufacturer was a major producer of foil for industrial and household purposes, with 33 thousand tons exported in 2024, holding a share of 25–30% of the EU market. The exported quantities were larger in Spain, Germany, Poland, and France, but the product was present on the market in almost all European countries.

Figure 3.18. shows the structure of the exports of the basic metallurgical products, according to data (Table 3.14) from the National Revenue Agency and the Bulgarian Customs Agency for 2024. The data encompass both the production of manufacturing enterprises and other exports from available stocks or re-exports. However, these additional quantities did not have a significant impact on sectoral indicators and were close to those reported by the BNB and NSI.

Figure 3.18.

Structure of the exports of non-ferrous metals and products thereof, 2024



The data in Tables 3.13 (imports) and 3.14 (exports) of non-ferrous metallurgical products for 2024, as well as for previous periods, show that the physical volume of exports is twice that of imports. In terms of value, there was a strong dependence on international market price fluctuations, which also affects metallurgical performance indicators. Nevertheless, as a result of their foreign trade activity, non-ferrous metal producers consistently reported a positive balance, amounting to several billion BGN annually. In 2024, this value was 4.3 billion BGN, thereby contributing to the improvement of Bulgaria's trade balance, which overall remains negative at 13 billion BGN.

3.2.3. SALES OF NON-FERROUS METALS AND R/P METALS

The non-ferrous metallurgy sector in Bulgaria is developing steadily, contributing significantly to the national economy and to the overall production of metals within the European Union. Its production capacity far exceeds the domestic demand, and therefore most of its output is exported. Table 3.5 presents data on the sales of metallurgical products on the domestic and international markets for the past five years.

Throughout the entire period, domestic sales accounted for only a minor share across all metals and metallurgical products, ranging from a minimum of **1–2%** to a maximum of **20%**. This defines the sector as highly export-oriented, with a substantial relative share in the merchandise exports of Bulgaria.

Table 3.15

Sales of non-ferrous metals and pressed/rolled metal, tons

Items	Sales	2020	2021	2022	2023	2024
Electrolytic copper	Domestic market	30 820	34 636	54 135	42 090	44 648
	Exports	193 616	184 337	183 955	193 981	187 396
	Total	**224 436**	**218 973**	**238 090**	**236 071**	**232 044**
Lead and alloys	Domestic market	28 807	26 588	20 907	26 362	22 769
	Exports	80 890	80 748	84 112	66 253	121 088
	Total	**109 697**	**107 336**	**105 019**	**92 615**	**143 857**
Zinc and alloys	Domestic market	6 243	7 503	7166	9 734	5 946
	Exports	68 619	64 244	62 570	64 093	63 840
	Total	**74 862**	**71 747**	**69 736**	**73 827**	**69 786**
Rolled/pressed metal of heavy non-ferrous metals	Domestic market	894	958	1 165	1 300	1 041
	Exports	81 585	88 405	91 592	93 517	92 556
	Total	**82 479**	**89 363**	**92 757**	**94 817**	**93 597**
Aluminum rolled/pressed metal	Domestic market	16 343	4 214	13 217	13 603	17 487
	Exports	81 172	104 319	86 740	75 187	89 579
	Total	**97 615**	**108 533**	**99 957**	**88 790**	**107 066**

Source: Company data.

Electrolytic copper has the highest sales on the domestic market. In 2024, quantities sold on the domestic market were 44.7 thousand tons, representing 19% of total sales and an increase of 105% compared to the previous year, 2023. The volume of exported copper was approximately four times bigger than that of domestic sales.

A decline of almost 4 thousand tons in sales of lead on the domestic market was observed, but due to increased production in 2024, the quantities of exported lead ingots increased 1.8 times.

Zinc in ingot form was consumed only to a limited extent within the country, and the required quantities were practically distributed between domestic production and imports. With a decrease of 2 thousand tons in domestic consumption in 2024, the exported volume of zinc in ingot form was ten times higher. Close to the ratio between domestic sales and exports was the realization of zinc throughout the entire period.

Rolled and finished products made of heavy non-ferrous metals (copper and brass) have the smallest sales volume on the domestic market. Over the years, quantities remained around 1,000 tons, representing slightly above 1%, which makes the presence of the sector on the domestic market largely symbolic, as nearly all production is exported. As production increased, exports also continued to grow.

In 2024, both domestic sales and exports of aluminum and aluminum alloy rolled products increased, in line with overall production growth. The domestic market showed a higher rate of growth of 130%, compared to 120% in exports. Despite the high industrial and household demand for aluminum, domestic sales account for only 15% of Bulgaria's total aluminum production, while the remaining 85% was exported.

The total sales of produced block metals and their products on the domestic market in 2024 reached 91 thousand tons, compared to 93 thousand tons in 2023. Growth was recorded for copper and aluminum rolled products, while domestic sales of lead and zinc decreased.

With a total annual sales volume of 646 thousand tons, domestic sales in 2024 represented 14%, while 86% were exported. For 2023, these indicators were 586 thousand tons of total realized production, of which 16% was for the domestic market and 84% was for export. The high export share clearly defines the non-ferrous metallurgy industry as an export-oriented sector, whose performance depends on prices on the global metal exchanges, primarily the London Metal Exchange (LME). Despite certain unfavorable conditions and fluctuations, the foreign trade activity of the non-ferrous metallurgy sector resulted in a positive trade balance, amounting to 6 billion BGN in 2024 (Tables 3.13 and 3.14).

3.2.4. CONSUMPTION OF NON-FERROUS METALS AND ROLLED/PRESSED PRODUCTS

The Real Domestic Consumption (RDC) is defined as the sum of the products sold on the domestic market by Bulgarian producers and their imports for the same period.

The data in Table 3.16 used to determine the RDC were obtained from Bulgarian producers for their domestic sales, while import data were based on the official statistics of the Customs Agency and the National Revenue Agency.

Domestic consumption of all metals was met by both domestic production and imports. For the different product groups, the ratio between these sources varies and changes over the years. However, the main conclusion remained that, for block metals, domestic demand was to a greater extent satisfied by domestic production.

For rolled products and metal articles, the ratio shifted towards higher import dependence, which may be attributed to the absence of sufficient domestic production.

Table 3.16

Real domestic consumption (RDC) of non-ferrous metals and rolled/pressed metal, tons

Products	Origin	2020	2021	2022	2023	2024
Electrolytic copper	Domestic production	30 820	34 636	54 135	42 090	44 648
	Imports	26 567	28 049	29 320	32 891	28 328
	Real internal consumption	**57 387**	**62 685**	**83 455**	**74 981**	**72 976**
Lead	Domestic production	28 807	26 588	20 907	26 362	22 769
	Imports	24 995	16 509	21 354	39 267	35 984
	Real internal consumption	**53 802**	**43 097**	**42 261**	**65 629**	**58 753**
Zinc	Domestic production	6 243	7 503	7 166	9 734	5 946
	Imports	5 257	4 768	4368	2 585	9 194
	Real internal consumption	**11 500**	**12 271**	**11 534**	**12 319**	**15 140**
Rolled/pressed metal of heavy non-ferrous metals	Domestic production	894	958	1165	1 300	1 041
	Imports	26 752	24 091	30 377	32 993	32 018
	Real internal consumption	**27 646**	**25 049**	**31 542**	**34 293**	**33 059**
Aluminum rolled/pressed metal	Domestic production	16 343	4 214	13 217	13 603	17 487
	Imports	46 978	51 820	58 023	60 120	59 113
	Real internal consumption	**63 321**	**56 034**	**71 240**	**73 723**	**76 600**

Source: Custom statistics/National Revenue Agency (imports), and Company data (domestic sales).

In 2024, 60% of the total consumption of electrolytic copper was covered by domestic production (compared to 56% in 2023), for lead this indicator was 40%, and for zinc it was also 40% (compared to 79% in 2023).

The share of Bulgarian production in the RDC of non-ferrous metal products remained relatively low. In 2024, for aluminum rolled products it was 22% , but for copper rolled products only 3%.

In 2024, aluminum products had the highest consumption in the country—76.6 thousand tons, due to their widespread use in construction, automotive manufacturing, and everyday life. Next came electrolytic copper with 73 thousand tons. A factor contributing to the high consumption of electrolytic copper was its use as a raw material for the well-developed and competitive production of rolled copper and copper alloys. The lowest consumption was observed for zinc (15 thousand tons), used mainly for galvanization.

A growth trend in RDC was recorded over the reviewed period for all product groups, more notably for finished goods and electrolytic copper. For rolled products, this increase was due to higher imports, while for electrolytic copper it was distributed between domestic production and imports.

Apparent consumption (AC) is a commonly used indicator, calculated using the following formula:"

AC = P + I – E,

where *P* = production, *I* = imports, and *E* = exports for the respective product group.

Data on the AC of non-ferrous metals and their rolled products for 2024 are presented in Table 3.17.

Table 3.17

Apparent consumption of non-ferrous metals and rolled/pressed metal in 2024, tons

Products	P	I	E	AC
Electrolytic copper	228 447	28 328	202 361*	**54 414**
Lead	143 147	35 984	122 487	**56 644**
Zinc	69 695	9 194	68 402	**10 487**
Rolled/pressed metal of heavy non-ferrous metals	93 665	32 018	97 735	**33 461**
Aluminum rolled/pressed metal	116 441	59 113	97 263	**78 291**

Source: Custom statistics (imports and exports), Company data (production)
**187 thousands of tones, according to data from the only producer company*

The small discrepancies between the two calculation methods, except for electrolytic copper, confirm the reliability of the determined quantities. The deviations were within statistical error margins – around or below 5%.

For electrolytic copper, 2024 marked the first year with no coverage in consumption by both methods. This discrepancy was due to a difference of 15 thousand tons between the export data reported by the producer and those reported by the Customs Agency. The higher export figures from Customs Agency, compared to the company data, cannot logically originate from current production, which led to a decrease in the calculated annual apparent consumption quantities.

In 2024, the Real Domestic Consumption (RDC) of domestically produced non-ferrous metals and metallurgical products amounted to 254 thousand tons. For this period, the total realized output of producers from the same product groups was 646 thousand tons.

These indicators led to the conclusion that, even with a higher level of domestic consumption coverage from national production, given the existing production capacity, the sector will maintain its strong export orientation and significant contribution to the trade balance of the country.

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