

Challenges and Opportunities for the Ukraine's Steel Sector to Integration into the EU Common Market

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ANNOTATION. The article is devoted to the identification and critical assessment of existing and potential opportunities and challenges of integration into the European market of the Ukrainian metallurgical sector. The key advantages of the Ukrainian metallurgy are identified based on a set of criteria – value, rarity, impossibility of imitation, and organization. The potential of steel demand for Ukraine is estimated based on apparent consumption (million tons), steel consumption per 1 US dollar of GDP, and per capita consumption. Significant future needs of the country's economy for metallurgical products are stated. The author characterizes the existing and possible consequences of the loss of capacities of the metallurgical complex of Ukraine both in terms of quantitative parameters (production and exports) and qualitative ones – loss of production of unique products such as large shaped profiles, mainline railway rails, thick flat products for welded structures, etc. It is emphasized that for the EU countries, the integration processes in the metallurgy, launched by the 1951 Treaty of Paris establishing the European Coal and Steel Organization (ECSC), have historically been the primary sources of European integration, and later became the focus of attention when new countries joined, especially in the context of declining demand for steel in the EU. The author substantiates the need for coordinated integration of the Ukrainian metallurgy into the European market, given the supply of high-quality domestic products, the possibility of integration into European supply chains, and the creation of efficient manufacturing clusters following the example of Central and Eastern European countries, and, on the other hand, the satisfaction of the economic interests of the EU countries related to the development of metallurgy in Ukraine. The author systematizes and specifies the main current challenges for the Ukrainian metallurgy in the European market, characterizes their content and proposes specific countermeasures, in particular: the EU's application of unsustainable, especially short-term market access measures should preferably be transformed into long-term conditions with transition periods of 3–4 years after the end of the war; exemption of Ukrainian products from the CBAM mechanism for a certain period to enable enterprises to adapt to new environmental standards.

KEYWORDS: European integration, metallurgical sector of Ukraine, competitive advantages, VRIO-analysis, European market, coordinated integration, market access conditions, CBAM mechanism, investment, Green Transition.

Introduction

Ukraine's metallurgical industry is of strategic importance to the national economy and plays an important role in the country's post-war recovery.

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Integration into the EU's single market is crucial for preserving the industry and unlocking its long-term potential. This process contributes not only to the development of economic and trade relations, but also to achieving sustainable development goals and supporting the Green Transition. At the same time, the industry faces a number of critical challenges, such as limited timeframes for free access to the European market, the implementation of the CBAM mechanism without taking into account the adaptation capabilities of Ukrainian companies, unfair competitive conditions, and inconsistent vision of cooperation priorities. In addition, the introduction of the CBAM (Carbon border adjustment mechanism) in 2026, which provides for the introduction of fees from EU importers for the import of goods with a carbon footprint, does not take into account the possibility of adequate adaptation of Ukrainian companies to it.

The successful development of metallurgical clusters will require: first, taking into account the fact that the metallurgical sector is one of the traditional and leading international specializations of Ukraine, which has a developed resource base, qualified personnel and considerable business experience; second, clear coordination with European partners and development of a long-term strategy to support Ukrainian metallurgical production. Therefore, the purpose of the article is to identify and analyze the opportunities and challenges of European integration for national producers of metallurgical products.

The study was based on official data from the European Commission, Eurostat, the European Steel Association, the World Steel Association, the Organization for Economic Cooperation and Development, the International Monetary Fund, the World Bank, as well as materials from the State Statistics Service of Ukraine and Metals Consulting Int. (MCI, Germany).

Competitive advantages of Ukrainian metallurgy

Competitive advantages of the industry are outlined as according to the VRIO analysis², which takes into account value, rarity, impossibility of imitation and efficient organization of resource use.

Value (V, valuable) – available raw materials have international value and are widely traded on the global market. For example, the global market for iron ore, which accounts for about half of the cost of production of basic steel products of standard quality, amounted to 2,555 million tons in 2022³, with the average price of the world market in the corresponding year at

² Barney JB, Gaining and Sustaining Competitive Advantage

³ World Steel Association, Steel Statistical Yearbook 2024, 99

USD 121⁴, this amounted to about USD 300 billion. Of this, almost 65 per cent was accounted for by the international export market.⁵

Continuing with the example of rarity (R, rare), even after the invasion began, in 2022 Ukraine retained its fifth place among the world's iron ore exporters. The top five suppliers are: Australia, Brazil, South Africa, Canada, and Ukraine, account for more than 85 per cent of the market's needs.

I (inimitable) stands for creating a similar supply chain, – even if there are raw material deposits, it requires multibillion-dollar investments in the development and creation of logistics, as well as time to implement such projects.

At the same time, the use of Ukrainian resources is already organized (O, organized), based on the relevant scientific base, and offers niche and complex products for this segment, including DR quality pellets, which are an important element of the green transformation of the steel industry.

The analysis can be extended to other natural, labor, and entrepreneurial resources that underpin the functioning of Ukraine's metallurgy.

The industry also provides a critical material base for industrial production and construction. Steel is one of the most common structural materials needed for infrastructure and industrial development. OECD estimates suggest that steel consumption will continue to grow at a high rate, with the fastest growth among other materials⁶. Given the upcoming recovery and reconstruction of Ukraine, the steel industry will be a key component of the recovery process, meeting the needs for power and structural elements of housing construction and infrastructure.

In the current environment, the steel industry faces limited access to alternative markets due to risky logistics associated with the blocking of traditional routes through Black Sea ports. Despite the partial recovery of maritime logistics in 2023–2024, the land and river borders with the EU are in fact the only secure transportation corridor that supports the operation of metallurgical enterprises. The high level of dependence on European markets and consumers, on the one hand, emphasizes the need to adapt the Ukrainian steel industry to EU requirements and standards, and on the other hand, requires bilateral attention due to the vulnerability of the functioning parts of the Ukrainian economy and their limited adaptive capacity.

At the same time, new EU policies and regulations are already affecting the basic processes in the steel industry and defining critical requirements for products and operating conditions. In particular, the European Green Deal and environmental requirements pose additional challenges related to fairness of competition in the market and risks of market protectionism.

⁴ World Bank, Commodities Price Data (The Pink Sheet), December 3, 2024

⁵ World Steel Association, Steel Statistical Yearbook 2024, 103

⁶ OECD. 2019. Global Material Resources Outlook to 2060 – Economic Drivers and Environmental Consequences, 12. https://www.oecd.org/en/publications/global-material-resources-outlook-to-2060_9789264307452-en.html

Furthermore, the Russian aggression has caused significant destruction of the production base and supply chains. The uncertainty of how long it will last calls into question the possibility and feasibility of investing in the Ukrainian industry in the near future. In these circumstances, effective communication and implementation of risk management strategies with Ukraine's partners is an urgent need.

To overcome the challenges, the steel industry needs long-term planning, clear prioritization, and support from the EU in addressing the most pressing issues.

These aspects emphasize the importance of discussing ways to integrate Ukraine's steel industry into the EU's common market and developing effective strategies to address the challenges facing the sector.

The analysis is based on an inductive methodology based on observations and evidence of the state of sectoral integration processes using a comprehensive methodological approach that draws on economic analysis, consideration of the regulatory environment, market trends, and an institutional approach.

The potential for steel demand

Ukraine's economy, with a GDP of approximately USD 200 billion in 2021, represents about 1 per cent of the GDP of the European Union member states, which collectively reached USD 17.494 trillion.⁷ However, the structure of Ukraine's economy demonstrates significantly higher steel intensity (24 tons per USD 1 million of GDP), which is almost three times higher than in the EU (9 tons per USD 1 million of GDP).

The processes of reconstruction, recovery, and economic growth in Ukraine will further increase the intensity and volume of demand for this structural material. This is also clearly by the average steel consumption per capita, which is 348 kg for the EU countries, while in Ukraine it is only 116 kg, against the global average of more than 200 kg, according to the World Steel Association⁸ (Fig. 1).

Thus, we can state the significant future needs of the Ukrainian economy for steel products. While industrial needs can vary greatly depending on the specific type of application, infrastructure rehabilitation projects have a fairly clear material expression in product profiles, varying somewhat between predominantly steel structures and options using concrete with steel reinforcement and mesh (depending on local building code requirements, climatic conditions, available materials and project timelines, etc.).

⁷ IMF. 2024. World Economic Outlook (October 2024). <https://www.imf.org/en/Publications/WEO/Issues/2024/10/22/world-economic-outlook-october-2024>

⁸ World Steel Association. 2024. Steel Statistical Yearbook 2024, pp. 84-86. <https://www.acero.org.ar/wp-content/uploads/2024/12/Steel-Statistical-Yearbook-2024.pdf>

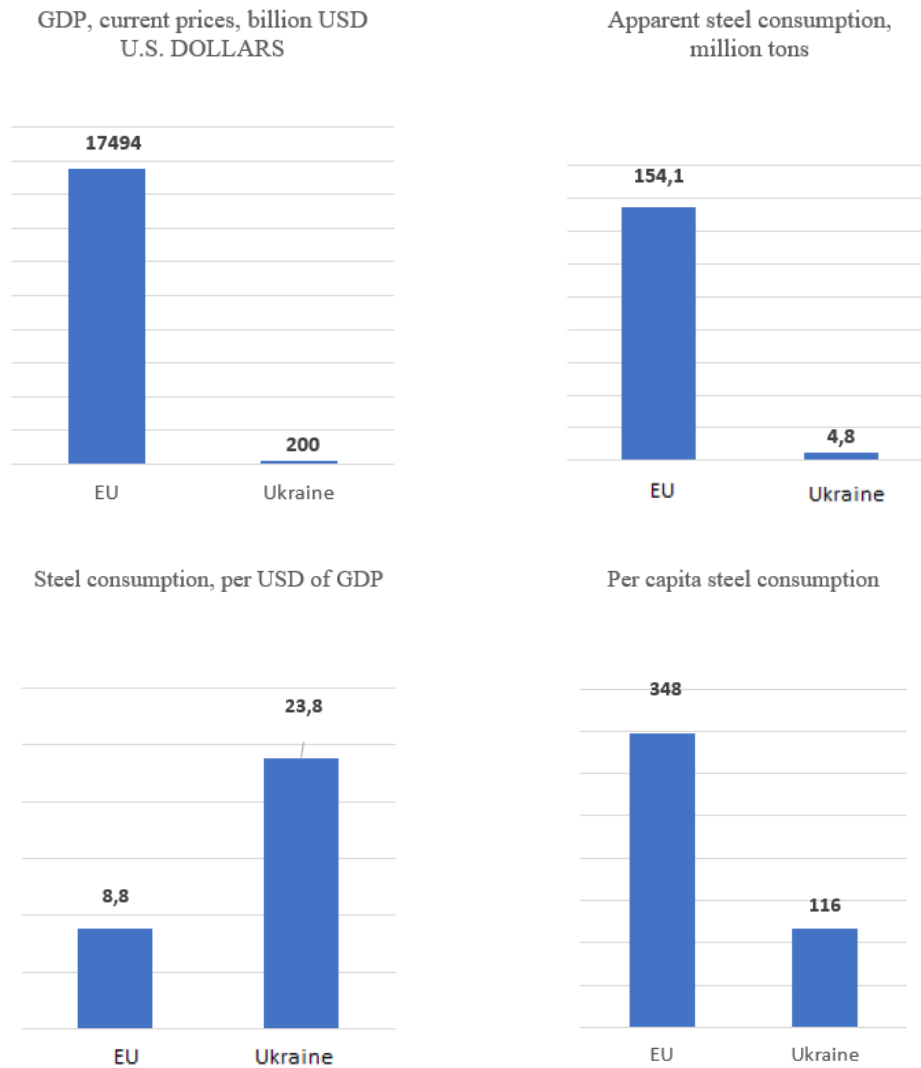


Figure 1. Economic drivers of the steel sector, 2021

Source: IMF, Worldsteel, author's calculations

Using the example of the European market, we can note that each million euros of gross value added (GVA) in construction requires about 50–60 tons of steel. Taking into account the higher cost of other important inputs (e.g., labor), in the Ukrainian context, investments will be converted into even higher material requirements.

Consequences of capacity loss

Moving from the general term "steel" to its actual material forms, in addition to the potential needs, we should note the loss of production capabilities of a number of products critical to the reconstruction (Figure 2). In particular, the Mariupol cluster of metallurgical enterprises, in addition to providing steel semi-finished products to Metinvest's international production chain, was also the only producer of such products as large shaped profiles, mainline railway rails, thick flat products for welded structures, and high-quality flat products using modern technologies.

Product structure of steel consumption in construction based on the EU example

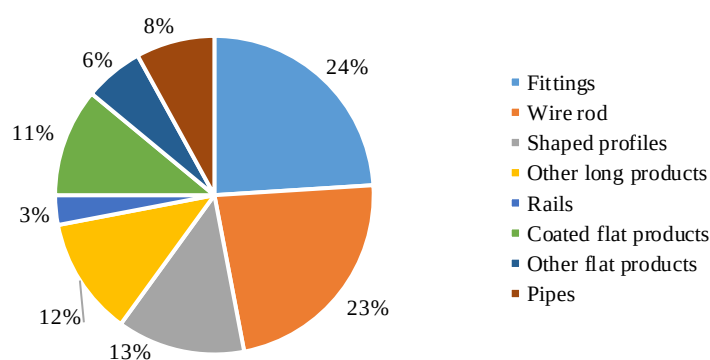


Fig. 1. Structure of steel products use in EU construction

Source: author's estimate based on Eurofer data⁹

The loss of production capabilities creates a need for both investment in the Ukrainian industry and imports of these types of rolled products, in particular from the EU countries that will help rebuild Ukraine.

Before Russia's full-scale invasion, the trade turnover of metallurgical products between the EU and Ukraine exceeded EUR 8.1 billion¹⁰. While exports from Ukraine accounted for more than 90 per cent of the figure and amounted to EUR 7.6 billion in 2021, imports from the EU to Ukraine did not exceed EUR 0.5 billion (Fig. 3). After a significant loss of exports in 2022, Ukrainian exports stagnated amid rising imports, which could return to the level of 2010 by 2024.

⁹ Eurofer. 2024. European Steel in Figures 2024, 28-34. <https://www.eurofer.eu/publications/brochures-booklets-and-factsheets/european-steel-in-figures-2024>

¹⁰ Eurostat. 2024. COMEXT Database. <https://ec.europa.eu/eurostat/comext/newxtweb/>

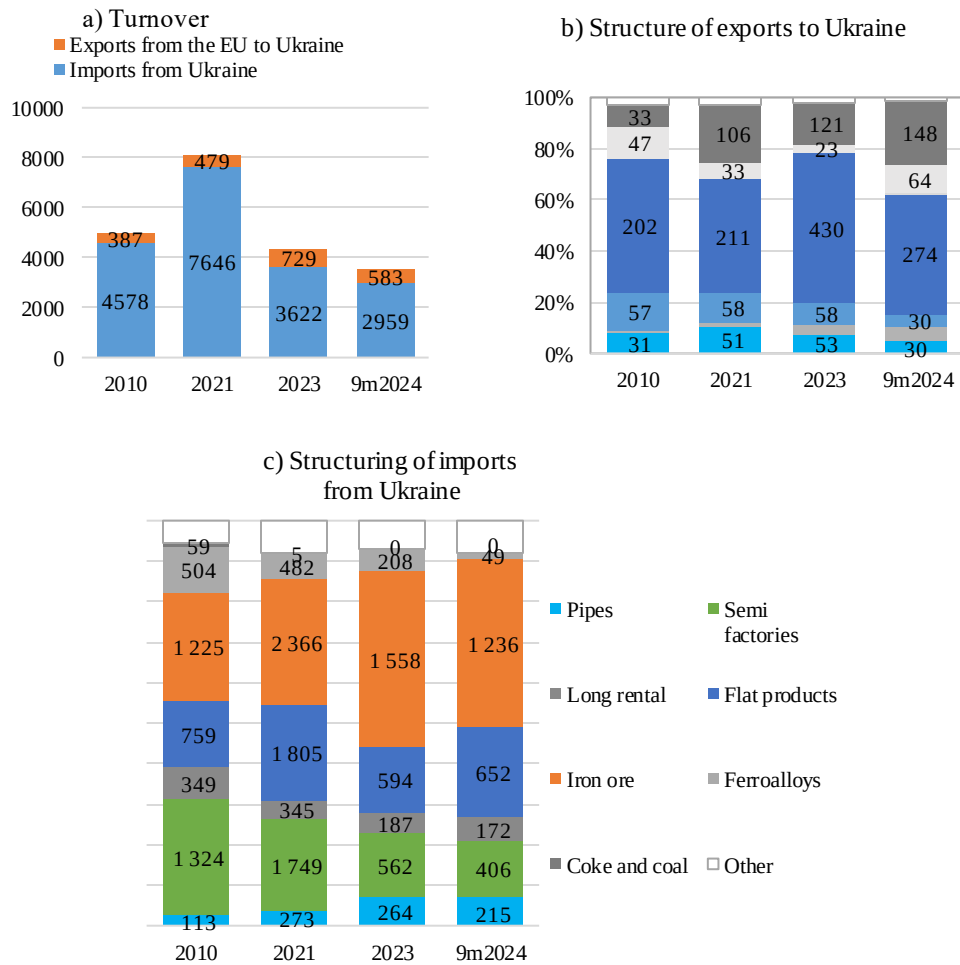


Figure 3. Trade in metallurgical products between Ukraine and the EU, EUR million (2021)

Source: author's estimate based on Eurostat data

The above statistics show that European supplies to Ukraine are growing not only in terms of finished rolled ferrous products, but also in terms of certain types of raw materials that are essential for metallurgical production in Ukraine in the current environment.

The traditional range of high-quality flat products that formed the basis of European companies' supplies to the Ukrainian market was supplemented by products whose production capabilities were lost by Ukrainian companies or

whose manufacturers face difficulties in their production activities due to the loss of local suppliers of raw materials and semi-finished products and power outages.

Ferroalloys are an example of raw materials that have begun to be actively imported, although they were a traditional export commodity for Ukrainian enterprises until 2022.

Ukrainian enterprises largely maintained supplies of iron ore raw materials – the decline in exports in 2023 was largely due to price fluctuations (global iron ore prices fell from USD 162/t in 2021 to USD 121/t in 2023).¹¹ The physical decline in volumes by 15-20 per cent (from 16.5 million tons to 13.4 million tons in the respective years) observed in 2023 is primarily due to the crisis in the European steel market, where producers massively suspended blast furnaces using this raw material in response to declining demand and an increase in the share of imported products in the market.

At the same time, the shipments of all types of finished rolled products and semi-finished products were reduced respectively. Natural shipments of these products almost dropped by almost three times – from 5.7 million tons in 2021 to 2.4 million tons in 2023.

As noted above, Ukrainian companies have long lost the ability to export the main type of semi-finished products supplied until 2022 – steel slabs used for further production of finished flat products such as hot-rolled coils or plates at foreign enterprises, as well as significant volumes of production of these finished products in Ukraine.

Almost complete loss of slab export opportunities is not only a macro indicator, but also a direct indication of the destruction of business models that Ukrainian companies have built over the past decades. This includes Metinvest's international production supply chain, which integrated steel production in Mariupol and other Ukrainian cities with finished steel production in Italy, Bulgaria, and the UK.

The limited exports of semi-finished products that we see in the post-2023 statistics are largely attributable to a part of the long steel production chain in Bulgaria that has significantly reduced its efficiency and competitiveness due to logistics constraints, but still remains relevant.

This example is not an isolated case for the industry. Similarly, the integration of ISD's production in Ukraine with assets in Poland and Hungary was previously destroyed.

These and other examples, which are abundant in the Ukrainian steel industry – ArcelorMittal, SKF, etc. – can demonstrate the strategic logic of the processes of international integration of Ukrainian and European (or international) businesses at the corporate level to optimize individual links in the value chain.

¹¹ World Bank. 2024. Commodities Price Data (The Pink Sheet). <https://thedocs.worldbank.org/en/doc/5d903e848db1d1b83e0ec8f744e55570-0350012021/related/CMO-Pink-Sheet-December-2024.pdf>

Integration with the EU market – general background

Considering the processes of integration of the Ukrainian industry into the EU common market, it is worth noting the important role of integration processes in the metallurgy as one of the primary sources of European integration. The Paris Treaty of 1951 establishing the European Coal and Steel Community¹² was the first of the four founding treaties of the EU.

During the large-scale eastward enlargement of the European Union in the early 2000s, the issues of sector regulation were in the focus of attention when new countries joined. This was also due to the processes of privatization and radical restructuring of their economic systems.

The expiry of the Treaty in 2002 introduced sector-specific processes into the framework of the general process of negotiations accompanying the accession of countries to the EU. Therefore, consideration of integration into the common market should be expected as part of the standard process of approving parts of the negotiations, in particular those related to the internal market, competitiveness and inclusive growth, green agenda and sustainable connectivity.¹³

At the same time, it is important to keep in mind that the EU steel industry still supports 2.6 million jobs and generates about EUR 152 billion in added value. This leads to the preservation of a strong metallurgical lobby in individual countries and regions and the urgent need to understand its positions and expectations in the implementation of integration processes, as today the European metallurgy faces a number of challenges, which were formulated in an open letter from the Eurofer Association dated October 14, 2024.¹⁴

In particular, industry representatives note global overproduction and the presence of significant amounts of excess production capacity in the world. According to Eurofer, in 2023, the global overcapacity of steel capacity reached 551 million tons and continues to grow due to new investments, which puts pressure on prices and competitiveness of European producers.

The European industry is also suffering from a decline in steel demand in the EU. Steel consumption decreased from 150 million tons in 2021 to 125 million tons in 2023, which reduces the order intake of European companies, reduces production profitability and further weakens competitiveness.

At the same time, according to the World Steel Association¹⁵, the common market of the EU countries remains one of the largest in the world. In terms of consumption, the EU market is second only to China and is the world's largest importer.

¹² Treaty of Paris, European Coal and Steel Community. https://www.cvce.eu/en/obj/treaty_establishing_the_european_coal_and_steel_community_paris_18_april_1951-en-11a21305-941e-49d7-a171-ed5be548cd58.html

¹³ European Commission. 2022. EU accession process, October 2022. https://enlargement.ec.europa.eu/system/files/2022-10/eu_accession_process_clusters%20%28oct%202022%29.pdf

¹⁴ EUROFER. "Open Letter." October 14, 2024.

¹⁵ World Steel Association, Steel Statistical Yearbook 2024, 84–86

Eurofer members note the devastating impact of unfair competition on the industry. After the US imposed restrictions on steel imports in March 2018, EU countries introduced quantitative import restrictions through the mechanism of tariff quotas¹⁶. Despite repeated extensions of the mechanism, the instrument of regular increase in quantitative restrictions amid declining demand and the existence of an extensive list of exemptions for developing countries is the basis for Eurofer's concern and lobbying for regulatory changes.

Imports of finished rolled products from Ukraine were also subject to quotas until 2022, and today the restriction on imports from the country is also specified in the regulations, but in fact imports are excluded from regulation by a decision that is renewed annually.¹⁷

In addition, European industry suffers from high energy costs, which puts it at a disadvantage compared to other regions. Cheap imports from countries with low environmental standards undermine European manufacturers. At the same time, meeting the requirements of the Green Deal requires large-scale investments, which is a challenge for many companies.

The need for coordinated integration

Distancing itself from the current economic uncertainties associated with Russia's war against Ukraine, the coordinated integration of the Ukrainian steel sector can significantly contribute to the achievement of the parties' long-term goals.

Ukraine gains access to the second largest steel market – the European Union accounts for about 8 per cent of the global steel market and can provide significant potential for sales of various types of Ukrainian products. Liberalized access to the European market opens up new prospects for the development of the industry and diversification of export destinations.

In addition, integration into European supply chains will help create manufacturing clusters in Ukraine, following the example of Central and Eastern European countries, which will add value to products, increase competitiveness and strengthen the country's position in the global market.

Cooperation with the EU will also provide technical, financial and investment support to modernize production, reduce energy intensity and introduce environmentally friendly technologies, as well as develop in-demand competencies

Expanding cooperation with European partners will allow Ukraine to strengthen its position in the supply chain, which will become the basis for further sustainable development of the steel industry.

¹⁶ Commission Implementing Regulation (EU) 2019/159 of January 31, 2019 Imposing Definitive Safeguard Measures Against Imports of Certain Steel Products.

¹⁷ Council Implementing Decision (EU) 2022/382 of March 4, 2022 establishing the existence of a mass influx of displaced persons from Ukraine within the meaning of Article 5 of Directive 2001/55/EC, and having the effect of introducing temporary protection.

For European Union companies, Ukraine is an attractive growing market with high development potential and urgent needs for infrastructure rehabilitation.

Investments in the modernization of Ukrainian metallurgy create demand for European equipment and technologies, which will contribute to the development of machine-building clusters in the EU.

Ukrainian metallurgy can also become a reliable resource base for the transformation of the industry in accordance with the Green Deal. Additional study is also needed to assess the future potential for using renewable and environmentally neutral energy sources to build a strong position in the market for green raw materials, semi-finished and finished products.

Locating some production facilities near the EU's borders (so-called nearshoring) will help reduce logistics costs, increase the resilience of supply chains, and reduce dependence on distant suppliers of products to the EU.

Integration challenges

The achievement of long-term goals is complicated by a number of challenges for the functioning of the Ukrainian metallurgy, which may become critical for the survival and development of the industry (Table 1).

Table 1

KEY CHALLENGES FOR UKRAINIAN STEELMAKING IN THE EUROPEAN MARKET

Challenge	Meaning	Response
1. Unstable conditions for access to the EU market	Short-term measures exempting Ukrainian products from non-tariff barriers for one year.	Solutions that allow for the creation of long-term conditions (for example, a transition period of 3–4 years after the end of the war).
2. Implementation of the CBAM mechanism without the ability to adapt to new conditions	The CBAM mechanism is scheduled to be implemented in 2026, which will imply additional import costs for Ukrainian steel.	Exemption of Ukrainian products from these measures for a specified period.
3. Unfair competition and product and company policies	Postponement until 2028 of the bans on steel products and raw materials of Russian origin. Other aspects of the policy	Can serve as a basis for justifying Ukraine's needs for longer-term solutions
4. Alignment of communication goals	Misinterpretation of statements by the Ukrainian side (e.g., "capacity development," business and political issues, etc.).	Setting clear and realistic goals supported by strong arguments

Source: author's estimates

As noted above, access of Ukrainian products to the EU market is determined by short-term (one-year) decisions and their extensions. The absence of stable and/or long-term conditions for access to the European market makes it difficult to plan projects to restore the production capacities of enterprises in the face of uncertainty since the war. A longer-term solution that takes into account the duration of the investment and operational phases of projects or introduces simpler mechanisms for postponing potential time-limited restrictive measures and establishing flexible starting points may be a response to this challenge. This will allow for the start of basic and detailed project planning stages that can be immediately implemented under favorable external conditions.

Given the inability to invest in production technologies, the implementation of the CBAM mechanism in the EU, which will take place over the next few years, may become an additional mechanism for restricting access to the EU market for Ukrainian companies. The emissions market is a separate broad topic to be agreed upon, including in the course of the EU accession negotiations, but the issue of postponing the actual application of CBAM measures should also be agreed upon with the EU.

Ukrainian companies also compete directly on the European market with products made using Russian raw materials and semi-finished products. Since the beginning of the full-scale invasion, EU countries have imposed a ban on the import of finished Russian products to the market, and made exceptions for semi-finished products of Russian origin. Russian raw materials and semi-finished products are used both by production chains that were built by Russian groups and continue to operate in the market and by processors in third countries that then supply their products from outside the EU, as the postponement of the ban on imports of steel semi-finished products also postponed the ban on imports of products.

The search for compensatory mechanisms to correct unfair competition conditions is important for Ukrainian companies to operate in the market and faces effective lobbying aimed at leveling the playing field.

On the other hand, a flexible approach to restricting access of products of Russian origin to the European market can be a useful precedent for improving the conditions of access for Ukrainian companies. European institutions demonstrate an understanding of business problems and the need for long-term mechanisms to adapt to new conditions. In fact, since the beginning of the sanctions, the ban has been postponed for almost 5 years – first as a temporary exception for the weakest players until October 2024, and then as a longer-term solution using a mechanism of gradual reduction of the import quota over 2024–2028. This approach can serve as a basis for arguments for long-term solutions for Ukrainian products.

The most critical current challenges mentioned above relate to the conditions of access to the EU market and fair competition there. However, as noted above, certain interests of Ukrainian producers may contradict the goals of European

institutions and businesses. For example, the request to allocate USD 40 billion to "rebuild the economy destroyed by the war and, in particular, to develop environmentally friendly metallurgy"¹⁸, announced in 2023, is rather a cause for concern. In this format, the construction of 50 million tons of new production capacity, while in 2021 Ukraine produced only 21.4 million tons of steel, becomes part of the problem of overproduction, rather than a solution that contributes to the goals of the Green Deal. That is, the formation of negotiating positions requires a detailed study of the interests of the party on which market access and project financing depend.

Conclusions

The analysis of Ukraine's metallurgical industry in the context of integration into the EU's common market demonstrates the urgent need for close coordination with European partners to develop a long-term strategy for mutually beneficial cooperation.

There is considerable potential for a mutually beneficial partnership that meets the needs of Ukraine's recovery and the competitiveness of European production chains.

The priority is to systematically address the short- and medium-term problems of access to the European market, taking into account the limited investment opportunities of Ukrainian companies that affect their ability to adapt to the new EU environmental standards.

It is also urgent to move from temporary solutions to the introduction of a systematic long-term mechanism for Ukrainian producers to access the European market. This should include the elimination of artificial advantages for competitors created by regulatory norms and ensuring a level playing field.

The communication strategy for resolving problematic issues should take into account the relevant internal processes and trends that determine the corporate and national interests of the parties.

The integration of Ukraine's steel industry into the European market helps to strengthen economic cooperation, increase competitiveness, create added value and build sustainable competitive advantages.

Important further areas of research include the study of mechanisms for integrating the Ukrainian industry into the context of the Green Deal with the creation of an emissions trading market as a response to the CBAM. In addition, in addition to the developed ferrous metallurgy, the development strategy of other metallurgical industries in Ukraine, including fragmented clusters of non-ferrous metals, primarily titanium and aluminum, needs to be rethought.

** This article was translated from its original in Ukrainian*

¹⁸ Saakov, Valerii. "Ukraine to ask for funds for the 'Green Marshall Plan'".

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