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Improving Vietnamese Legal Regulations on Steel Business

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Abstract
The steel industry is an industry that produces basic materials, especially steel, which is the main raw material for many other industries such as construction, mechanics, automobiles, etc. Steel is used in many fields, from the construction of large projects, the production of machinery, means of transport to household products. Vietnam has built a system of legal documents related to steel business, including regulations on production, distribution, export, import, standards, steel regulations, environmental protection, etc. However, the regulations on steel business in Vietnam have revealed limitations, inadequacies or are no longer suitable for practice. In addition, there is a lack of legal regulations on steel trading in Vietnam for some specific fields. The author has used synthetic, analytical, qualitative and expert research methods to assess the current status of legal regulations on steel trading in Vietnam. Thereby, proposing some solutions to amend, supplement or replace current legal documents.

Keywords
Steel industry, steel business, legal regulations, legal regulations improvement.

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I. Introduction

In Vietnam's socio-economic development strategy, the steel industry is considered an economic sector with a particularly important position and role in the country's development process towards industrialization and modernization. This is a foundational industry, input materials for other important economic sectors such as mechanical engineering, supporting industry and defense industry, etc. In addition, the steel industry also has a strong impact on Vietnam's urbanization transition, steel will be an important factor in the transition to a carbon-free economy, including renewable electricity production, steel for CO_2 and hydrogen pipelines, electrification of transportation will boost the demand for electronic steel. On the other hand, steel has a macro impact, including political and economic security, ensuring national defense and security, creating economic and social stability for Vietnam.

The planning for the development of Vietnam's steel production and distribution system until 2020, with a vision to 2025, was approved in Decision No. 694/QD-BCT dated January 31, 2013. After more than 10 years of implementing the planning, along with the strong development of the country's economy, Vietnam's steel demand has increased at double-digit rates each year, and steel business of enterprises has increased sharply each year. Therefore, although the development orientations of Vietnam's steel business have not yet fully achieved some of the set goals, they have also developed strongly, with some results achieved such as steel output increasing rapidly, construction steel meeting demand, hot-rolled and cold-rolled steel plates meeting part of the demand, steel for manufacturing, and alloy steel starting to be produced.

Vietnam's steel business has promoted the strong development of the steel industry. Steel production has partly met the domestic market demand and exported to foreign markets. Some steel products such as galvanized steel, steel pipes, cold rolled steel coils have been exported to regional and world markets. However, steel types serving the manufacturing and supporting industries have just been invested in production such as hot rolled steel coils, alloy steel, mechanical steel, hot rolled steel plates, cold rolled steel plates with low output and quality, and products are not diverse. These products are currently still being imported to meet domestic production needs. Vietnam is having to import many types of steel to serve domestic production needs as well as export processing.

Steel production, trading, distribution, export and import activities in Vietnam in the recent period have developed thanks to the relatively complete and synchronous legal regulations issued, including regulations on environmental protection, safety and health in production, regulations on trade, distribution, export and import, regulations on product standards as well as regulations on steel business contracts, management of complaints, lawsuits, intellectual property in the steel industry, and building codes. In addition,

there are legal regulations on other related industries, fields and products that have created favorable conditions for steel business activities in Vietnam. In general, the legal regulations system on steel business in Vietnam has been built and is increasingly improved.

However, Vietnam's legal regulations on steel trading have revealed shortcomings, are outdated, and are no longer suitable or cannot keep up with socio-economic development. Furthermore, some legal regulations on steel trading have not been developed or supplemented, hindering the development and international integration of the steel industry. Some regulations on steel standards, regulations, regulations on steel trading competition, regulations on export and import management, steel trade defense, planning and environmental issues, etc. have shown limitations and need to be revised, supplemented and improved. In addition, to conduct steel business in Vietnam in compliance with bilateral and multilateral international commitments, it is also necessary to revise, supplement and improve legal regulations accordingly.

Therefore, improving legal regulations on steel business in Vietnam meets practical requirements, serves state management activities, is consistent with international commitments, and meets urgent requirements of steel enterprises and steel users.

II.Literature Review

Steel industry plays a significant role towards achieving the carbon neutrality target by 2060 and the emission reduction policies help CO2 mitigation in iron and steel industry (Xianmei et al., 2024). A new concept of Carbon Carrier is firstly established to understand the carbon transfer and emission from complexed energy-mass net in steel industry (Binfan et al., 2024). Meanwhile M. Åhman et al. (2024) point out the steel industry accounts for about 7% of global anthropogenic greenhouse gas emissions. A rational socio-economic path for decarbonising the steel industry, and thus, price-distorting subsidies for coal, renewables, or electricity would not affect the choice of technology to any major degree. Captive power could also secure renewable generation supply for the steel industry.

The steel industry is an excellent case study through which to investigate the performance of third-party emissions scores and environmental scores in reflecting firm-level greenhouse gas emissions and investment in low-carbon production. Emissions and environmental scores assigned to firms in the steel industry by leading Environmental, Social and Governance ratings providers (Charlie et al., 2024). Besides, Giacomo et al. (2024) investigate the challenge of decarbonizing the steel industry, a pillar of the global economy but also a major carbon emitter. The steel industry is progressing in its commitment to decarbonization, albeit heterogeneously across countries and industries. Furthermore Süheyb et al. (2024) assess the potential impact of a global green iron trade in terms of shifting energy demand between regions and in terms of cost savings by comparing three scenarios for a global near-zero GHG steel industry, developing three scenarios for the global steel industry, all of which achieve near zero emissions by 2050 and remain within a global CO2 budget of 51 Gt between 2020 and 2050.

Steel industry has been about attention in countries. Iran's steel industry catch-up strategy is based on a path-following in which synthesizing overseas technology transfer with indigenous technological developments occurs (Javad et al., 2024). The iron and steel industry is a high energy-intensive and polluting sector, and its production is expected to increase in the coming decades. To achieve carbon neutrality in the steel industry, the use of biomass with carbon capture and storage/utilization can be an effective strategy as it can produce negative emissions to compensate for residual ones. negative emission technologies can contribute to decarbonizing the steel industry and thus help the industry achieve its climate objectives (Carlos et al., 2024). Simultaneously, Yibo et al. (2024) suggest the emission reduction potential, cost-effectiveness, development trends, and environmental impacts of emission reduction technology in the steel industry; the evolution trend of emission reduction technologies in the steel industry under different policies and the emission reduction potential of steel production paths.

Legal regulations improvement refers to the process of making changes to existing legal regulations or creating new ones with the goal of making them more effective, efficient, or fairer. Legal regulations improvement can involve streamlining procedures, clarifying ambiguous language, or adjusting the scope of regulations to better address specific issues. In another way, improvement of legal regulations can be conducted by streamlining processes, reducing unnecessary hurdles, and ensuring they are fair and efficient. Improvement of legal regulations includes simplifying administrative procedures, removing redundant regulations, and engaging stakeholders in the reform process, utilizing digital solutions and fostering collaboration to enhance the effectiveness of regulatory reform (VIOIT, 2024).

Improvement of legal regulations on steel business involves the process of making change more effective and appropriate as follows: (i) Creating new regulations on addressing arisen issues or ensuring compliance with evolving standards on steel business; (ii) Streamlining and reducing administrative burdens on steel business; (iii) Identifying and eliminating outdated, redundant or burdensome regulations on steel business; (iv) Reducing misinterpretation of legal regulations and increasing understandability and applicability of legal

regulations on steel business; (v) Modifying the scope of regulation and applicable subjects of steel business, involving businesses and other relevant parties; (vi) Leveraging technology, such as online administrative services to improve the efficiency and transparency of regulatory processes of legal regulations on steel business; (vii) Implementing and monitoring regulatory reforms effectively in coordination efforts by stakeholders of legal regulations on steel business.

Legal regulations impacting the steel business encompass a broad range of areas, including environmental protection, worker safety, trade agreements, and product standards. These regulations aim to ensure a safe and sustainable steel industry while addressing global trade issues and consumer protection. Legal regulations on steel business refer to the scope of regulation and applicable subjects, namely (i) Environmental protection: steel manufacturing processes, especially those involving iron and steel, are subject to strict environmental regulations to control emissions, waste management, and water usage; (ii) Occupational safety and health: ensuring a safe working environment in steel manufacturing, including standards cover aspects like powered industrial trucks, crane operation, lockout/tagout procedures, and fall protection; (iii) Trade regulations: steel businesses are subject to various trade laws, including tariffs, quotas, and anti-dumping duties; (iv) Product standards: steel products are subject to specific standards that ensure quality, durability, and safety, including carbon, alloy, and stainless steel; (v) Contract documents: steel businesses rely on contract documents for transactions, particularly for sales contracts, including clauses regarding risk allocation, quality, and dispute resolution; (vi) Grievance management: steel companies are required to implement grievance management systems to address employee complaints and ensure compliance with labor laws; (vii) Intellectual property: steel businesses may be required to comply with intellectual property laws regarding patents, trademarks, and copyrights related to their products and processes; (viii) Building codes: in the case of pre-engineered steel buildings, specific building codes and regulations apply to ensure structural stability, fire safety, and energy efficiency.

III.Methodology

This article is conducted on the basis of a combination of analytical, synthetic, qualitative and expert research methods to achieve the set goal of improving Vietnamese legal regulations on steel business.

Analysis and synthesis method, focusing on in-depth analysis and synthesis of information from various sources to build a comprehensive theoretical basis on legal regulations on steel business. The goal is to provide a clear and diverse view, and at the same time evaluate and exploit the richness of information sources on Vietnamese legal regulations on steel business. Data from various sources such as books, articles and previous studies related to Vietnamese legal regulations on steel business were collected. These data were then subjected to a detailed analysis process to identify common trends, conflicting opinions and connections between concepts in Vietnamese legal regulations on steel business.

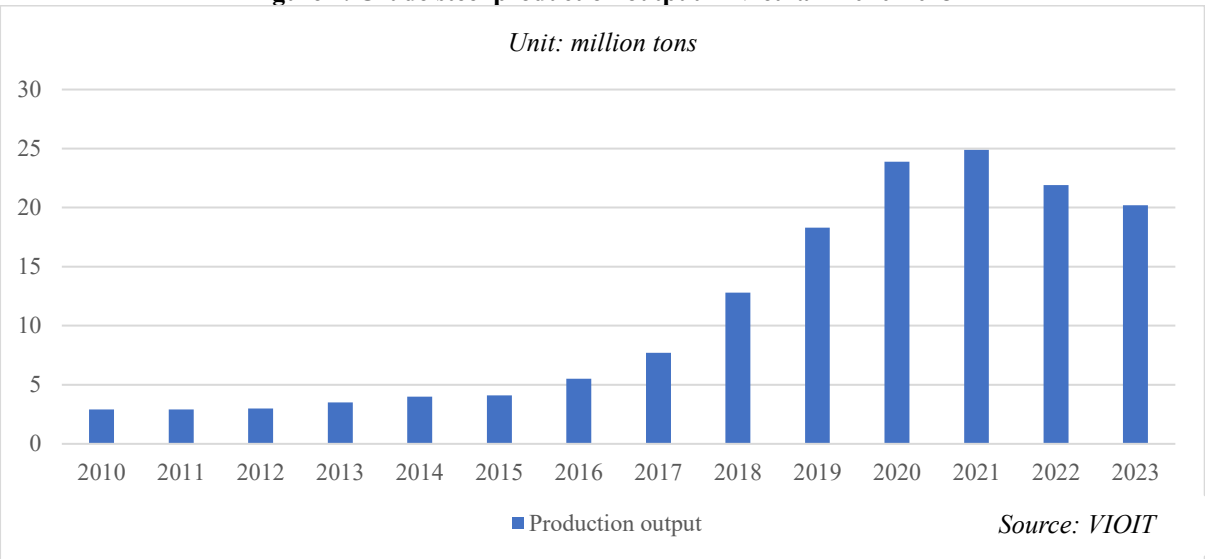
Qualitative research method, focusing on building, describing or adjusting models and perceptions of Vietnamese legal regulations on steel business. The main objective of this method is to clarify the impact and influence of factors on Vietnamese legal regulations on steel business. This process helps to form new opinions, models or perceptions, providing insights into Vietnamese legal regulations on steel business.

Expert method, taking advantage of the knowledge and experience of experts on Vietnamese legal regulations on steel business. The author directly consulted and discussed with scientists, managers, and businesses in Vietnam about Vietnamese legal regulations on steel business. Thanks to that, this method helps to draw conclusions, make in-depth assessments and expand the understanding of Vietnamese legal regulations on steel business in a more comprehensive and accurate way.

IV.Results and Discussion

4.1 Steel production

Figure 1. Crude steel production output in Vietnam 2010-2023



Total steel production in Vietnam in the period 2010-2023 reached 155.6 million tons, reaching an average of 11.1 million tons per year for the whole period. However, Vietnam's crude steel production only increased sharply from 2018 onwards, in the period 2010-2017, Vietnam's crude steel production only reached an average of 4.2 million tons per year, while in the period 2018-2023, it reached an average of 20.3 million tons per year. If steel production in Vietnam in 2010 was only 2.9 million tons, by 2020 it had reached 23.9 million tons, an increase of more than 8.2 times compared to 2010. From 2020 onwards, Vietnam's crude steel production has always exceeded 20 million tons per year (Figure 1).

The strong growth in the period 2018-2023 is due to a number of main reasons such as: (i) The strong increase in domestic steel demand in Vietnam due to the development of the real estate market and public investment in infrastructure, the increase in steel factories, the expansion of production capacity as well as the expansion of investment; (ii) Policies to encourage foreign investment in Vietnam have attracted many large foreign investors; (3) Under the impact of trade agreements, Vietnamese steel has begun to penetrate many international markets, especially the ASEAN region and China, the EU and the US. Steel enterprises in Vietnam have increasingly high market shares in many steel products in the domestic market such as construction steel, galvanized and color-coated steel, cold-rolled steel, steel pipes, etc.

4.2 Steel export

During the 2011-2023 period, Vietnam's steel export output increased from 1.0 billion USD in 2010 to 8.3 billion USD in 2023, achieving an average growth rate of 23.1%. However, the growth rate of export turnover is uneven between years, with some years increasing sharply such as 2021, up to 122.6% compared to the previous year, but some years 2015, 2019 and 2022 decreased compared to the previous year. In 2021, Vietnam's steel export turnover reached a record of 11.8 billion USD. In general, in recent years, Vietnam's steel export turnover has reached about 8 billion USD (Figure 2). Vietnam mainly exports non-alloy steel, accounting for 83% to 95% of the total steel export volume of the industry, the rest is raw steel and alloy steel exports.

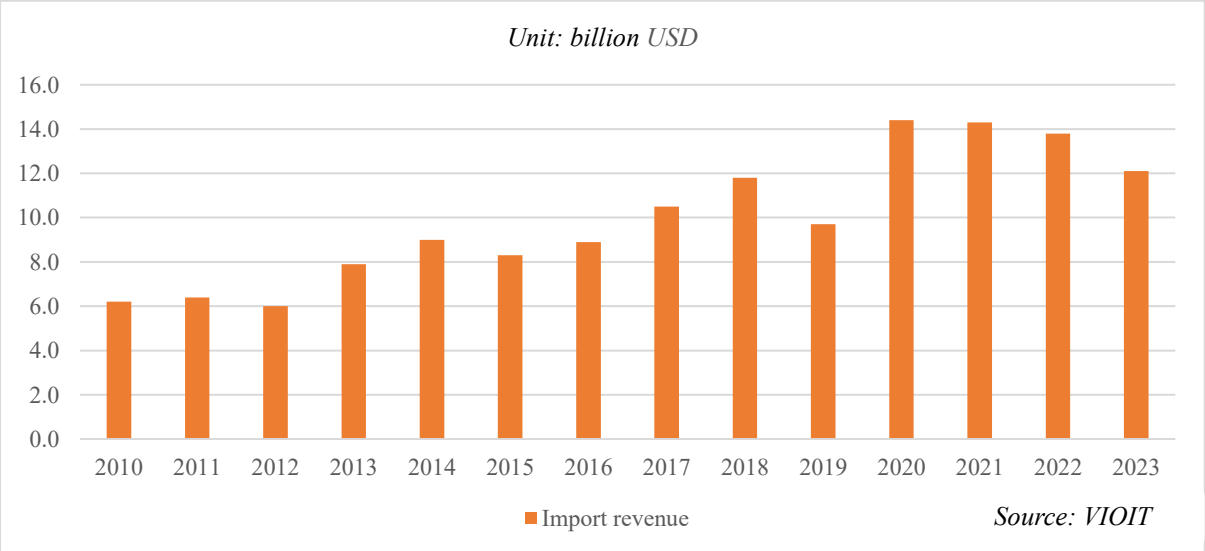
Figure 2. Vietnam's steel export turnover 2010-2023

Regarding export markets, ASEAN, EU, US and South Korea are the main export markets of Vietnam's steel industry. Besides, Vietnam's steel export market is increasingly expanding to many countries and territories in the region and around the world. Notably, the export market structure has shifted towards increasing the proportion of steel exports to markets with developed economies, which have strict requirements on standards, quality, origin and environmental standards on carbon emissions in steel production such as the EU, US markets, etc.

4.3 Steel import

Regarding imports, Vietnam's total steel import turnover in the 2010-2023 period reached 139.9 billion USD, with an average of about 10 billion USD worth of steel imported per year. Vietnam's steel import turnover in 2023 reached 12.1 billion USD, nearly double that of 2010. Therefore, Vietnam's steel import turnover increased at a low rate of 6.7% per year on average (Figure 3). It can be seen that Vietnam's steel import turnover is uneven, with some years showing an increase but some years showing a decrease. Vietnam imported the most non-alloy steel in the recent period with an average import proportion of 47.52%; second was scrap steel, crude steel with a proportion of 27.75% and finally alloy steel with a proportion of 24.73%.

Figure 3. Vietnam's steel import turnover 2010-2023



Vietnam imports steel mainly from the markets of China, Japan, Korea, Taiwan, India, etc. The structure of Vietnam's steel imports has shifted in the direction of: increasing the proportion of the Chinese, Taiwanese, and Indian markets, reducing the proportion of Japan, Korea, and other countries. During this period, the steel import structure shifted towards increasing the import proportion of scrap steel and non-alloy steel, and

decreasing the import proportion of alloy steel. Vietnam imports a large amount of hot-rolled steel due to a number of objective reasons; production capacity, product quality, and uncompetitive prices are therefore not enough to meet domestic demand for this product. In addition, the price of imported hot-rolled steel also has advantages over domestic products.

4.4 Regulations on steel business

Legal regulations on steel business have revealed shortcomings that are no longer suitable to the actual situation, including regulations related to investment incentives, finance, science and technology, and some regulations on the rate of domestic steel use in infrastructure projects invested with State budget capital. National standards and national regulations have not yet been combined with the development of legal regulations on quality management for domestically produced and imported steel products; there is a lack of legal regulations on technology and equipment in the steel industry; there is a lack of mechanisms to limit old and outdated technology; new technology has not been developed; and there has not been regular support for the dissemination of international standards and regulations related to the production and distribution of steel products.

Vietnam lacks legal regulations on steel business to focus on developing advantageous products with high demand that are currently not produced domestically. There is a lack of legal regulations to encourage steel trading activities towards investing in projects to produce advanced and modern steel technology, produce green steel, alloy steel, steel for the manufacturing industry, and products with high competitiveness and capable of participating in the global value chain. At the same time, there is a lack of legal regulations to encourage increasing the content of science and technology, increasing productivity and product quality in accordance with international standards in steel trading. Legal regulations on steel business in Vietnam need to be amended and supplemented according to the reasonable distribution of steel industry production space based on the advantages of each region to fully exploit the advantages of space, infrastructure and production resources; promote linkages in the value chain from research, supply of raw materials to production and consumption of products in the steel business chain. Regulations on encouraging exploration and exploitation of iron ore mines and promptly resolving difficulties and obstacles in granting exploration and exploitation licenses to accelerate the exploitation of domestic ore mines still face many difficulties and obstacles in implementation. In addition, the mechanism to facilitate steel businesses in site clearance, resettlement, and job creation for people in mining areas is no longer appropriate.

Legal regulations on steel business in Vietnam lack strong enough mechanisms to promote the role of branches to increase business initiative; invest in, upgrade and modernize the commercial infrastructure system, connect manufacturers with distributors through product suppliers, and have adequate warehouses that ensure storage standards and are easily accessible to consumers. Legal regulations on supporting participation in domestic and foreign trade fairs and exhibitions to promote and boost trade, including creating advertising campaigns and media events to introduce businesses' products in markets, bringing Vietnamese steel labels and brands to domestic and foreign consumers, are no longer appropriate.

Legal regulations on science and technology in steel business have revealed shortcomings, not really encouraging businesses to invest in modern technology, low energy consumption, low carbon emissions; applying carbon capture technology in the steel industry; limiting the application of molten oxide electrolysis technology in the steel industry; rarely using hydrogen to replace coke in "green" steelmaking; the application of IoT and automation processes in steel production to increase efficiency, performance, minimize environmental impacts, contributing to the effective implementation of the smart production action plan in the steel industry is still low.

Steel business is always closely associated with environmental protection, and must comply with environmental protection regulations. There is a lack of specific regulations on prioritizing steel business with modern technology, causing less environmental pollution; improving the quality of project appraisal, including careful consideration of emissions, wastewater, solid waste and hazardous waste; and developing specific regulations on environmental monitoring of projects. Regulations related to steel business in Vietnam still face many difficulties in implementation, including controlling emissions from mining, production and manufacturing activities in the production process; controlling and treating emissions to meet environmental technical standards according to current regulations; periodically conducting environmental status assessments for production facilities.

V. Recommendations

To improve its legal regulations on steel business in the direction of focusing on high-quality steel products in accordance with national and international standards; diversifying products, gradually converting to high-value-added, environmentally friendly products, meeting domestic demand, rapidly increasing exports, competitiveness and deeply participating in the global value chain; transforming product structure to gradually

replace imported steel, especially alloy steel, tool steel and special steel products for domestic manufacturing industries, Vietnam needs to amend, supplement or issue new relevant documents, including:

4.5 It is necessary to promulgate a Law amending, supplementing or replacing the Law on Technical Standards and Regulations No. 68/2006/QH11 dated June 29, 2006 in the direction of supplementing legal regulations on technical specifications and management requirements used as standards for classifying and evaluating steel products, in order to improve the quality and efficiency of steel business. At the same time, regulations on the limits of technical specifications and management requirements that steel business must comply with to ensure safety, hygiene, human health; protect the environment; protect national interests and security, consumer rights and other essential requirements. Amending, supplementing or promulgating new relevant legal regulations to ensure improvement of quality and efficiency of steel business, enhancing the competitiveness of steel products manufactured in Vietnam in domestic and international markets.

4.6 It is necessary to amend and supplement the Competition Law No. 23/2018/QH14 dated June 12, 2018 in the direction of creating and maintaining a more healthy, fair, equal and transparent competitive environment for steel businesses, ensuring the right to freedom of competition in trading of steel businesses according to the provisions of law. On the other hand, amending and supplementing regulations to encourage steel businesses to increase market access, improve economic efficiency, social welfare and protect consumer rights, while creating conditions for society and consumers to participate in the process of monitoring the implementation of competition laws for steel businesses. In addition, it is necessary to amend and supplement specific regulations on the right to freedom of competition of steel enterprises according to the provisions of law, with the State ensuring the right to legitimate competition in business. Create an environment for competition of steel enterprises to be carried out according to the principles of honesty, fairness and health, without infringing upon the interests of the State, public interests, rights and legitimate interests of enterprises and consumers.

4.7 It is necessary to amend and supplement the provisions on trade defense measures in the Law on Foreign Trade Management No. 05/2017/QH14 dated June 12, 2017, including anti-dumping measures, anti-subsidy measures and self-defense measures applied to steel imported into Vietnam in specific cases. Amend, supplement and perfect the principles of application within the scope, to the extent necessary, reasonable, and within a time limit to protect, prevent or limit damage to the domestic steel industry. Specify steel business regulations that can only be applied after a transparent, fair, and legal investigation has been conducted and must be based on the investigation conclusions. Supplement detailed regulations on related parties in the investigation case, activities of providing, collecting information, documents, and keeping confidential information and documents on steel business; management of import of goods subject to investigation, application of trade defense measures in steel business; cases of exemption from application of trade defense measures in steel business.

4.8 It is necessary to amend and supplement the Planning Law No. 21/2017/QH14 dated November 24, 2017 in the direction of supplementing the steel business planning as a national sectoral planning, national-level planning, concretizing the national master plan according to the steel industry on the basis of connecting sectors and regions related to infrastructure, resource use, environmental protection and biodiversity conservation. Supplementing regulations to ensure consistency and synchronization between the steel business planning and the socio-economic development strategy and plan, ensuring the combination of sectoral management with territorial management; ensuring national defense and security; protecting the environment. At the same time, it is necessary to supplement regulations on steel business planning to ensure scientific nature, application of modern technology, interconnectivity, forecasting, feasibility, savings and effective use of the country's resources; ensure objectivity, publicity and transparency. Furthermore, it is necessary to supplement regulations on steel business planning to be consistent with the national master plan, national marine space planning, and national land use planning.

4.9 It is necessary to amend and supplement the Decrees, Decisions of the Prime Minister, Circulars and other legal documents on steel business to comply with the Law on Environmental Protection No. 72/2020/QH14 dated November 17, 2020. It is necessary to amend and supplement regulations to ensure compliance with environmental protection as a condition, foundation, central and prerequisite factor in steel business, linked with economic development, resource management and considered and evaluated in the process of implementing development activities of the steel industry. Supplementing clear regulations on steel business always closely combined with environmental protection, when implementing steel business must strictly comply with regulations on environmental protection; when attracting investment in steel business must prioritize projects with modern technology, causing little environmental pollution; improving the quality of steel business appraisal, in which it is necessary to carefully consider and evaluate the amount of emissions, wastewater, solid waste and hazardous waste; developing specific regulations on environmental monitoring in steel business.

VI. Conclusions

Vietnam's steel business has promoted the strong development of the steel industry. Steel production has partly met the domestic market demand and exported to foreign markets. Total steel production in Vietnam in the period 2010-2023 reached 155.6 million tons, reaching an average of 11.1 million tons per year for the whole period. Vietnam's steel export output increased from 1.0 billion USD in 2010 to 8.3 billion USD in 2023, achieving an average growth rate of 23.1%. Vietnam's total steel import turnover in the 2010-2023 period reached 139.9 billion USD, with an average of about 10 billion USD worth of steel imported per year. However, Vietnam's legal regulations on steel trading have revealed shortcomings, are outdated, and are no longer suitable or cannot keep up with socio-economic development. Legal regulations on steel business have revealed shortcomings that are no longer suitable to the actual situation. Vietnam lacks legal regulations on steel business to focus on developing advantageous products with high demand that are currently not produced domestically. To improve its legal regulations on steel business in the direction of focusing on high-quality steel products in accordance with national and international standards, Vietnam needs to amend, supplement or issue new relevant documents, including Law on Technical Standards and Regulations, Competition Law, Law on Foreign Trade Management, Planning Law, Law on Environmental Protection.

Declaration of competing interest

Author has no competing interest(s).

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