Pre-Hearing Statement of Kevin M. Dempsey
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For the Hearing on Investigation No. 332-598
"Greenhouse Gas (GHG) Emissions Intensities of the U.S. Steel and Aluminum Industries at the Product Level"
United States International Trade Commission
Washington, DC

November 21, 2023

In advance of the December 7, 2023, hearing at the U.S. International Trade Commission (ITC), the American Iron and Steel Institute (AISI) submits these comments on Investigation No. 332-598, "Greenhouse Gas (GHG) Emissions Intensities of the U.S. Steel and Aluminum Industries at the Product Level." AISI welcomes the ITC factfinding investigation and appreciates the opportunity to submit this statement for the hearing. We believe the data collected through this investigation can be appropriately used to develop trade policy measures that take the GHG emissions-intensity of imported and domestic products into account.

I. Introduction

AISI serves as the voice of the American steel industry in the public policy arena and advances the case for steel in the marketplace as the preferred material of choice. AISI's membership is comprised of integrated and electric arc furnace steelmakers, and associate members who are suppliers to or customers of the steel industry. The American steel industry serves as the backbone of the U.S. manufacturing sector and is essential to national and economic security and our critical infrastructure. The American steel industry supports nearly two million jobs and contributes approximately $520 billion to the U.S. economy.

The domestic steel industry is proud to be the cleanest and most energy efficient of the leading steel industries in the world, producing steel with lower carbon dioxide (CO_2) emissions intensity than major competing steel industries.[1] By contrast, Chinese steel production creates carbon emissions that are almost double that in the U.S per ton of steel produced. In fact, in 2019 imported steel accounted for 11 million more metric tons

[1] Hasanbeigi, A., "Steel Climate Impact - An International Benchmarking of Energy and CO_2 Intensities," Global Efficiency Intelligence, (April 2022), 14-15 *found at* https://www.globalefficiencyintel.com/s/Steel-climate-impact-benchmarking-report-7April2022.pdf.

of CO_2 emissions than if the steel had been produced at average U.S. emissions levels.[2] The domestic iron and steel industry accounts for 1-2 percent of U.S. GHG emissions. Globally, the steel industry emits around 8 percent of total world GHG emissions, largely due to the significantly higher carbon intensity of regions like China that produce over half of the world's steel today.

The domestic steel industry has reduced its energy consumption and environmental impacts over many years through regular investments in its production facilities and increasing use of lower emissions energy. For example, integrated steel mills in the United States are almost entirely fed by domestically sourced iron ore pellets, compared to CO_2-intensive sintered ore used in many other regions. Moreover, the American steel industry has adopted scrap-based electric arc furnace (EAF) technology at a much more accelerated rate than the global industry. About 70 percent of the steel produced in the U.S. in 2022 was from EAFs, compared to less than 30 percent globally. Furthermore, the American steel industry today increasingly relies on natural gas and renewable energy. This cleaner energy mix helps produce steel with lower CO_2 emissions intensity.

Not only do American steel producers make the cleanest steel in the world, the sector also enables other industries to reduce their carbon footprints. According to a January 2022 report by McKinsey& Co., steel is the one material critical to all low-carbon technologies.[3] Wind and renewable energy systems, zero-emission electric vehicles, electric grid transmission, hydrogen production, and carbon capture systems all depend on steel. For example, steel comprises over 70 percent of the weight of a typical wind turbine, and each new megawatt of solar power requires between 35 to 45 tons of steel.[4]

II. Challenges to American clean steel production

The domestic steel industry continues to place a high priority on further reducing its environmental impacts. Most steel producers in the United States have publicly announced GHG emission reduction targets and are implementing company-specific decarbonization strategies. American steelmakers have made investments to increase the use of direct reduced iron (DRI), including hot briquetted iron (HBI), which can lower emissions for both integrated blast furnace-basic oxygen furnace steel mills and

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[2] Hasanbeigi, A., "Embodied CO_2 Emissions in Steel Imports to the U.S.," Global Efficiency Intelligence, (June 2023), 2 *found at* https://www.globalefficiencyintel.com/s/Embodied-carbon-in-US-steel-import-final.pdf.

[3] McKinsey & Co., "The raw-materials challenge: How the metals and mining sector will be at the core of enabling the energy transition,"(January 10, 2022) Exhibit 1 *found at* https://www.mckinsey.com/industries/metals-and-mining/our-insights/the-raw-materials-challenge-how-the-metals-and-mining-sector-will-be-at-the-core-of-enabling-the-energy-transition

[4] Michael Barnard, "How Much Steel Will All Those Wind Turbines & Solar Panels Need, & Can We Make It?," (March 27, 2023) *found at* https://cleantechnica.com/2023/03/27/how-much-steel-will-all-those-wind-turbines-solar-panels-need-can-we-make-it.

replace carbon intensive imported pig iron consumed by a subset of domestic EAF steel mills. These producers are also committed to utilizing low emissions electricity for steelmaking and reheating processes, along with exploring options for carbon capture, utilization, and storage (CCUS) technologies and the use of clean hydrogen in the iron-making process. Efforts by the U.S. Department of Energy (DOE) to support establishment of large volumes of cost-effective clean hydrogen stand to be a game changer in terms of further advancing the decarbonization of the American steel industry.

However, the domestic industry and our production of lower emissions steel face critical threats. Subsidies and other government trade-distorting policies and practices in many countries continue to contribute to massive global overcapacity in steel. In September, the Organization for Economic Cooperation and Development (OECD) Steel Committee estimated global steel overcapacity to be approximately 612 million metric tons and growing.[5] Much of this excess capacity is in countries that are producing steel that is much more carbon emissions-intensive than American steel. India, for example, is rapidly expanding its high-emissions steel capacity. Additionally, as a result of China's "Belt and Road Initiative," substantial additional high carbon emitting steel capacity is being built in Indonesia, Vietnam and other Southeast Asian nations, much of which is Chinese-owned.

As steelmakers in these countries seek to maximize their capacity utilization to cover their fixed costs, a significant amount of this high emissions steel production is expected to be exported to other regions of the world, including the United States, where it threatens to undermine the billions of dollars in investments that the American steel industry is making in cleaner steel production. To counter this threat, a new system of carbon or GHG intensity-based tariffs is needed to level the playing field.

Currently, there are proposals to develop such a system of carbon tariffs through international agreements and domestic legislation. The Biden administration has been working over the last two years to negotiate a "Global Arrangement for Sustainable Steel and Aluminum" with the European Union (EU) that would establish a new tariff system based on the carbon intensity of steel and aluminum products imported from around the world. While to date the EU and the United States have been unable to reach agreement in these negotiations, AISI believes the approach proposed by the Office of the U.S. Trade Representative (USTR) to establish a system of tariffs based on the differential in carbon intensity between imports and domestically produced steel is a sound one. We continue to support the administration's efforts to advance this important new policy approach to address trade and climate concerns. In order to

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[5] Mr. Ulf Zumkley, "Chair's Statement, 94th Session of the OECD Steel Committee," (September 26, 2023), *found at* https://www.oecd.org/fr/industrie/ind/94-oecd-steel-chair-statement.htm#:~:text=At%20its%2094th%20session,that%20continue%20to%20distort%20steel.

effectively do so, however, USTR will first need the GHG emission intensity data that this Section 332 investigation will produce. Absent this emissions data, USTR cannot effectively negotiate an ambitious Global Arrangement with a clear line of sight on the potential impact on domestic steel producers and workers.

AISI also supports domestic legislative efforts in the U.S. to move forward on developing a carbon tariff system in U.S. law. Earlier this month, the "Foreign Pollution Fee" legislation was introduced by U.S. Senator Bill Cassidy (R-LA) to establish tariffs on imported goods with higher associated GHG emissions intensity than the emissions intensity of competing U.S.-made goods. While AISI and our members have some concerns about provisions in the bill to exempt steel imports from some countries from the proposed foreign pollution fee, we are committed to working with the bill sponsors to address these issues as the legislative process moves forward. We believe that establishing a comprehensive GHG border fee or carbon tariff will help level the playing field and ensure that American steel investments in cleaner production processes are not undercut by higher emitting foreign imports.

III. Proper Accounting of GHG Emissions is Critical

A key element to establishing an effective carbon tariff regime is the development of the proper methodology for calculating GHG emissions associated with steel production. There are currently multiple conflicting approaches being used by different groups to measure such emissions. To address this problem, AISI last year released its own GHG emissions calculation guidelines to provide an industry consensus view on how to calculate consistent and comprehensive data on GHG emissions from steel production.[6] A consistent set of data will help ensure policymakers employ the most accurate information in setting carbon tariffs and pursuing other related policy initiatives.

AISI and our member companies are also working to develop other important tools for environmental impact measurement and disclosure. This includes collecting and reporting the life cycle inventory (LCI) data necessary for characterizing environmental impacts of steel products and the continued development of facility-specific, product-specific environmental product declarations (EPDs). EPDs are becoming increasingly important for disclosure and green procurement, particularly in the construction and infrastructure space. To enhance this process, AISI has initiated a project to develop steel product category rules (PCRs), which are documents that establish the calculation methodology and reporting requirements for EPDs for a given product category. AISI is also pleased to announce it will soon publish the first-ever U.S. average LCI datasets for stainless hot rolled and cold rolled coil products.

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[6] American Iron and Steel Institute, "Steel Production Greenhouse Gas Emissions Calculation Methodology Guidelines," (November 3, 2022) *found at* https://www.steel.org/wp-content/uploads/2022/11/AISI-GHG-Emissions-Calculation-Methodology-Guidelines-final-11-3-22.pdf.

AISI believes that the ongoing ITC factfinding investigation to assess the GHG emissions intensity of steel produced in the United States is a critical step to developing the data needed to implement a GHG intensity-based tariff system. By collecting data on GHG emissions from American steel producers, the ITC can provide the information necessary to calculate the differential between domestic steel product GHG emissions intensity and that of foreign steel products. AISI has been pleased to work closely with the ITC as it undertakes this important investigation and will continue to do so into the future.

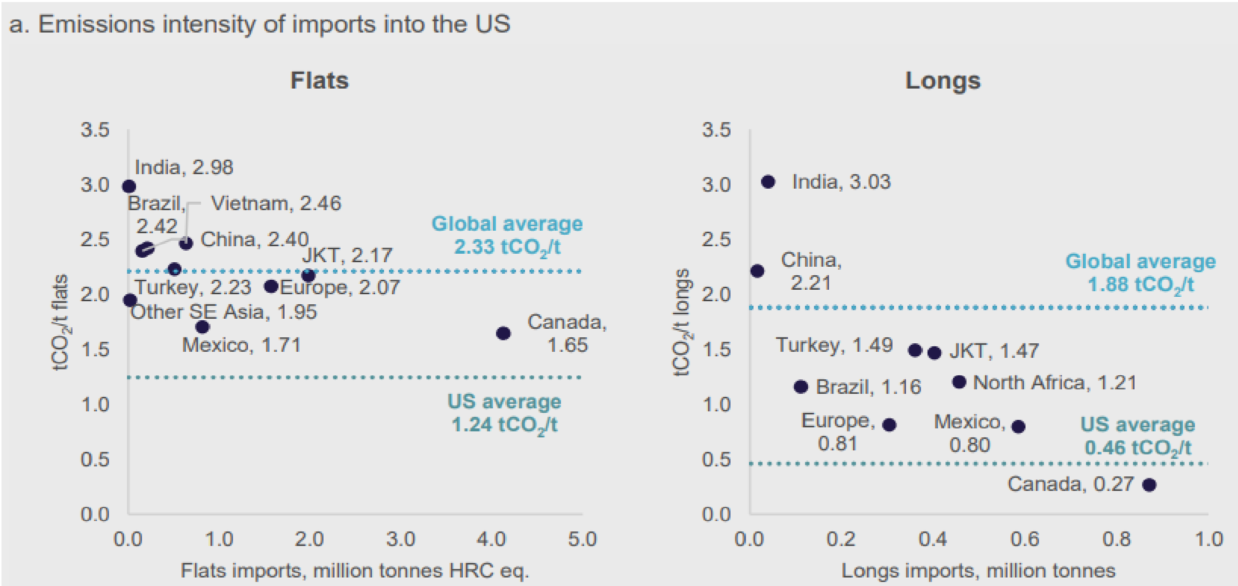
Relatedly, legislation entitled the "Providing Reliable, Objective, Verifiable Emissions Intensity and Transparency (PROVE IT)" Act, was introduced this year by U.S. Senators Chris Coons (D-DE) and Kevin Cramer (R-ND), along with a bipartisan group of cosponsors. The legislation directs the U.S. Department of Energy to conduct a comprehensive study comparing the GHG emissions intensity of certain goods, including steel, produced in the United States to the emissions intensity of those same goods produced in other countries. It is intended to demonstrate the comparative GHG emissions advantage that U.S. manufacturers have over international competitors with higher emissions intensities, and the data developed as a result of this legislation could be used to calculate carbon tariffs on imports. The results of this ITC investigation could be particularly useful as Congress considers legislation like the PROVE IT Act to provide for similar GHG emissions data collection for a broader range of industries.

IV. Product-Specific Data is Essential for a GHG Emissions Intensity Trade Measure

To properly implement a tariff system based on GHG emissions intensity, AISI believes the assessment of GHG emissions intensity must be done on a product-specific basis. This is essential because there can be significant differences in emissions intensity for a range of steel products due to variances in the mix of raw materials used in the production of various steel products.

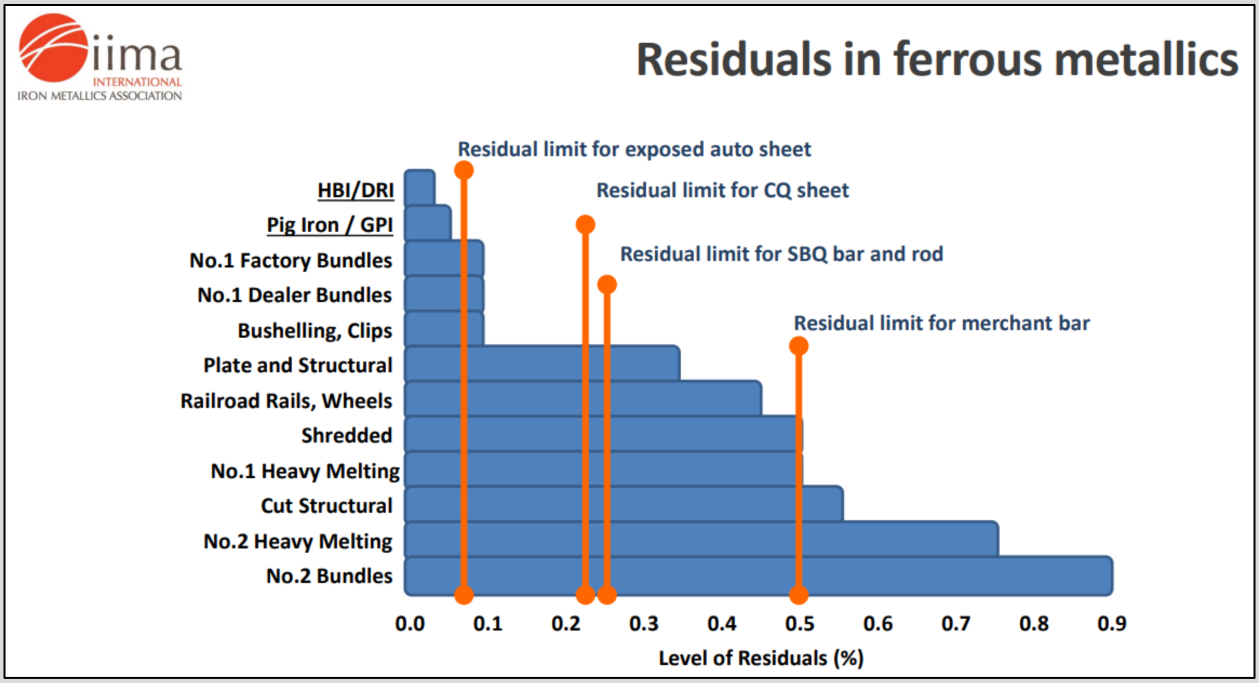
The differences in emissions intensity can be seen in the following chart taken from a recent publication prepared by CRU for the Climate Leadership Council (CLC) report entitled "Opportunities for US-EU Steel Trade Agreement."[7]

[7] CRU, "Opportunities for US-EU Steel Trade Agreement," (Dec. 2022), Executive Summary at 6, f*ound at* https://clcouncil.org/report/opportunities-for-us-eu-steel-trade-agreement/. Note: emissions intensities exclude re-rolling capacity.



As this chart demonstrates, there are significant differences in the emissions intensities of carbon flat and long products. One reason for these variances is that flat and long carbon steel products generally use different percentages of ferrous scrap in their production. This is due to the fact that many grades of ferrous scrap contain residuals of other metals, such as copper, that can negatively impact the characteristics of the final steel product. This is particularly an issue for many sheet steel products, where even a relatively small amount of residuals can affect the mechanical and metallurgical properties of the steel, especially for higher quality products like sheet used for exposed automotive applications. By contrast, certain grades of long products, such as rebar, can be produced with relatively higher residual levels without producing a significant negative impact on the performance of the final steel bar product. This variability in the residual limits for different steel products can be seen in the following chart produced by the International Iron Metallics Association (IIMA).[8]

[8] International Iron Metallics Association, "Ore-Based Metallics: adding value to the EAF," (May 2017), 9 *found at* https://www.metallics.org/assets/files/Public-Area/Presentations/SEASI_Spore_1705.pdf.



Accordingly, for many sheet products, relatively higher levels of virgin iron, such as pig iron produced from a blast furnace, direct reduced iron (DRI) or hot briquetted iron (HBI), must be used to dilute the residuals introduced by the use of ferrous scrap and ensure that the resulting steel does not contain residuals above the limit specified for final steel product. These various forms of virgin iron produced from iron ore are also referred to as "ore based metallics," and they are manufactured principally by the reduction of iron ore in blast furnaces and direct reduction plants, both of which today use carbon to bind with the oxygen in iron ore to reduce the ore to a product that is approximately 95 percent pure iron, either in a liquid or solid state, with carbon dioxide as a byproduct. Because of the chemical reaction to convert iron ore to ore based metallics using carbon – either in the form of coal, coke or natural gas – the iron-reduction or "iron making" process is today the most GHG emissions intensive process in steelmaking. This is also why significant attention is being paid to developing alternative methods for reducing iron ore, such as hydrogen reduction, which results in water vapor as a byproduct instead of carbon dioxide.

The need to use virgin iron in significant quantities for many sheet steel products explains why flat products generally have higher GHG emissions intensities than long products today. But a simple flat vs. long dichotomy is not adequate to capture the variation in emissions intensity among different product categories. For example, while plate falls in the flat product category, there is a significant amount of plate production in the United States that is produced with high ferrous scrap content, giving plate production a different emissions profile than many sheet products.

It should also be noted that stainless steel products have different emissions intensity profiles than their carbon steel equivalents due primarily to the addition of ferroalloys to achieve the desired corrosion resistance, aesthetics, and other physical properties. Separate accounting for stainless steel products is therefore also essential.

AISI also recommends that the product categories used for assessing emissions intensity be consistent with the product categories traditionally utilized by the ITC in its like product determinations in antidumping and countervailing duties (AD/CVD) investigations, as these product definitions are well understood in the industry and trade community.

V. Comments on Draft ITC GHG Methodology

AISI appreciates the opportunity to comment on the draft ITC methodology for measuring GHG emissions from steelmaking operations. In general, the draft methodology is well developed and comprehensive and aligns well in most areas with our approach to collecting LCI data for steel products, which informs the development of EPDs used in state and federal Buy Clean policies, and is largely consistent with the methodology used by the World Steel Association (worldsteel).[9] Below are a few general comments on the draft methodology; AISI will provide detailed input on the draft ITC methodology during the public comment period ending January 5, 2024.

The ITC draft methodology takes the approach of collecting data at the entire facility level, then asking questions to allocate that data to individual process steps. In the AISI LCI data project, which is consistent with worldsteel's approach, data for each process step is collected independently (e.g., coke making, blast furnace, BOF, EAF, hot strip mill, etc.). In some instances, companies can only provide facility-level data for certain energy inputs or emissions that subsequently must be allocated to process steps; however, the majority of energy, raw materials, products, emissions, and wastes can be provided at the process level. It may be a more efficient process to do it this way and is something steel producers would be more familiar with.

In the draft methodology document, ferroalloys and nonferrous metallic additives are addressed in a simplified, averaged way. AISI's latest data collection results show these materials are the most significant contributor to stainless steel global warming potential (GWP) impacts, and these materials are also expected to be a significant contributor for high-alloy grades of steel. The ITC should pay particular attention to the selection of emission factors for these materials and ensure that the approach is clearly explained and consistently applied to provide for fair comparisons.

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[9] World Steel Association, "Life Cycle Inventory Methodology Report for Steel Products, (2017), *found at* https://worldsteel.org/wp-content/uploads/Life-cycle-inventory-methodology-report.pdf.

In Section VIII of the draft methodology, no impacts are proposed to be allocated to steel byproducts, such as slag. In the United States, EPDs which are now used to determine GHG thresholds for state and federal procurement assign impact to slag using a physical partitioning allocation approach. The World Steel Association uses system expansion to assign an even higher share of GHG emissions to slag. By assigning zero emissions to slag, the proposed approach could disadvantage the domestic steel industry compared to other regions that may allocate some GHG emissions to steel byproducts and thus lower steel product GHG emissions. To the extent that different jurisdictions take different approaches to these allocation issues, this could also lead to comparability issues with domestic policies involving embodied GHG emissions.

VI. Conclusion

AISI appreciates the opportunity to provide input into the ongoing ITC factfinding investigation on the GHG emissions intensities of the American steel and aluminum industries. The data collected through this investigation can serve as the basis for implementing trade policy measures that take the GHG emissions-intensity of imported and domestic steel products into account, which we believe will be increasingly important to ensuring that imports of higher emissions steel products do not undermine the significant investments that the American steel industry is making in cleaner steel production.