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Climate Considerations for Section 232 Tariffs: An Aluminum Case Study

PERSPECTIVE

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In this Report

This Perspective paper examines how the Biden administration can use its existing trade policy toolkit to achieve net-zero carbon emissions goals simultaneously with national security and economic objectives. It explores trade policy challenges and opportunities by using aluminum as a case study, as aluminum is universally recognized as a critical mineral essential to supporting global economic growth, especially in the transportation and construction industries. It is especially appropriate to examine since the U.S. has minimal aluminum domestic production capabilities and most production occurs in Asia and Europe, which creates a vulnerability with vast national security implications. Global aluminum production is also heavily dependent on coal-fired electricity generation, so examining aluminum tariffs with respect to Section 232 tariffs is uniquely suited to examine the role trade policy can play in achieving net-zero emissions.

Following an analysis of aluminum production, which examined country specific data on carbon intensity in aluminum production, and related trade policy factors, our research suggests that relief from existing Section 232 tariffs could be an effective tool to promote industry growth and trade of low-carbon aluminum, as well as facilitate the achievement of national net-zero emissions goals and enhancing national security.

IN BRIEF

If aluminum was given relief from Section 232 tariffs, our findings indicate it could:

- **Enhance U.S. National Security:** Aluminum and its components are critical inputs for products across a wide range of U.S. industries and infrastructure. However, the U.S. has little to no domestic aluminum production capabilities, creating an inherent supply vulnerability, made more pressing given that China is the largest producer and supplier of aluminum. Although Section 232's grounding in national security presents a potential legal constraint, broader conversations of climate change as a foreign policy priority and increasing threat to national security can drive a bundled policy regime that incorporates carbon intensity into tariffs to incentivize low-emissions production methods. Adopting these types of policy measures could enable the U.S. to enhance both its national security and industry resilience in sectors such as military infrastructure, transportation technologies, packaging, renewable energy, and building materials.
- **Facilitate Achievement of National Net-Zero Carbon Emissions Goals:** China, the largest producer and supplier of aluminum, has a high carbon footprint since its production is derived from coal-based power generation. The U.S. can leverage its trade policy to produce strong market incentives and send political signals to advance low carbon aluminum production away from both China and coal-power generation. Granting preferential market access to aluminum producers would reduce carbon emissions, incentivize high carbon aluminum producers to adopt greener production processes, and strengthen the international coalition to curb overproduction of Chinese aluminum. This approach would require a package of policies to provide low carbon aluminum producers targeted relief from Section 232 tariffs.

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Executive Summary

For the past decade, the global trading system has faced unprecedented challenges due a complex mix of a backlash against globalization, unfair trade practices resulting in market distortion, and new demands for sustainability. Pandemic-induced lockdowns, supply chain disruptions, and global economic turbulence stemming from Russia's invasion of Ukraine has unleashed cascading effects on energy markets, resulting in increased inflation and a surge in commodity prices. Historically, the U.S. has increased its use of tariffs and other trade measures to mitigate these types of challenges and to achieve a variety of ends, including national security, economic competitiveness, and domestic job protection. As such, heavy industries, such as steel and aluminum, have been a major target of such policy responses.

Recently, trade policy is also being asked to incorporate climate considerations, adding a layer of complexity that has implications for stakeholders and industries worldwide. Since decarbonizing heavy industries would have a direct and large-scale impact on reducing greenhouse gas emissions, demands for incorporating climate considerations have become increasingly prevalent. Sustaining trade policies that exacerbate inflationary pressures without recognition of climate implications has become harder to justify. But as commodity prices continue to rise and supply chain bottlenecks persist, ensuring easy access to low-cost products has become a major policy objective for the U.S. The Biden administration now faces the challenge of balancing the U.S. commitment to achieving net-zero carbon emissions with both national security and economic competitiveness in a rapidly evolving policy sector.

This paper examines how the Biden administration can use its existing trade policy toolkit to achieve net-zero carbon emissions goals simultaneously with national security and economic objectives. It explores trade policy challenges and opportunities by using aluminum as a case study, as aluminum is universally recognized as a critical mineral essential to supporting global economic growth, especially in the transportation and construction industries. It is especially appropriate to examine since the U.S. has minimal aluminum domestic production capabilities and most production occurs in Asia and Europe, which creates a vulnerability with vast national security implications. Global aluminum production is also heavily dependent on coal-fired electricity generation, so examining aluminum tariffs with respect to Section 232 tariffs is uniquely suited to examine the role trade policy can play in achieving net-zero emissions.

Following an analysis of aluminum production, which examined country specific data on carbon intensity in aluminum production, and related trade policy factors, our research suggests that relief from existing Section 232 tariffs could be an effective tool to promote industry growth and trade of low-carbon aluminum, as well as facilitate the achievement of national net-zero emissions goals and enhancing national security. If aluminum was given relief from Section 232 tariffs, our findings indicate it could:

Enhance U.S. National Security: Aluminum and its components are critical inputs for products across a wide range of U.S. industries and infrastructure. However, the U.S. has little to no domestic aluminum production capabilities, creating an inherent supply vulnerability, made more pressing given that China is the largest producer and supplier of aluminum. Although Section 232's grounding in national security presents a potential legal constraint, broader conversations of climate change as a foreign policy priority and increasing threat to national security can drive a bundled policy regime that incorporates carbon intensity into tariffs to incentivize low-emissions production methods. Adopting these types of policy measures could enable the U.S. to enhance both its national security and industry resilience in sectors such as military infrastructure, transportation technologies, packaging, renewable energy, and building materials.

Facilitate Achievement of National Net-Zero Carbon Emissions Goals: China, the largest producer and supplier of aluminum, has a high carbon footprint since its production is derived from coal-based power generation. The U.S. can leverage its trade policy to produce strong market incentives and send political signals to advance low carbon aluminum production away from both China and coal-power generation. Granting preferential market access to aluminum producers would reduce carbon emissions, incentivize high carbon aluminum producers to adopt greener production processes, and strengthen the international coalition to curb overproduction of Chinese aluminum. This approach would require a package of policies to provide low carbon aluminum producers targeted relief from Section 232 tariffs.

Background

Trade Expansion Act (TEA), Section 232

Section 232 of the Trade Expansion Act (TEA) allows the Department of Commerce to levy tariffs on imported goods that it deems will "threaten or impair national security."[1] The TEA, passed in 1962, was originally intended as a national security measure during the Cold War. An action under Section 232 can be initiated either by industry petition or by the executive branch. Section 232 investigations include public hearings and consultations with affected parties and include coordination across the federal government to assess the investigation's merits based on national defense requirements, potential loss of employment or business, declining government revenues, and loss of human resources and supplies. The Commerce Department must furnish a report within 270 days of the start of the investigation to determine whether the imports in question undermine national security, after which the President has 90 days to affirm or reject the agency's conclusions.

Between 1962 and 2020, the Commerce Department initiated 31 Section 232 investigations, almost all of which were before 1986.[2] After 1986, there were no Section 232 actions until the Trump administration took office in 2017. The Trump administration launched eight Section 232 investigations, including on imports of steel, aluminum, and automobiles.

2017 TEA Section 232 Tariffs on Aluminum

In 2017, President Trump requested the initiation of Section 232 investigations into steel and aluminum imports. The consultation process included hundreds of comments by stakeholders which focused on the Commerce Department's broad definition of "national security." The Commerce Department's definition under the Trump administration was overly broad and included "general security and welfare of industries" as opposed to the common, narrower interpretation which focused on "critical national defense or overreliance on foreign suppliers." Under this new, broader interpretation, the Department of Commerce found that steel and types of primary and unwrought aluminum threatened national security, and proposed tariffs and quotas on imports from specified countries.[3]

Following the 2018 ruling, the Trump administration announced 25 percent tariffs on steel imports and 10 percent tariffs on aluminum imports on top of existing antidumping duties. The Trump administration said these tariffs were calibrated in a way to create flexibility to lower duties on specific countries and sub-products.[4] The Office of the United States Trade Representative (USTR) was authorized to negotiate possible exemptions. In March 2018, temporary exemptions were granted to Australia, Argentina, Brazil, South Korea, the European Union (EU), Canada and Mexico under the condition that each trading partner needed to negotiate separate agreements on steel and aluminum products.[5] [6] The Trump administration approved exemptions for Argentina and Brazil after reaching final quota agreements and for South Korea, which pursued a resolution over the tariffs in the context of discussions to modify the U.S.-South Korea (KORUS) Free Trade Agreement.[7] Following the initial temporary exclusion period, imports of steel and aluminum from Canada, Mexico, and the EU were subject to the Section 232 tariffs, effective

June 1, 2018. In January 2020, the Trump administration expanded the tariffs imposed on steel and aluminum products to also cover "derivative" products.[8]

The new, broader Section 232 interpretation reflected a modified standard on what constitutes national security that the Biden administration has thus far upheld. While sustaining tariffs on steel and aluminum, the Biden administration has worked with allies to roll back the trade and tariff measures. In 2021, the Biden administration reduced steel and aluminum tariffs on EU members to tariff rate quotas (tariffs only if imports exceed a certain amount based on historical volume) rather than the 25 and 10 percent rates. In exchange, the EU removed tariffs on a series of imported goods from the U.S.[9] U.S. Department of Commerce Secretary Gina Raimondo further announced that the ensuing rollback would take carbon intensity into account, encouraging the exchange of "cleaner" steel and aluminum products compared with similar products produced in China. The Biden administration also announced a rollback of steel tariffs with Japan, with the ultimate goal of forming an international climate coalition to curb Chinese overproduction of aluminum and steel.[10]

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These developments were positive since they are early acknowledgements of the need to reduce trade barriers because of a climate benefit. However, more actions could be taken to advance the greater case for free trade based on green solutions.

Aluminum Production and Market Conditions

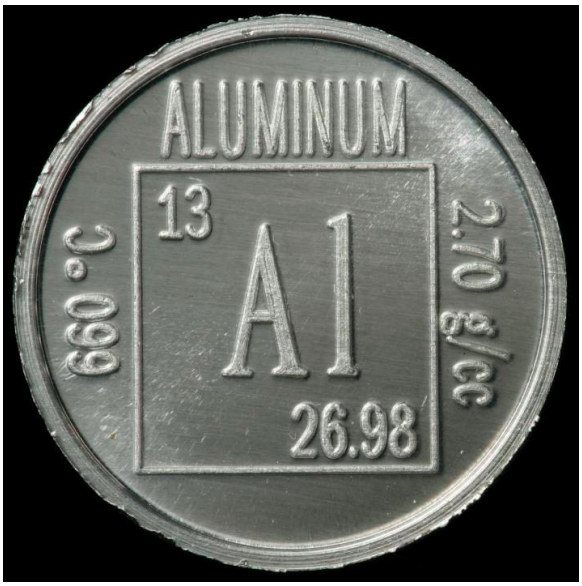
Aluminum is a lightweight, ductile, and malleable metal which is used across transportation, construction, electrical and consumer goods due to a variety of characteristics, including incredible strength to weight ratio, resistance to corrosion, and recycling capabilities. It does not exist in a pure state in nature; it is produced from bauxite ore. Aluminum is manufactured through two distinct processes. Primary aluminum production consists of mining bauxite, refining it to produce alumina, and then smelting it to yield aluminum. Secondary aluminum is derived from recycled scrap metal. Australia, Guinea, and China produce approximately 30%, 22% and 16% of bauxite ore, respectively. As for primary aluminum production, China leads the way with 37.3 million metric tons (MMT) followed by Gulf Cooperation Council (GCC) countries (5.8MMT), Russia and Eastern Europe (4.2MMT), Asia (excluding China) (4.1MMT), and North America producing about 3.9 MMT in 2020.[11] China's dominance in primary aluminum production is particularly noteworthy because of primary aluminum's importance in industries such as electronics and aerospace manufacturing. Primary aluminum is higher in quality and provides more consistent performance.

The global aluminum market size was $164 billion in 2019 and is projected to reach $242 billion by 2027, exhibiting a compound annual growth rate (CAGR) of 5.7% during that period. With currently leading end use of aluminum being across transport (26%) and construction (24%), the International Aluminum Institute (IAI) anticipates aluminum demand to further grow by more than 50% by 2050 to 298 megatons (Mt).[12]

This increased demand for aluminum is mainly anticipated due to global population growth, increased urbanization (requiring new construction and transportation), growth of the electric vehicle (EV) industry, expansion of the

electricity grid and greater use in consumer goods packaging while replacing single-use plastics. In fact, aluminum plays a crucial role in the solar photovoltaic (PV) industry where it accounts for more than 85% of most solar PV components.[13]

Aluminum and National Security



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Aluminum and its components are critical inputs for products across a wide range of U.S. industries and infrastructure. However, the U.S. has little to no domestic aluminum production capabilities, or a strategic stockpile of bauxite, alumina, or other related products used in the aluminum production process and continues to rely heavily on imports from other countries. This domestic deficiency creates an inherent supply vulnerability, made more pressing given that China is the largest producer and supplier of aluminum. Moreover, the lack of smelters in the U.S. that produce high-quality, primary aluminum places the U.S. in a more vulnerable position for the development of critical goods, including military aircrafts which require a certain purity of material. However, building a domestic aluminum capability in the U.S. would be time consuming, resource intensive, and not cost effective. Setting up primary smelting facilities for aluminum production is capital-intensive, and when coupled with high electricity and labor costs, it would result in higher domestic production costs. In turn, it would make the U.S. less cost competitive and decrease incentives for domestic production.

Aluminum is also listed in the U.S. Geological Survey (USGS) 2022 Critical Minerals List, which underscores the important role aluminum plays in U.S. national security.[14] From batteries to frames, heating and cables, aluminum's diverse utility plays an important part in technological advancement and the fight against climate change. Lightweight aluminum is also a key component of electric and hybrid vehicles, making it even more important as the U.S. embraces its electrified transportation future.

Addressing this critical mineral vulnerability and ensuring an alternative to Chinese aluminum would enable the U.S. to enhance its national security and standing in great power competition, as well as foster resilience for industry, including military aircraft, transportation technologies, packaging, renewable energy, and building materials. By using existing trade tools, the U.S. can pivot toward low-carbon alternatives which facilitate industry growth and adoption of net-zero friendly policies.

Carbon Considerations in Aluminum Production

Aluminum's varied use is a testament to its longevity as a critical component in the economy, but at present, the aluminum industry is responsible for the generation of more than 1.1 billion tons of carbon emissions annually, and two percent of total human-activity based carbon emissions.[15] Production is energy intensive, and requires substantial amounts of electricity, which is a key contributor to the product's carbon footprint. More than 90% of the aluminum industry's emissions are from primary production processes, despite primary aluminum amounting to less than 70% of global supply.[16] Given aluminum's prominence supporting global growth and the increased U.S. dependence on international imports to satisfy domestic aluminum demand, decarbonizing the global aluminum industry would have an outsized impact in achieving national net-zero emissions goals.

Emissions from aluminum production vary across countries. Energy-related CO2 intensity of aluminum smelters are highest in India, China, Australia, the United States, and the United Arab Emirates, followed by other countries. Energy-related CO2 intensity of aluminum production is highest in India, China, Australia, the United States, and the United Arab Emirates, followed by other countries. The table below shows the top five countries ranked by carbon emissions intensity for aluminum smelters and aluminum production. The variability of emissions intensity in aluminum production across different countries is an important factor in calculating overall carbon emissions and national-level trade practices, which, in turn, makes it relevant to national security. In terms total energy-related CO2 emissions from aluminum production, China (67%) and India (8%) combined consist of 75% share of the world total alone.

Number	Countries with highest Smelter Energy-Related CO2 Intensity	Countries with highest Energy-Related CO2 Intensity Production
1	India	India
2	China	China
3	Australia	Australia
4	United States	United States
5	United Arab Emirates	United Arab Emirates

Countries with the highest levels of aluminum production emissions intensity[17]

Pathways to Decarbonize Aluminum Production

Aluminum's properties as a strong, lightweight, and recyclable metal make it an ideal low-carbon alternative for use in buildings, packaging, mobility, and other sectors if electricity for aluminum production is from renewable sources, and new climate-friendly varieties emerge. Global companies have already started to offer lower carbon aluminum, while market participants like the London Metals Exchange have begun taking steps to increase consumer awareness and transparency around the carbon footprint of aluminum varieties for market participants.

Three primary areas would help significantly reduce carbon emissions in the aluminum industry. First, about 77% of aluminum sector carbon emissions are generated in the smelting process, of which more than 50% are due to electricity usage.[18] Therefore, the type of power available to the 200+ aluminum smelters around the world will influence the ability to significantly decarbonize its production.[19] Increased focus on transitioning the aluminum industry's power supply to renewable energy sources can help reduce these emissions. While grid power used can be slow to transition to renewable energy, depending on speed and scale of local and national legislatures, captive power (mostly coal-fired power plants) needs to be transitioned faster.[20]

Minimizing the use of coal energy (which in turn drives electricity production) for aluminum production in countries like China is the most impactful action to take to reduce carbon emissions during the aluminum production process. Primary aluminum production in China is overwhelmingly reliant on coal-fired electricity and results in annual carbon emissions of 667Mt (in 2020), which is greater than the total emissions of Indonesia. China has 47 GW of inefficient "subcritical" coal capacity dedicated for aluminum production, which is bigger than the entire coal fleet of Germany. To decarbonize the aluminum production in China and around the world, coal-fired electricity generation for aluminum production must be phased out rapidly.[21]

Second, decarbonization of direct emissions from aluminum processing accounts for 25-30% of sectoral emissions.[22] These direct emissions are produced as a result of electrolysis of alumina using a carbon anode during smelting and from fuel combustion to generate heat and steam. Focusing on technologies that can provide heat and steam without the use of fossil fuels and the development of a non-carbon anode can help reduce these direct emissions.

Finally, recycling aluminum will be critical for reduction of carbon emissions since secondary aluminum only requires about 5% of the energy needed to produce primary aluminum.[23] Increased focus on secondary aluminum and recycling can reduce demand for carbon-intensive primary aluminum.

Low-Carbon Production Innovation

Several innovations and technological advances are already underway to produce low-carbon aluminum in line with a future low-carbon economy. For example, Aluminum Sustainability Initiative (ASI) defines a performance standard, amongst other sustainability criteria, which sets a minimum carbon efficiency target for aluminum smelters. Given the increasing customer awareness for low-carbon products, companies have also started to offer aluminum with a low carbon footprint. For example, Alcoa's Colum, Hydro's Reduxa 4.0, Rio Tinto's RenewAI, and Rusal's Allow, and all offer aluminum with a low carbon footprint.

Carbon Considerations and Trade Policy

There are obvious tensions between free trade, tariffs, and restricting imports in pursuit of net-zero emissions and broader climate objectives. World Trade Organization (WTO) obligations present a potential constraint on use of trade instruments, while collaboration with partners may be hindered by competing geopolitical and development interests. Any use of the U.S. TEA as a means of advancing national carbon emissions reduction and climate goals will occur in a complex international system of diplomatic, financial, and policy mechanisms. Careful trade policy design which adheres to WTO principles of transparency, non-discrimination, and most-favored nation as well as coordination with partners is essential to avoid negative political spillovers. Fortunately, there are some existing approaches that can inform how future U.S. trade measures can be designed to avoid stoking tension with partners, including updates to WTO rules. There is growing acceptance that these rules need updates to address concerns over market distortions and sustainability, although the nature of any rule changes remains highly contentious.[24]

Environmental concerns, including carbon emissions, have already become a prominent feature of trade discussions in recent free trade agreements. Aluminum, however, presents two key challenges for U.S. trade policy. First, the global aluminum market has been struggling with market distorting domestic policies–especially subsidies–in important large exporters for several years. Government support to the aluminum industry has amounted to up to USD 70 billion in the period from 2013 to 2017, with a majority going to Chinese producers.[25] Changes to the pricing of embedded carbon may require domestic action that would require engagement with key U.S. steel and aluminum stakeholders. Secondly, as domestic regulations of carbon emissions tighten, there is a risk that the production of carbon-intensive products moves abroad resulting in carbon leakage. Unilateral trade restrictions are likely to redirect high-carbon aluminum into non-U.S. markets, which may reduce the desired policy and emissions effects. Many of the U.S. recent trade policy measures aimed to address unfair trading practices, but simultaneously put significant strain on the relationships with traditional trade partners, such as the EU and Japan. An effective U.S. trade policy must balance its net-zero ambition with maintaining productive relationships with key partners, both domestically and internationally. Strengthened engagement between the Department of Commerce, USTR, key stakeholders, and international partners should be prioritized to proactively mitigate these risks. Clear benchmarks for measuring success and assessment of second- and third- order effects will aid in policy implementation as well.

Given the vast differences in emissions intensities in aluminum smelting, the negotiations for relief from Section 232 tariffs present an opportunity to create a differentiation in market access between sources of aluminum with different carbon intensity. Specifically, tariff relief for countries with a lower emissions intensity could be prioritized, as long as the underlying security concerns do not provide an overwhelming contraindication. Although Section 232's grounding in national security presents a potential legal constraint, broader conversations of climate change as a foreign policy priority and increasing threat to national security can drive a bundled policy regime that incorporates carbon intensity into tariffs to incentivize low-emissions production methods. Exemptions such as those used by President Biden to enable critical imports from China in tandem with Section 301 tariffs or the tariff relief granted to the EU can be used as an example.

The most prominent carbon mitigation policy measure in current discussions is the EU's Carbon Border Adjustment Mechanism (CBAM). The polarizing proposal mandates that the carbon price levied in the EU's internal Emissions Trading System (ETS) is applied on the carbon emissions embedded on imported goods. The CBAM pursues the dual objective of avoiding carbon leakage and unfair competitive advantages for foreign producers who sell in the European market but do not face the cost of the EU's carbon price. The measure is slated to go into effect in 2026 but is facing criticism, including from the U.S., because it could introduce trade restrictions incompatible with the EU's commitments under the WTO. While Section 232 of the TEA could be an avenue to implement similar restrictions in the U.S., it would have to build on a Commerce Department investigation which finds that high-carbon foreign aluminum is displacing the domestic production of low-carbon aluminum, and that this substitution has a negative impact on U.S. national security.

Carbon-Factor Trade Policy Challenges

In general, carbon-factor based trade restrictions face two major design challenges: WTO compatibility and the need for standardized carbon accounting. WTO compatibility hinges on the question of whether two goods produced using a different production method (in this case characterized by carbon intensity) are alike under the General Agreement on Tariffs and Trade (GATT). If products with different levels of embedded carbon are considered alike, levying a border tax on imports from a specific country constitutes a discrimination against that country and a breach of the GATT tariff concessions. If, however, differences in process-and-production methods (PPM) are considered a differentiating quality of products, different tariff lines and import regulation could arguably be applied.[26] While this distinction is not specified in the GATT, the existing WTO jurisprudence and legal commentary is inconclusive on the admissibility of PPM considerations in establishing "likeness." An import tax would also have to be consistent with national treatment, meaning that it would have to mirror a domestic levy, which in the case of the United States does not exist in a meaningful way. Rather, the price difference arises from a different input (energy) market price.[27] The most conducive way to acceptance of PPM under the WTO would be a negotiated clarification of its admissibility as well as ambitious domestic action on carbon pricing.

The second key aspect of a trade measure targeting embedded carbon is the need to assess the amount of embedded carbon in products. This assessment also must happen based on the actual end product, rather than its origin. If a carbon border measure is to remain compatible with commitments under the WTO and avoid discrimination against trade partners, a uniform accounting standard must be applied and coordinated with partners levying similar border adjustments, most notably with the EU. While the EU Commission has laid out its plans for a system to do life-cycle assessments (LCA) for foreign produced goods, there are also international efforts to develop LCA standards, including through the International Organization for Standardization, the Greenhouse Gas Protocol, and at the Organisation for Economic Co-operation and Development (OECD).[28] Developing an industry standard would reduce the potential for friction with partner economies and create scope for interoperable systems.

Green Recovery and Way Ahead

The COVID-19 crisis has caused many countries to consider how to use economic recovery plans to advance goals toward carbon neutrality, resulting in a "Green Recovery." Economic recovery packages traditionally include a mix of policies including investments, incentives, subsidies, regulations, and trade policies. At the center of a "green recovery" is the industrial sector, where low-carbon alternatives are nascent but emerging, while consumption continues to grow rapidly.

Partnerships and Trade Agreements

Successful implementation of any trade restrictions as a mechanism for incentivizing low carbon production will rely on coordination with partners. Fortunately, The U.S.is in a unique position to partner with stakeholders and allies around the globe to support both demand growth and global trade of low-carbon aluminum.

The U.S.-EU Steel and Aluminum Deal, which took effect on January 1, 2022, provides a starting point. Its use of tariff rate quotas (TRQ) can be expanded to factor in carbon intensity, while the current ability of U.S. importers to request tariff exclusions for certain products (not counting towards TRQ limits) could be extended beyond 2023 and paired with policies that create financial incentives (e.g., tax or licensing benefits) for U.S. importers to work with "green" manufacturers. The tiered structure in which materials in excess of the TRQ can still enter the U.S. while subject to Section 232 duties can be recreated to minimize the risk of retaliatory tariffs, similar to those in reaction to the Trump administration's Section 232 use. It may also provide a path for compliance with WTO obligations, which make restricting market access difficult.

A goal of the U.S.-EU Deal is to create a new global forum for dialogue between the U.S. and EU, an initiative that can be expanded to include active discussions on making the EU's CBAM compatible with U.S. approaches to carbon-based trade restrictions.[29] The adoption of mutually acceptable accounting standards for embedded carbon is critical for consistent application of trade restrictions. The model can be expanded to other bilateral discussions over Section 232 tariff-relief with countries that share similar climate objectives. Similarly, Free Trade Agreements are an opportunity to align trade concessions with climate objectives. Finally, collaboration in international fora, including the OECD, the G7, and the G20, can ensure broad based action and international acceptance of United States trade policy.

Recommendations and Conclusions

Aluminum production has an outsized impact on carbon emissions, and by adopted certain trade policies and tariff relief, the Biden administration has the opportunity to both enhance national security and ensure progress toward achieving U.S. national net-zero goals. Specifically, the Biden administration could:

- Leverage ongoing negotiations on Section 232 tariffs as an opportunity to facilitate inclusions of carbon emissions into trade policy, while simultaneously advancing the global forum for low carbon aluminum trade;
- Provide relief from Section 232 tariffs for low-carbon aluminum producing countries and companies, and include such relief in ongoing negotiations of carbon adjustment mechanisms;
- In coordination with partners, actively pursue net-zero emissions objectives through a package of trade policy measures, including advancing negotiations to update WTO rules of trade and the environment, including clarifications on process and production method (PPM) as a factor in determining product likeness.

Acronyms

ASI - Aluminum Sustainability Initiative

CBAM - Carbon Border Adjustment Mechanism

CAGR - Compound annual growth rate

ETS - Emissions Trading System

EU - European Union

EV - Electric vehicle

GATT - General Agreement on Tariffs and Trade

GW - Gigawatts

G7 - Group of Seven (Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States)

G20 - Group of Twenty

IAI - International Aluminum Institute

ISO - International Organization for Standardization

KORUS FTA - United States-Korea Free Trade Agreement

LCA - Life Cycle Assessments

MMT - Million Metric Tons

Mt - Megatons

OECD - Organisation for Economic Co-operation and Development

PPM - Process and Production Methods

PV - Photovoltaic

TEA - Trade Expansion Act

TRQ - Tariff Rate Quotas

USTR - United States Trade Representative

USGS - United States Geological Survey

WTO - World Trade Organization

Endnotes

[1] Trade Expansion Act, 19 U.S.C. § 1862 (1962)

[2] Congressional Research Service, "Section 232 Investigations: Overview and Issues for Congress" (R45249). May 18, 2021. https://crsreports.congress.gov/product/pdf/R/R45249

[3] Ibid.

[4] Ana Swanson and Katie Rogers, "U.S. Agrees to Roll Back European Steel and Aluminum Tariffs," New York Times, October 30, 2021, https://www.nytimes.com/2021/10/30/business/economy/biden-steel-tariffs-europe.html

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