RESHAPING PAKISTAN'S EXPORT STRATEGY IN LINE WITH EU'S CARBON BORDER ADJUSTMENT MECHANISM

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Abstract

The European Union’s Carbon Border Adjustment Mechanism (CBAM) is set to reshape global trade dynamics by imposing a carbon price on imports of certain goods. The study examines the CBAM’s integration with the EU’s Emissions Trading System (ETS), its potential impact on Pakistan’s exports to the EU, and the need for strategic policy measures to enhance market competitiveness. The study also discusses sectoral estimates of emission intensity, highlighting the challenges and opportunities for Pakistani industries to reduce emissions and comply with the CBAM requirements. The study suggests devising a National Carbon Pricing Policy, and sector specific Measurement, Reporting, and Verification (MRV) protocols to promote renewable energy and sustainable agriculture. Additionally, it highlights the importance of public awareness, interministerial coordination, and the establishment of indigenous intermediary bodies to connect Pakistan’s green initiatives with global carbon credit verification entities. Overall, the study implies a proactive engagement with the CBAM that might help Pakistan’s transition to a low-carbon economy and ensure that its export industries remain competitive and sustainable in the global market.

Keywords: CBAM, European Union, carbon leakage, ETS, carbon pricing
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Reshaping Pakistan's Export Strategy in line with EU's Carbon Border Adjustment Mechanism

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1. INTRODUCTION

The European Union’s Carbon Border Adjustment Mechanism (CBAM) is poised to reshape its international trade dynamics by introducing a carbon price on imports of specific goods. This measure is designed to ensure that the foreign and EU producers pay the same carbon costs, thereby preventing ‘carbon leakage’. Since October 17, 2023, the exporters of iron and steel, aluminum, electricity, fertilizers, cement, and hydrogen to the EU has been providing carbon emission disclosures at each stage of the supply chain (Brandi 2023). Notably, several developing countries are major exporters of these goods to the EU. For instance, Zimbabwe exports iron and steel while Ukraine supplies large quantities of fertilizers (Brenton et al. 2023). The EU is Pakistan’s one of the major trade partners, as around 31 per cent of Pakistan’s total exports, majorly textiles, goes to EU. Moreover, Pakistan enjoys GSP+ status, and keeping the fit for 55 initiative of EU in focus, the whole of value chain approach of carbon content assessment will affect the export competitiveness of Pakistan’s export to EU, and will potentially result in widening of trade deficit.

Objectives: The main objectives of the study include:

- To analyze the integration of the European Union’s Carbon Border Adjustment Mechanism (CBAM) with the EU’s Emissions Trading System (ETS) and its implications for Pakistan’s export industries, and
- To provide sector-specific estimates of emission intensity in Pakistan’s export industries, highlighting the challenges and opportunities for reducing emissions and complying with CBAM requirements.

2. EU CBAM Expansion Plan

The cost of CBAM certificates is intricately tied to the pricing of the EU allowances within the framework of the European Union Emissions Trading System, which was introduced in 2005. The CBAM is conceived as a measure to curtail carbon leakage to jurisdictions lacking carbon pricing mechanisms, thereby enabling a cessation of the allocation of complimentary allowances to certain carbon-intensive sectors within the EU. These initiatives collectively aim to expedite the process of decarbonization under the Fit for 55 initiative.

1. This term refers to a scenario where production might relocate to countries with less stringent emission regulations to evade strict EU rules.
2. Fit for 55 is a legislative package proposed by the European Commission in July 2021 to help the EU reduce its greenhouse gas emissions by at least 55% by 2030.
3. Fit for 55 is a legislative package proposed by the European Commission in July 2021 to help the EU reduce its greenhouse gas emissions by at least 55% by 2030.
of the EU. Following the provisional political agreement reached between the Council and the European Parliament in December 2022, the CBAM is currently in application from October 1, 2023, and will undergo multiple phases from transitional to definitive phases.

From October 2023 to the end of 2025 transitional phase, the importers of products in six carbon intensive sectors, namely aluminum, cement, electricity, fertilizers, hydrogen, and iron and steel will need to report their emissions. These sectors are highly exposed to international trade. During the transitional phase, the regulators will be checking if other products like some downstream products can be added to the list.

By the year 2026, the Carbon Border Adjustment Mechanism (CBAM) will be fully integrated with the European Union’s Emissions Trading System (ETS). The ETS is a cap-and-trade system that limits the total amount of emissions from high-emitting industries and allows companies to purchase or sell permits as needed. This integration implies that importers, who bring in products with emissions higher than the prescribed limit, need to purchase CBAM certificates that replicate the weekly ETS allowance prices. This will effectively align the carbon costs of domestic and imported goods. This alignment compels exporters, including those from non-EU countries, to enhance their carbon efficiency or face higher costs. By 2030, the CBAM will expand to all the imported items by the EU (Figure 1).

3. METHODOLOGY

This policy brief employs a mixed-method approach, combining empirical data and qualitative assessment to examine the implications of the European Union’s Carbon Border Adjustment Mechanism (CBAM) for Pakistan’s export industries. The methodology includes an extensive literature review of academic papers, policy documents, and reports focusing on carbon pricing mechanisms, CBAM, and its potential effects on export industries in developing countries. Data was collected from various sources, including the State Bank of Pakistan for export statistics, the World Bank for sectoral emission...
intensity estimates, and the EU publications for regulatory information on CBAM and ETS integration. Additionally, interviews and group discussions were conducted with industry experts, policymakers, and stakeholders to gather insights into the challenges and opportunities presented by CBAM for Pakistan. A comparative analysis of global best practices in carbon pricing was undertaken, along with the development of policy recommendations based on the literature review, data analysis, and stakeholder input. These recommendations were then validated through public-private group discussions to ensure their relevance and feasibility within the Pakistani context.

4. ANALYSIS & FINDINGS

4.1 CBAM and Pakistan

![Figure 2: Share of Exports](image)

![Figure 3: Aggregate Relative CBAM Exposure Index](image)
According to the State Bank of Pakistan, Pakistan’s total exports in fiscal year 2023 were around USD 28 billion, out of which exports to the EU were USD 8.6 billion (~31 per cent of total exports) as shown in Figure 2.

Currently, only 1.23 per cent of Pakistan’s exports are at risk under CBAM. The potential inclusion of textiles – critical to Pakistan’s export economy – calls for pre-emptive strategic policy measures to preserve market competitiveness in Europe, a market that Pakistan has traditionally relied on. As per the World Bank’s CBAM Exposure Index, Pakistan’s exposure, while moderate, is significant, especially when benchmarked against major exporters like India and China.

The CBAM’s influence is not confined to the EU. It has sparked a global movement towards carbon pricing, with numerous countries adopting measures to price carbon. For instance, Indonesia has launched its first carbon market and an emissions-trading scheme, demonstrating its environmental ambitions despite being the world’s ninth-largest polluter. Likewise, Japan and Vietnam are in the process of establishing their carbon markets, indicating a shift towards more rigorous environmental policies. China, too, has expanded its emissions-trading scheme, now covering the intensity and total emissions of coal power plants, promoting a transition to renewable energy and environmental rehabilitation. In the US, there is a growing requirement for companies and businesses to disclose their carbon emissions.

![Figure 4a: Sectoral Carbon Intensity Comparison](image-url)
4.2 Sectoral Estimates of Emission Intensity and CBAM

According to the World Bank estimates, the emission intensity of Pakistani manufactured goods is higher across all CBAM compliant sectors (refer to Figure 4a and 4b). Despite Pakistan not exporting significant share of aluminum to the EU, the emission content in Pakistan’s aluminum production and processing is 5.7 times higher than that of the EU. Similarly, for cement production, the emission intensity in Pakistan is 1.4 times higher than in the EU, and in iron and steel production, the EU’s native production is 4.6 times less emission-intensive than Pakistan’s. While aluminum exports to the EU account for 2.3% of Pakistan’s total exports to the EU, for cement, this ratio is 1.7%, and for iron and steel, the share is 1%. Pakistan does not export electricity and fertilizers to the EU; however, the carbon intensity in electricity production in Pakistan is 1.4 times higher than that of the EU. Scope 2 emissions are likely to be problematic for industries exporting to the EU and connected to the national grid, particularly for textile and iron and steel sectors, in terms of the CBAM (Figure 4a and 4b).

The high emission intensity of Pakistani goods compared to the EU presents a significant challenge for the country’s industries, particularly those reliant on exports. The emissions intensity, especially in sectors like aluminum, cement, and iron and steel, not only reflects inefficiencies in production processes but also indicates a severe lack of adherence to stringent environmental standards. Eventually, this will cause the exporting industries to buy CBAM certificates from the EU. Implementing measures to reduce emissions in these sectors could enhance their competitiveness in the international market and mitigate the
impact of the CBAM. Additionally, improving energy efficiency and transitioning to cleaner energy sources could not only reduce emissions but also lower production costs in the long run, making Pakistani goods more attractive to environmentally conscious markets like the EU. However, these measures would require substantial investments in technology and infrastructure, as well as policy support from the government to incentivize and enforce sustainable practices across industries.

5. POLICY RECOMMENDATIONS

- The development and effective implementation of a National Carbon Pricing Policy in Pakistan will serve as a crucial benchmark for determining the equivalent emission fee under the Carbon Border Adjustment Mechanism (CBAM). To achieve this, the establishment of a dedicated resource group comprising stakeholders from key entities such as the Ministry of Climate Change, Ministry of Commerce & Industry as well as independent experts, think tanks, and academia, is needed. This group must be able to formulate and implement policies related to carbon pricing, ensuring alignment with national priorities and international obligations. Moreover, Economic Coordination Committee (ECC) platform can be utilized for devising a holistic and whole of the government approach.

- Owing to the diverse nature of exporting industries in Pakistan, a sector-specific policy is necessary for building capacity in emissions measurement, reporting, and verification (MRV). This policy should cater to the unique characteristics and challenges of each sector. Additionally, the ministry of commerce may consider developing sector specific MRV templates to streamline the reporting process and ensure consistency and accuracy across industries. These templates would provide a standardized framework for emissions data collection and reporting, facilitating compliance with international standards and regulations.

- By the full expansion of the CBAM in 2030, Pakistan’s exposure index is expected to increase as more exporting sectors, such as textiles, will fall under the imposition of CBAM. The textile industry in particular is concerned about scope 2 emissions, specifically electricity sourced from the national grid, which predominantly generates electricity from fossil fuels.

- Energy reforms offer significant emissions reduction prospects. Initiatives like Competitive-Trading-Bilateral-Contracts-Markets (transitioning from a single-buyer electricity market to a competitive wholesale market) and Power Wheel Policies could allow industries to source cleaner electricity, reducing dependence on the predominantly fossil-fuel-based power grid. However, among others, it would necessitate the government not to introduce any policy that may discourage using renewable energy, including the proposed amendments in the net-metering policy that may discourage the use of solar power.
Agriculture – a cornerstone of Pakistan’s economy – also requires a transformative approach to remain competitive in future export regimes. Implementing techniques like alternate wetting and drying in rice cultivation, which could curb methane emissions by up to 30 per cent, align Pakistan with international best practices in sustainable agriculture, and help meet its methane emission reduction pledge. Given the significant methane emissions from rice cultivation in Pakistan, the CBAM exposure index is expected to increase exponentially in the future. This highlights the importance of implementing measures to reduce methane emissions from rice cultivation, such as alternate wetting and drying (AWD) techniques, which can help mitigate the impact of rice production on greenhouse gas emissions.

Public awareness initiatives are equally crucial. By educating the industry and the broader public about the CBAM implications and the advantages of low-carbon operations, these campaigns can build a foundation of support for the transformative changes required, accelerating the adoption of sustainable practices across diverse sectors.

Additionally, a comprehensive monitoring and evaluation framework is indispensable for ensuring the effectiveness of these initiatives. Standardizing data collection and emissions calculation procedures would enhance transparency and accountability, facilitating a credible transition to a low-carbon economy.

Another important factor is the speed at which Pakistan can establish indigenous intermediary bodies to connect its green initiatives with global carbon credit verification entities.

Lastly, effective interministerial coordination and a shared vision of the federal government and the federating unit on this issue are vital. The creation of local and regional carbon markets will encourage companies to reduce their emissions, benefiting the economy and the environment. These markets would allow for the trading of carbon credits, bringing in foreign exchange through selling these credits, promoting the alignment of economic activities with sustainability goals, and helping Pakistani exporters comply with CBAM requirements. As discussions on carbon markets continue between the federal government and federating units, it is also important to consider compliance with the CBAM. Likewise, the ministries of climate change, and commerce and industry need to work together to develop sector-specific greenhouse gas inventories and targeted mitigation strategies, seamlessly integrating climate considerations into national trade policies.
6. CONCLUSION

For Pakistani exporters, the global shift towards carbon pricing implies a forthcoming need to reduce emissions or incur offset costs. An effective first step is the establishment of tailored industry-specific Monitoring, Reporting and Verification (MRV) protocols. These protocols, crucial for the credibility of emission reports, vary by industry and can incorporate metrics like energy efficiency, green transportation, nature-based solutions, and green supply chains. However, complexity arises not only from measurement and reporting but also from the certification of emission reductions. Many would know the Clean Development Mechanism (CDM). It was a mechanism established under the Kyoto Protocol to combat climate change. It allowed developed countries to invest in emission reduction projects in developing nations to meet their emission reduction targets. Although it no longer accepts new projects, its methodologies and tools are still used in other carbon standards. Some of the new certification standards include the Gold Standard, the Verified Carbon Standard (VCS), Verra, SD Vista, Global Carbon Council (GCC), Puro Standard, CERCARBONO, etc. The Gold Standard emphasizes environmental integrity, sustainable development, and stakeholder consultation, focusing on projects like renewable energy and waste management. Verra’s VCS is the most widely utilized for certifying carbon credits, ensuring that projects not only reduce emissions but also benefit local communities and economic development. SD Vista also targets sustainable development and emission reductions, offering detailed guidance for projects ranging from sustainable agriculture to renewable energy. GCC, a newer standard from the Middle East and North Africa, is still establishing its presence in the carbon market with its long-term impact yet to be determined.

The ones that verify compliance with the above standards are, in turn, required to be International Standardization Organization (ISO) 14065:2020 certified. This standard is crucial in validating and verifying greenhouse gas emissions reductions. It ensures that these verification bodies assessing carbon projects adhere to principles of impartiality, ethical conduct, fair presentation, and due professional care. In the absence of an ISO 14065:2020 certified verification body or reliable intermediaries, who may facilitate certification from such a verification body, the cost and time of compliance for Pakistan to CBAM and other ETS will increase manifold.

Pakistan’s proactive engagement with the CBAM, by reducing carbon emissions and bolstering its carbon pricing and market mechanisms, ensures its transition to a low-carbon economy. It will also ensure that its industries remain competitive, sustainable, and compliant with international environmental standards. The time is ripe to take a whole-of-government, and whole-of-policy approach to tackle the challenges posed by climate change and grab the opportunities coming to our way in this regard.
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