

## Counting the Cost: Short-Term Implications of CBAM and Domestic Carbon Tax in India

Topic: Social Accounting Matrix and its Applications

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Starting in January 2026, the European Union's Carbon Border Adjustment Mechanism (CBAM) will impose a carbon price on imports from high-emission intensive sectors from countries without comparable carbon pricing mechanisms. For India, which currently lacks a carbon pricing mechanism, this policy raises concerns about the competitiveness of its exports, particularly in carbon-intensive sectors such as Iron & Steel and Aluminium, which constitute a significant portion of its trade with the EU. In this context, this study seeks to address two critical research questions: (1) What is the CBAM-equivalent tariff on India's exports to the EU? and (2) What are the short-term economic and environmental impacts of a domestic carbon tax as a potential response to CBAM?

The CBAM-equivalent tariff is estimated using an accounting framework that calculates the additional cost imposed on Indian exports under different emissions coverage scenarios. Our findings indicate that approximately one-fourth of India's total Iron & Steel and Aluminium exports are destined for the EU, making these sectors particularly vulnerable to CBAM-related trade distortions. Using official export data from the Government of India and emission intensity estimates from the Joint Research Centre of the European Commission, we estimate that the CBAM-equivalent tariff could range from 11.3% to 13.5% for Iron & Steel and from 3.9% to 25.5% for Aluminium, depending on whether only direct emissions or both direct and indirect emissions are considered. These findings underscore the financial implications for Indian exporters, who may face reduced competitiveness in EU markets due to CBAM.

To assess the short-term economic and environmental implications of introducing a domestic carbon tax as a countermeasure, we employ an Environmentally-extended Social Accounting Matrix (ESAM) for India for the year 2021–2022. This approach enables an economy-wide evaluation of the policy's impact across various sectors and household groups. Our analysis considers three policy scenarios, including a scenario where the carbon tax is combined with a reduction in existing indirect taxes, i.e. the Goods and Services Tax (GST).

The results indicate that while a carbon tax is effective in reducing CO<sub>2</sub> emissions, it has a limited but regressive impact on household welfare, potentially exacerbating income inequality. At the macroeconomic level, the broader economic effects remain moderate, with industries experiencing a slight decline in output due to higher production costs. Notably, when the carbon tax is implemented alongside a reduction in indirect taxes, the economic burden on industries and households has reduced.

This study makes a novel contribution to the growing literature on CBAM and domestic carbon pricing strategies. While existing research has examined the potential impact of CBAM on Indian industries, this study is one of the first to assess the economic and environmental trade-offs of a domestic carbon tax combined with targeted tax reductions in a developing country context. By proposing a policy mix that balances trade competitiveness, economic stability, and climate action, this research provides valuable insights for policymakers navigating India's response to CBAM. As India considers its strategic options in light of evolving international carbon pricing regulations, a carefully designed domestic carbon pricing policy could serve as both a trade strategy and a climate mitigation tool. While the immediate economic costs of a carbon tax alone cannot be ignored, integrating such a policy with targeted tax reductions presents a viable pathway to minimize trade disruptions, support vulnerable industries, and advance India's environmental commitments.