Redistributing Mitigation Burden through a Carbon-Added Pricing Mechanism

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Carbon pricing is crucial for decarbonizing global production and preventing carbon leakage; however, in the cross-border context, it often fails to ensure equitable burden distribution, sparking debates on effectiveness versus fairness. Our study shows that conventional carbon tariffs can significantly magnify and distort the burdens due to the complexities of global trade. For instance, a 100 $/ton tariff can translate into an impact exceeding 200 $/ton effect for some participants, with one quarter of carbon tariffs falling on intermediary exporters for upstream emissions. These effects necessitate careful policy design. To alleviate magnification and promote more equitable burden-sharing, we propose a carbon-added economic-adjusted pricing mechanism that accounts for economic development status, reducing tariff burdens on developing economies and encouraging the establishment of carbon pricing schemes. This approach could lower the net tariff burdens of the developing economies. Our findings highlight the limitations of unilateral policies like border adjustments, underscoring the urgent need for collaborative and widely acceptable carbon pricing mechanisms to achieve global climate targets.