CBAM: A Trade-based Carbon Pricing Instrument to Incentivize Global Climate Ambition

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Chad Qing, Associate Analyst, Process Economics Program (PEP)

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Glossary

°C Degrees Celsius €/t Euros per metric ton

AD Activity data BF Blast furnace

BOF Basic oxygen furnace

CBAM Carbon Border Adjustment Mechanism

CC Carbon content

CGD Center for Global Development

CF CBAM factor

CN Combined Nomenclature
CO2e Carbon dioxide equivalent
EEA European Economic Area

EF Emissions factor

ETS Emissions Trading System

EU European Union

EuroStat Statistical Office of the European Union

Gg Gigagrams GHG Greenhouse gas

ICAP International Carbon Action Partnership
IPCC Intergovernmental Panel on Climate Change

JRC Joint Research Center

kg Kilograms
kPa Kilopascals
mm millimeters
MMt Million metric tons

MRV Monitoring, reporting, and verification

MWh Megawatt-hoursNA Not availableNCV Net calorific valuePCF Product carbon footprint

S. No. Serial number t Metric tons

tCO₂ Metric tons of carbon dioxide

tCO₂e Metric tons of carbon dioxide equivalent t C/t Metric tons of carbon per metric ton of product

t/y Metric tons per year

TJ Terajoules
TWh Terawatt-hours

WTO World Trade Organization

Y Year

Abstract

The Carbon Border Adjustment Mechanism (CBAM) is the EU's new carbon tax, designed to be in alignment with the EU's domestic Emissions Trading System (ETS). The CBAM started its data reporting in October 2023 and will put a financial obligation on the EU's importers from January 2026; therefore, there is a broad interest in exploring the CBAM and understanding how it will affect the relevant trade partners and trade flows. In this review, we present a retrospective look at the background and development of the CBAM, providing a summary of its main regulations. Also, we examined its carbon emissions scope through an example illustration, developed the formula for calculating the carbon border tax applicable to CBAM goods, and highlighted the major CBAM goods trade partners per sector, based on the 2024 trade data, with their respective carbon pricing status. We conducted two case studies, for pig iron and gray Portland cement, to investigate the possible impact on the import costs. This review gives a general overview of the CBAM as a climate change policy instrument, which is a starting point for further sector and jurisdiction-specific studies.

Contacts

Chad Qing

Associate Analyst, Process Economics Program guangxin.qing@spglobal.com

Rajiv Narang

Executive Director, Process Economics Program rajiv.narang@spglobal.com

CONTACTS

Europe, Middle East, Africa: +44 (0) 203 367 0681

Americas: +1 800 332 6077 Asia-Pacific: +60 4 296 1125

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