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The EU's Carbon Border Adjustment Mechanism

Considerations for Mexico

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Contents

Abbreviations 04

Executive summary 05

1 Implications of the EU carbon pricing 07

2 Country introduction 11

3 Impact of the EU CBAM on Mexico 13

3.1. Exposure of CBAM-covered products and sectors 14
3.2. Direct and indirect CBAM effects on Mexico's economy 17
3.3. National and sub-national implications 21

4 Institutional and technical readiness for CBAM implementation 24

4.1. Climate and energy governance 26
4.2. MRV, carbon accounting and product traceability 27
4.3. Readiness of the private sector 28

5 Conclusions 32

References 34

Boxes, figures and tables

BOX 1. Background to the CBAM 09
BOX 2. Mexico's climate policies and how they align with CBAM requirements 25
FIGURE 1. CBAM implementation timeline 10
FIGURE 2. Shares of CBAM-covered Mexican products exported to the European Union (2023) 14
FIGURE 3. CBAM affected industries in Mexico 16
FIGURE 4. GDP contribution of CBA M-affected industries 18
FIGURE 5. Key sectors of the economy 19
FIGURE 6. Changes in gross value of production and changes in employment 20
FIGURE 7. Sub-national CBAM exposure index, World Bank approach 22
FIGURE 8. Sub-national CBAM exposure index, including the labour component 23
FIGURE 9. CBAM stakeholder mapping 27
FIGURE 10. Measures for emission reduction in iron and steel industry 29
FIGURE 11. Measures for emission reduction in the aluminium industry 31
TABLE 1. Distribution of exports and emissions intensity among CBAM-affected sectors in Mexico, 2023 17

Abbreviations

ANACOFER	National Association of Fertiliser Traders and Producers
CANACERO	National Chamber of the Iron and Steel Industry
CANALUM	National Aluminium Chamber
CBAM	Carbon Border Adjustment Mechanism
CCS	Carbon capture, utilisation, and storage
CFE	Federal Energy Commission
COCOSCE	ETS Advisory Committee
CONAFOR	National Forestry Commission
EAF	Electric arc furnace
ETS	Emissions trading system
EU	European Union
FIDE	Electric Energy Savings Trust Fund
FOTEASE	Energy Transition and Sustainable Energy Use Fund
GDP	Gross domestic product
GHG	Greenhouse gas
IEPS	Special Tax on Production and Services
INEEL	National Institute of Electricity and Clean Energy
MEM	Wholesale Electricity Market
MRV	Measurement, reporting, and verification
MSME	Micro, small and medium-sized enterprise
NDC	Nationally Determined Contribution
Pemex	Petróleos Mexicanos
PROFEPA	Federal Office for the Protection of the Environment
RENE	National Emissions Registry
SAT	Tax Administration Service
SE	Ministry of Economy
SEMARNAT	Ministry of Environment and Natural Resources
SHCP	Ministry of Finance and Public Credit
SME	Small or medium-sized enterprise

Executive summary

This brief examines the impact of the European Union's Carbon Border Adjustment Mechanism (CBAM) on Mexico.

The main findings suggest the following:

- The CBAM's immediate impact on Mexico's economy will be modest. In 2023, CBAM-affected products – iron and steel, aluminium, fertilisers and cement – made up only 0.91% of exports to the EU and 0.02% of gross domestic product. Mexican exports of those goods to the EU reached USD 210 million, compared to USD 14.9 billion globally. Exposure could widen if other goods are added to the CBAM or the United States, absorbing 85.7% of Mexican exports in 2023, adopts similar measures.
- The iron and steel industry, representing 77.4% of Mexico's CBAM-affected exports to the EU (USD 162.9 million) in 2023, is the most exposed to the new mechanism, followed by aluminium (USD 41.7 million) and fertilisers (USD 5.7 million). Mexico's iron and steel industry is highly carbon-intensive (0.37 kg CO_2/USD compared to the EU's 0.16), while fertilisers exceed EU benchmarks by 24%. Aluminium is more competitive, with emissions already 20% lower than EU averages due to high scrap recycling.
- Localised risks are significant where CBAM-affected industries (especially iron and steel) are concentrated. Sub-national analysis highlights Nuevo León as the country's most exposed state, followed by Veracruz, Baja California, San Luis Potosí and Michoacán. Michoacán rises to third place due to its fertiliser industry when labour dependency is considered.
- Mexico's institutional and technical readiness for CBAM compliance remains limited, with climate governance still fragmented and no official response strategy. While the National Emissions Registry (RENE) and pilot Emissions Trading System (ETS) provide a foundation, major gaps persist in product-level traceability and monitoring, reporting and verification (MRV) systems. Small and medium-sized enterprises (SMEs), not previously subject to mandatory reporting and lacking funds for certification, face the greatest challenge. Carbon taxes exist in seven states, but with widely varying rates and no harmonised national carbon price.

The introduction of CBAM may present opportunities for green industrialisation, provided financing is available.

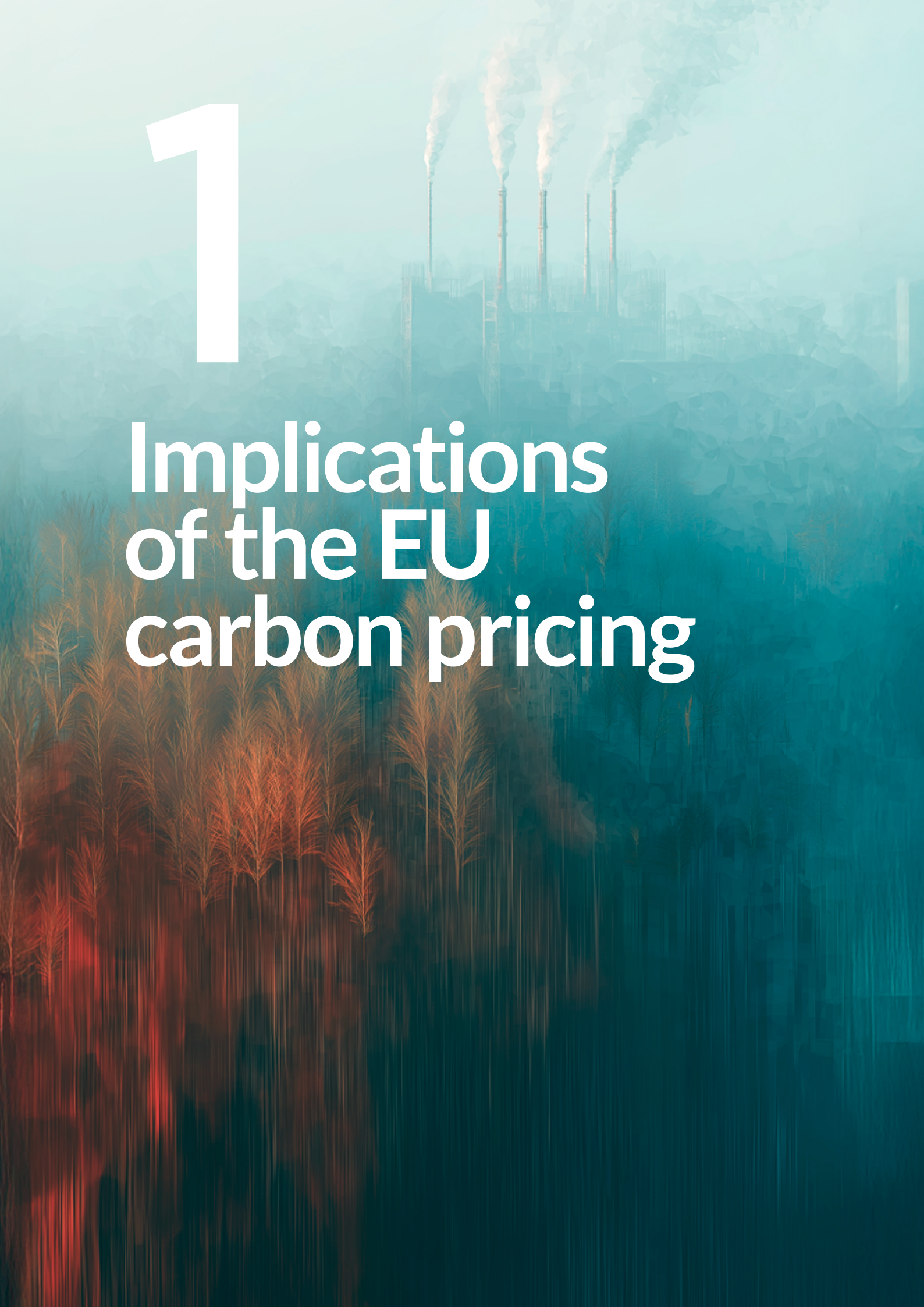
- The introduction of CBAM may present opportunities for green industrialisation, provided financing is available. Planned aluminium investments, such as a recycling plant in Istmo de Tehuantepec, could strengthen Mexico's competitive advantage. Decarbonisation pathways for iron and steel include further expanding electric arc furnaces, increasing renewable energy use, and developing green hydrogen. Fertiliser decarbonisation requires major upgrades, starting with a USD 750 million allocation for plant renovations in 2024.
- Alignment with EU standards could accelerate Mexico's energy transition, but this will depend on coordinated policies, clean energy investments, and improved MRV. Without a proactive CBAM response, exporters risk losing competitiveness. The EU could support fairness and strengthen global climate action by recycling a portion of CBAM revenues to help developing countries with industrial decarbonisation. Unilateral trade policies, even when framed as climate goals, require constructive dialogue with trading partners, especially developing countries with limited responsibility for emissions.
- Going forward, Mexico needs to align its ETS with international standards, strengthen product-level MRV, and support SMEs through financing and technical assistance for CBAM compliance. On that basis, it could negotiate with the EU for transitional arrangements and advocate for CBAM revenues to help green its export industries.
- The full potential from such climate policies can only be fully realised with strategic planning, coordination, and sustained investments. In addition, transition consideration should involve support from international cooperation based on "common but differentiated responsibility" and/or recycling of CBAM revenues.

About this study

This country-level case study forms part of a series on the design, implementation and implications of the European Union's Carbon Border Adjustment Mechanism (CBAM). Phased implementation, reporting requirements, sectoral scope, and economic impacts of the CBAM are all analysed, particularly in relation to trade and competitiveness for developing countries. With this approach, the series aims to enhance understanding among policymakers of the mechanism's potential effectiveness, as well as challenges likely to arise and how CBAM implementation can help shape sustainable pathways for global decarbonisation, provided context-specific considerations and priorities are considered and access to financing is facilitated.

These CBAM impact studies initially focus on selected developing countries.

This case study from Mexico explores the potential consequences of CBAM implementation, both positive and negative, along with the country's preparedness and possible responses. The study – developed by the International Network of Energy Transition Think Tanks (INETTT) and its member think tank, Instituto de Desarrollo, Energía y Ambiente (IDEA) Mexico – considers exporting-country perspectives and highlights the nuances of CBAM impact at both the national and sub-national levels.



1 Implications of the EU carbon pricing

The inclusion of indirect emissions in CBAM carbon accounting could provide a competitive edge for some developing countries.

Border Carbon Adjustments (BCAs) are a policy tool designed to internalise the carbon cost of imported goods and thus encourage cleaner industrial production in exporting markets that aligns with decarbonisation goals of the importing market. BCAs aim to support domestic industries that invest in low-carbon technologies, specifically by imposing equivalent carbon costs on imports while also mitigating the risk of potential "carbon leakage," where production relocates to regions with weaker environmental standards.[1] These mechanisms primarily target energy-intensive, trade-exposed sectors such as steel, aluminium, cement, and chemicals.[2]

The European Union's Carbon Border Adjustment Mechanism (CBAM), implemented in 2023 under Regulation 2023/9562, represents the first large-scale application of a BCA. It forms part of the EU's broader climate strategy to reduce net greenhouse gas emissions at least 55% by 2030 (compared to 1990 levels) and reach climate neutrality by 2050.[3] These goals are embedded in the European Green Deal (2019), as well as in the "Fit for 55" legislative package (2021) that harmonises EU climate, energy, transport, and fiscal policies.[4, 5]

The CBAM complements the EU Emission Trading System (EU ETS) – the world's first mandatory carbon market – by requiring EU-based importers to purchase carbon certificates when bringing goods from outside the EU, equivalent to compliance costs paid for goods produced within EU. Deductions are available if a comparable carbon price has already been paid in the country of origin (see also Box 1).[6]

While the CBAM aims to level the playing field for EU industries subject to carbon pricing, it poses economic and technical challenges for non-EU producers, particularly those in developing countries. Along with facing higher overall emissions intensities, such producers often lack the infrastructure for emissions measurement, verification, and reporting. CBAM compliance, therefore, increases their export costs to the EU and can create new competitive disadvantages. Furthermore, many global south countries lack established carbon markets and have weakened currencies (against Euro) making compliance even more costly.

Currently, the CBAM only recognises the direct emissions except for fertilisers and cement. This further exacerbates global disparities, as many countries in the Global South have a renewable-rich electricity mix. The inclusion of indirect emissions in CBAM carbon accounting would reduce the carbon intensities of their exports and thus provide a competitive edge.

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[1] *Chris Kardish et al., Carbon Border Adjustments: Considerations for Policymakers (2022), https://www.c2es.org/wp-content/uploads/2022/06/carbon-border-adjustments-considerations-for-policymakers.pdf.*

[2] *Centro de Estudos de Integração e Desenvolvimento (CINDES), Global Dialogue on Border Carbon Adjustments: The Case of Brazil (2024), https://www.iisd.org/system/files/2024-07/border-carbon-adjustments-brazil.pdf.*

[3] *European Commission, Guidance Document on CBAM Implementation for Importers of Goods into the EU (2024), https://taxation-customs.ec.europa.eu/document/download/bc15e68d-566d-4419-88ec-b8f5c6823eb2_en?filename=TAXUD-2023-01189-01-00-EN-ORI-00.pdf.*

[4] *European Commission, "Fit for 55," 2025, https://www.consilium.europa.eu/en/policies/fit-for-55/.*

[5] *European Council, "European Green Deal," Consilium, 2025, https://www.consilium.europa.eu/en/policies/european-green-deal/.*

[6] *European Commission, Carbon Border Adjustment Mechanism, n.d., accessed April 11, 2025, https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en.*

These disparities must be addressed to uphold the principle of "common but differentiated responsibilities" under the Paris Agreement. As such developing economies will need financial and technical support to build the capacity for accurate emissions accounting and CBAM compliance.[7, 8]

CBAM implementation is expected to generate significant revenue – around EUR 1.5 billion annually starting in 2028 – which can boost the EU budget for initiatives like the Innovation Fund and the "Next Generation EU" recovery plan.[9] According to a preliminary report from the European Commission, the total revenues from the sale of CBAM certificates will be divided into two parts. Each member state will contribute 25% of the revenue to a temporary fund that supports the decarbonisation efforts of European companies. The remaining 75% will be directed back to EU as its own fund. While the fund aims to maintain the competitiveness of European companies in third-country markets – where they compete with cheaper and more carbon intensive products – it will be awarded to European companies producing selected CBAM goods irrespective of whether they export to the third-country markets or not. This provides a strategic advantage to European companies that have decarbonisation plans. Despite some previous discussions, none of the expected revenue is earmarked to support decarbonisation efforts in developing countries.[10] This has raised concerns about equity and the way the CBAM influences exporting countries' own industrial climate strategies.[11] Notably, countries with their own carbon-pricing system may still be required to pay the price difference if their domestic carbon costs are lower than those under the EU ETS, although no CBAM proceeds would be available to them for industry carbonisation.

Box 1. Background to the CBAM

The European Union Emissions Trading System, or EU ETS, establishes a carbon price on goods and services across the bloc's 27 member countries. By requiring companies to purchase emissions allowances under a gradually declining cap, the EU ETS creates economic incentives for progressive decarbonisation. A complementary scheme, ETS2, adopted in 2023, is set to extend carbon pricing to fuel usage in buildings, transport, and small industries starting in 2027. Both systems create financial incentives for emission reductions, specifically by capping total emissions and requiring companies to buy allowances.[12] Complementing this framework, the CBAM obliges EU-based importers to buy carbon certificates reflecting the cost of compliance with EU emissions standards, with deductions available if an equivalent carbon price has been paid in the country of origin.[13]

[7] *Trishant Dev and Avantika Goswami, The Global South´s Response to a Changing Trade Regime in the Era of Climate Change (Centre for Science and Environment, 2024), https://test-assets-opsaa.iica.int/storage/resource/2024/07/e7d13e0fc5b6f6b3b3d9b59fff112500.pdf.*

[8] *Rahat Sabyrbekov and Indra Overland, "Small and Large Friends of the EU's Carbon Border Adjustment Mechanism: Which Non-EU Countries Are Likely to Support It?," Energy Strategy Reviews 51 (January 2024): 101303, https://doi.org/10.1016/j.esr.2024.101303.*

[9] *European Commission, "Questions and Answers: An Adjusted Package for the Next Generation of Own Resources," Text, 2023, https://ec.europa.eu/commission/presscorner/detail/en/qanda_23_3329.*

[10] *European Commission, Report from the Commission to the European Parliament and the Council, Provisionally published (Brussels, Belgium, 2025), https://taxation-customs.ec.europa.eu/document/download/3903da9d-44fd-4508-8915-f27ef25fe033_en?filename=Review%20Report_0.pdf.*

[11] *Anne Glaser, and Oldag Caspar, "Less Confrontation, More Cooperation: Increasing the Acceptability of the EU Carbon Border Adjustment in Key Trading Partner Countries," 2021, https://www.germanwatch.org/sites/default/files/GERMANWATCH_Increasing%20the%20acceptability%20of%20the%20EU%20CBAM_2021-06-17_0.pdf.*

[12] *European Commission, "ETS2: Buildings, Road Transport and Additional Sectors," accessed November 19, 2025, https://climate.ec.europa.eu/eu-action/carbon-markets/ets2-buildings-road-transport-and-additional-sectors_en.*

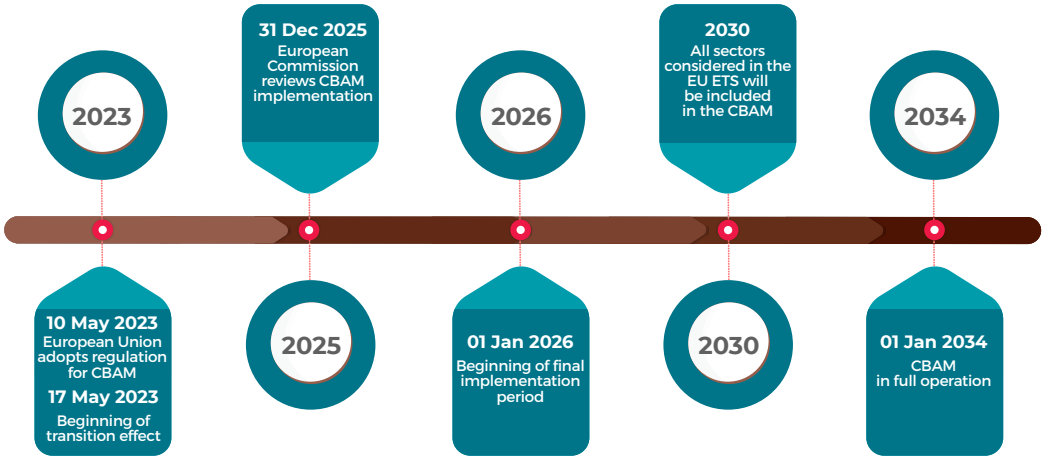
[13] *European Commission, Carbon Border Adjustment Mechanism.*

The transitional phase of CBAM implementation, governed by Implementing Regulation (EU) 2023/1773, introduced reporting obligations for imports of goods covered by the mechanism, effective between October 2023 and December 2025. During that transition period, importers have been required to report their direct emissions from production, indirect emissions from electricity use, and embedded emissions from precursor materials. They have also had to provide data on quantities imported, total embedded emissions per tonne or per megawatt-hour, and any carbon price already paid in the country of origin.[14]

Until the end of 2024, companies were allowed to use the EU methodology, equivalent methods, or default reference values. Since January 2025, only the EU methodology is accepted, with estimated equivalents based on previous methods being allowed for no more than 20% of the total reported emissions for each import.[15] However, starting 2027, the European Commission may likely include the carbon pricing available in other countries, along with the methodology for calculation in the CBAM registry.[16]

The CBAM initially applies to sectors most at risk of carbon leakage – including cement, iron and steel, aluminium, fertilisers, electricity, and hydrogen – with exemptions for low-value consignments, military imports, and, from 2025, small importers bringing in under 50 tonnes of goods annually.[17, 18] Implementation depends on close coordination among non-EU producers, EU-based importers, customs authorities, national regulators, and the European Commission, which oversees emissions reporting, verifies declarations, and manages the CBAM registry.

Figure 1. CBAM implementation timeline



Source: Authors, based on European Commission (2024)

From 2026, importers must register as "authorised declarants", submit verified annual emissions data, and purchase CBAM certificates linked to EU carbon allowance prices. These certificates must cover the embedded emissions of imports from the previous year, with the first compliance cycle in 2027, covering for 2026 imports. As free allowances under the EU ETS are phased out, the volume of certificates required will rise progressively until 2034, when they are meant to cover all embedded emissions. From that point, EU producers would no longer receive any free allocations.[19]

[14] *European Commission, Guidance Document on CBAM Implementation for Importers of Goods into the EU.*

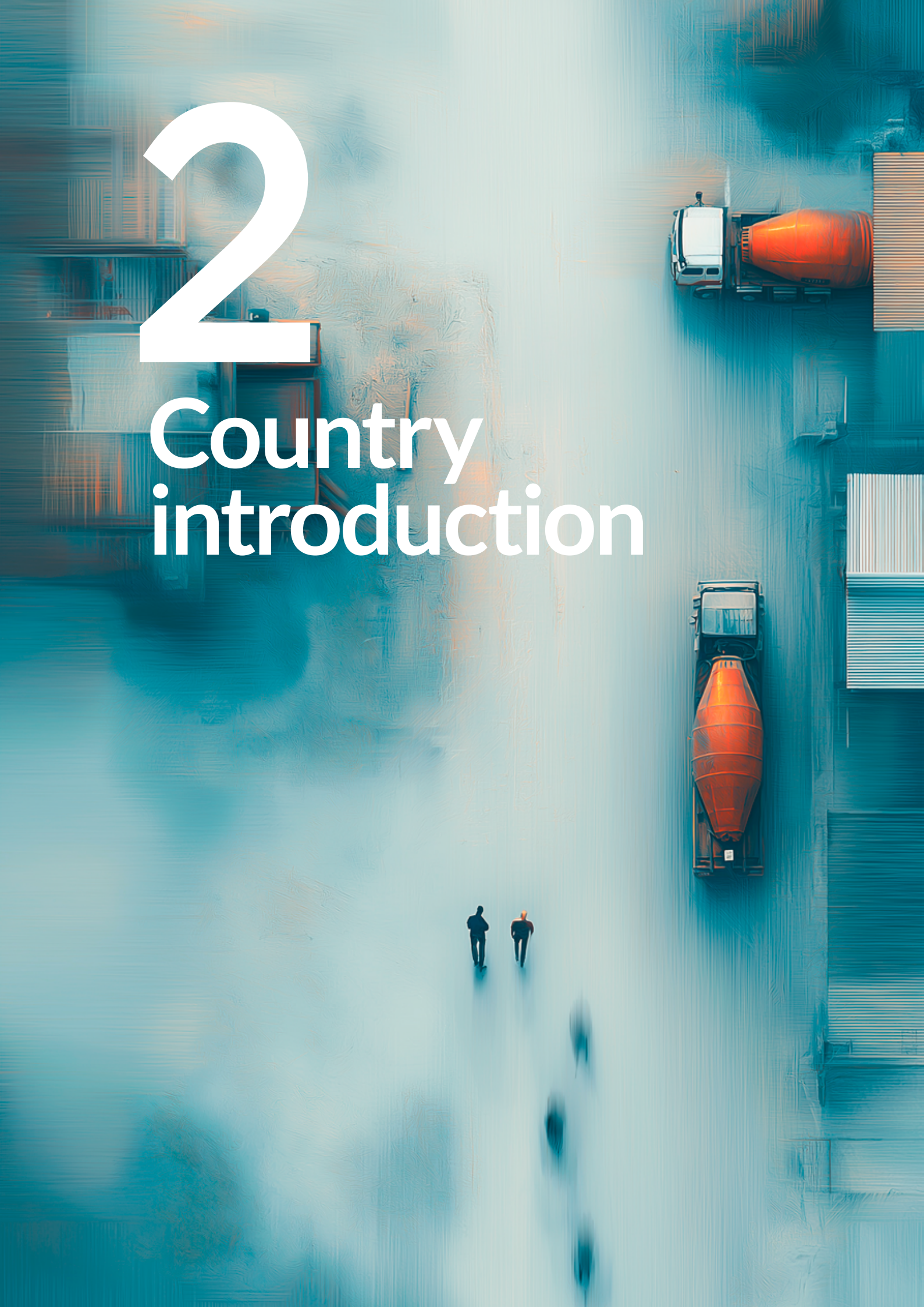
[15] *European Commission, Guidance Document on CBAM Implementation for Importers of Goods into the EU.*

[16] *European Commission, Officially Published: Simplifications for the Carbon Border Adjustment Mechanism (CBAM), 2025, https://taxation-customs.ec.europa.eu/news/officially-published-simplifications-carbon-border-adjustment-mechanism-cbam-2025-10-20_en.*

[17] *European Commission, Carbon Border Adjustment Mechanism (CBAM) - Questions and Answer (n.d.), accessed November 19, 2025, https://taxation-customs.ec.europa.eu/document/download/013fa763-5dce-4726-a204-69fec04d5ce2_en.*

[18] *European Commission, Officially Published.*

[19] *Adrien Assous et al., A Scrap Game: Impacts of the EU Carbon Border Adjustment Mechanism (2024), https://sandbag.be/wp-content/uploads/Sandbag-CBAM-Scrap-Game-2024.pdf.*



2 Country introduction

The CBAM could become a trade barrier due to the added cost of acquiring CBAM certificates and Mexican industries could lose their competitive edge unless they can match EU emission standards.

In terms of trade, Mexico is strongly integrated with countries around the world. However, the United States ranks first by far, receiving 85.7% of total Mexican exports in 2023, followed by Asian markets in second place at 4.86% and Latin America at 4.09%. The European Union ranks fourth with 4.01% of Mexican exports the same year.[20]

Mexico's main export products to the EU are automobiles, household appliances, mineral products and optical and photographic instruments.[21] The main sectors affected by the EU's carbon-pricing mechanism, the CBAM, are iron and steel, aluminium, fertilisers and cement. Total exports from CBAM-affected sectors to the EU in 2023 amounted USD 210 million, representing 0.02% of gross domestic product (GDP) that year. In contrast, exports of those same products to the US represented 1% of GDP.

In environmental terms, these sectors are highly emission intensive. Together they produced 4.8% of Mexico's total emissions in 2022,[22] equivalent to 37.32 million metric tons of carbon-dioxide equivalent (tCO_2e). The Mexican aluminium industry, however, stands out as comparatively clean, with an emission intensity of 0.05 compared to 0.07 for the EU if indirect emissions are factored in. This difference represents an opportunity to increase Mexico's aluminium export share. It will also be an incentive to continue clean production practices, particularly if future CBAM implementation accounts for indirect emissions.

Meanwhile, environmental rules could rapidly become a trade barrier for other Mexican products – particularly iron and steel, fertilisers and cement – due to the added cost of acquiring CBAM certificates. In effect, CBAM implementation means Mexican industries lose their competitive edge unless they can match EU emission standards. The alternative for Mexican firms is to invest in cleaner production technologies, which involves considerable planning and resources.

Considering that CBAM-affected goods represent only 0.91% of Mexico's exports to the EU, many companies may also opt to redirect their production to other markets with lower environmental trade restrictions. Small and medium-sized enterprises (SMEs), particularly, may see no other option.

The scenario would change if the CBAM expands to cover other products, increasing the overall exposure risk for Mexican exports. The same would happen if other countries start imposing their own border carbon mechanisms (BCAs). CBAM expansion is expected withing a few years. The adoption of BCAs in other markets could partly depend on how the EU's mechanism works when fully implemented.

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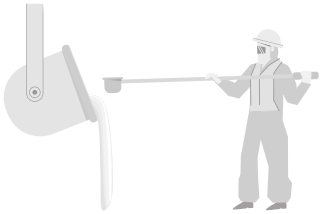
[20] Banxico, 'Exportaciones de Mercancías Por Países.', Sistema de Información Económica, 2025, https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?accion=consultarCuadroAnalitico&idCuadro=CA7&sector=1&locale=es.

[21] Secretaría de Relaciones Exteriores, 'Cifras Destacadas de La Relación Comercial México-UE(27)', 21 July 2024, https://embamex.sre.gob.mx/belgica/images/Economicos/C_DEST_RELCOM_MXUE.pdf.

[22] INECC, 'Inventario Nacional de Emisiones de Gases y Compuestos de Efecto Invernadero', INEGYCEI, 2024, https://www.gob.mx/inecc/documentos/investigaciones-2018-2013-en-materia-de-mitigacion-del-cambio-climatico.

3

Impact of the EU CBAM on Mexico



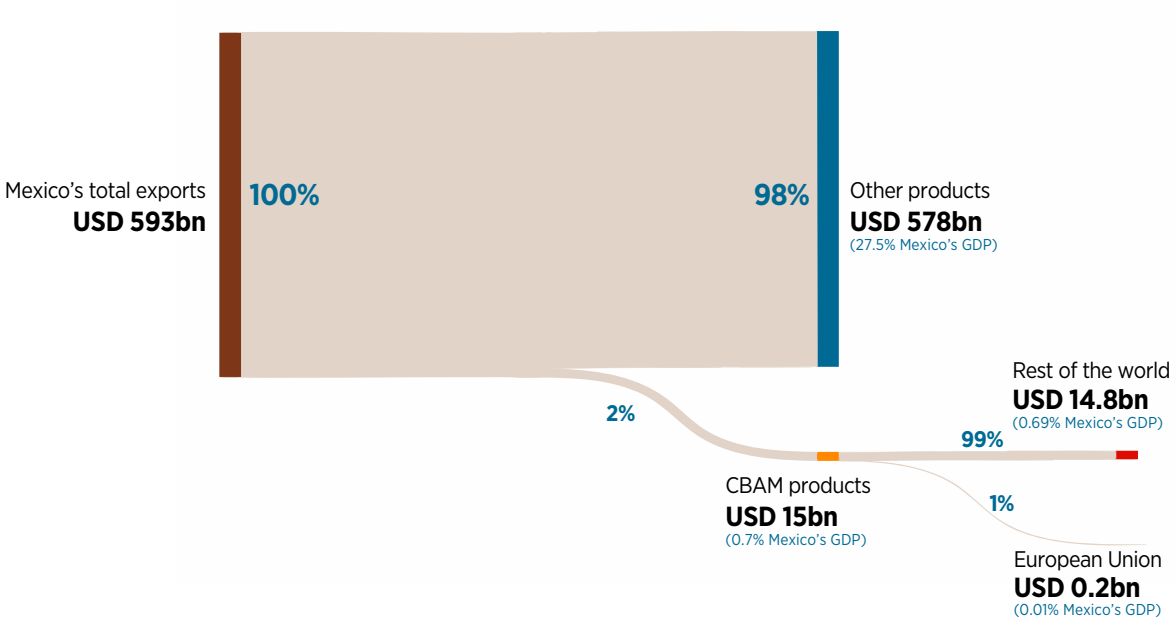
Exposure to the CBAM is not only a trade issue, but also a matter of industry policy alignment and local economic resilience.

This section analyses the CBAM's economic effects on the industrial sector in different parts of the country. Overall, Mexico is less exposed in terms of exports and emissions intensity than some other Latin American exporting countries. However, when sub-national differences are taken into consideration, some of Mexico's states are more exposed than others. Technological and environmental differences shape CBAM impact within the country, as well as between different countries.

3.1. Exposure of CBAM-covered products and sectors

All Mexican exports of CBAM-covered products, mainly iron and steel, aluminium, fertilisers, and cement,[23] reached about USD 15 billion in 2023, or about 2%, out of total exports worth USD 593 billion. As Figure 2 shows, just USD 210 million – or 1.4% of those CBAM-covered exports – actually went to the EU market in 2023.[24]

Figure 2. Shares of CBAM-covered Mexican products exported to the European Union (2023)



Source: Banxico (2025)[25]; Secretaría de Economía(2025)[26]

[23] *Cement was left out of this analysis because of the low export share to the EU, equivalent to 160,198 USD.*

[24] *Secretaría de Economía, 'Comercio Exterior', Gobierno de México, 2024, http://www.gob.mx/se/acciones-y-programas/comercio-exterior.*

[25] *Banxico, 'Exportaciones de Mercancías Por Países.'*

[26] *Secretaría de Economía, 'Estados Unidos: Comercio exterior, inversión, remesas y migración', Data México, 2025, https://www.economia.gob.mx/datamexico/es/profile/country/estados-unidos.*

In particular, the iron and steel sector dominates Mexico's exports of CBAM-regulated products to the EU, accounting for USD 162.9 million, or 77.4% (of the total value in 2023. Aluminium follows with USD 41.7 million (19.8%), while fertilisers rank third at USD 5.7 million (2.7%).[27] Although the EU bloc represents only 1.4% of all exports of CBAM-affected products to the world, the CBAM sets a mandatory standard for EU market access. This threatens SMEs operating in those sectors, lacking the credit and financing options of larger enterprises to invest in cleaner production technologies.

Figure 3 highlights some key characteristics of Mexico's aluminium, iron and steel, and fertiliser industries. The aluminium industry is mostly based on secondary production: 30% comes from scrap, requiring just 5% of the energy needed for primary aluminium.[28] This production model presents an opportunity to strengthen public policies, further increase the recycling rate, and invest in facilities for CBAM-compliant aluminium products, therefore, the Mexican aluminium industry already enjoys a competitive advantage in terms of CBAM requirements, with a lower emissions intensity than the EU benchmark (see Table 1).

In the iron and steel sector, Figure 3 highlights that Mexico is a net importer of crude steel, despite leading crude steel production in Latin America and being among the top ten producers in the world. Automotive, construction and manufacturing operations drive strong demand growth for steel.

In the case of fertilisers, Mexico relies heavily on imports, which cover about 65% of its consumption. Plans to expand domestic production centre on Petróleos Mexicanos (Pemex), already a key player in the domestic industry. The company, however, needs infrastructure upgrades to support cleaner processes as well as to boost production.

Less than 2% of exports per sector go to the EU, whether in aluminium, iron and steel, or fertiliser. The main destination countries are Germany, Spain, and Italy (all EU members), along with Norway and Switzerland, which are non-EU members belonging to the European Economic Area (EEA). The United States remains Mexico's trade partner, accounting for over 60% of exports in all those sectors.

[27] *GIZ, ICM, IDEA, [Forthcoming] Análisis de Las Implicaciones Del Mecanismo de Ajuste de Carbono En Frontera (CBAM) de La Unión Europea En México: Perspectivas y Desafíos Para La Industria y La Acción Climática, México. (2025).*

[28] *Israel Molina, 'Enorme Potencial Del Reciclaje de Aluminio Para El Clúster Automotriz Del Bajío Mexicano', 2023, https://mexicoindustry.com/noticia/enorme-potencial-del-reciclaje-de-aluminio-para-el-cluster-automotriz-del-bajio-mexicano.*

Figure 3. CBAM affected industries in Mexico

Aluminium: Competitive advantage from recycling.

- Production: Secondary aluminium.
- Exports 2023: USD 2.5 billion with 84% going to the US and 1.7% to the EU.
- EU destinations: Spain, Germany and Greece.
- Trend: Exports doubled since 2010.

Iron and steel: Leading producer in Latin America.

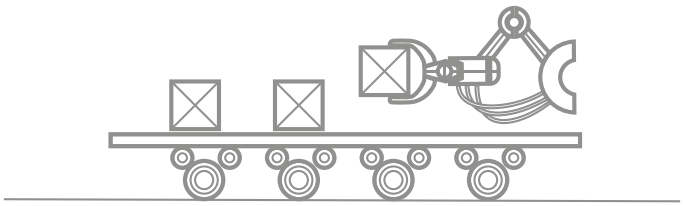
- Production: Scrap-based production, 54% of total. Ranked 14th among the world's crude steel producers.
- Exports 2023: 3.1 million tons but imported 17.5 (net importer) with 84% going to the US and 1.4% to the EU.
- EU destinations: Norway, Italy and Germany.

Fertilisers: Secure supply and clean transition.

- Production: Nitrogen fertilisers, 65% of national consumption from imports.
- Exports 2023: USD 19.4 million (net importer), with 68% going to the US and 2% to the EU.
- EU destinations: Germany, Spain and Switzerland.

Source: Rodríguez (2022)[29]; Secretaría de Economía (2024a, 2024b, 2024c) [30],[31],[32]; CANACERO (2023) [33]; World Steel Association (2022) [34]; GCMA (2025)[35].

Table 1 shows the values of Mexican exports covered by the CBAM, both globally and to the EU, by sector, followed by a comparison of Mexican and EU emission intensities for the same products. Emission intensity refers to direct emissions due to the manufacturing process (Scope 1) and indirect emissions due to energy inputs (Scope 2).



[29] *Alba Rodríguez, 'La actualidad de la industria del aluminio en México', Ulbrinox, 1 July 2022, https://www.ulbrinox.com.mx/blog/la-actualidad-de-la-industria-del-aluminio-en-mexico.*

[30] *Secretaría de Economía, 'Industria Básica del Aluminio: Salarios, producción, inversión, oportunidades y complejidad', Data México, 2024, https://www.economia.gob.mx/datamexico/es/profile/industry/alumina-and-aluminum-production-and-processing.*

[31] *Secretaría de Economía, 'Fabricación de Productos de Hierro y Acero: Salarios, producción, inversión, oportunidades y complejidad', Data México, 2024, https://www.economia.gob.mx/datamexico/es/profile/industry/manufacture-of-iron-and-steep-products.*

[32] *Secretaría de Economía, 'Fabricación de Fertilizantes, Pesticidas y otros Agroquímicos: Salarios, producción, inversión, oportunidades y complejidad', Data México, 2024, https://www.economia.gob.mx/datamexico/es/profile/industry/pesticide-fertilizer-and-other-agricultural-chemical-manufacturing.*

[33] *CANACERO, 'Radiografía de La Industria Del Acero En México', 2023, https://www.canacero.org.mx/aceroenmexico/descargas/Radiografia_de_la_Industria_del_Acero_en_Mexico_2023.pdf.*

[34] *World Steel Association, World Steel in Figures 2022, n.d., accessed 11 June 2025, https://worldsteel.org/data/world-steel-in-figures/world-steel-in-figures-2022/.*

[35] *GCMA, México Compra al Extranjero 65% de Los Fertilizantes Que Utiliza: GCMA, January 2025, https://gcma.com.mx/la-jornada-mexico-compra-al-extranjero-65-de-los-fertilizantes-que-utiliza-gcma/.*

Table 1. Distribution of exports and emissions intensity among CBAM-affected sectors in Mexico, 2023

CBAM-affected products	A : Total exports to the world (USD)	B : Total exports to the EU (USD)	A/B: Exports to the EU (%)	Mexico's average emissions intensity (kg CO_2/ USD)	EU average emissions intensity (kg CO_2/ USD)
• Iron and steel	11,908,982,883	162,981,029	1.4%	0.37	0.16
• Aluminium	2,463,910,649	41,783,770	1.7%	0.05	0.07
• Fertilisers	262,294,249	5,745,801	2.1%	0.61	0.49
• Cement	181,000,000	160,198	0.1%	4.82	4.97
• Hydrogen	176,365,119		0.0%	N/A	N/A
• Electricity	4,880,000		0.0%	3.27	1.47
• Total	14,997,432,900	210,670,798	1.4%		

Source: World Bank (2024)[36]; OEC (2023) [37], Secretaría de Economíca [38], [39].

Mexico's exported products to the rest of the world in those six CBAM-affected sectors in 2023 amounted to USD 14.9 billion, of which about 1.4% went to the European Union (as detailed above in Figure 2). Out of all Mexican exports to the EU during the same year, the portion affected by the CBAM was just 0.04%. This minimal overall impact contrasts sharply with localised effects in certain sectors.

CBAM-affected products exported to the EU accounted for only 0.02% of Mexico's GDP in 2023, compared to about 1% for the same kinds of products exported to the US in 2023.[40] Thus, the impact of comparable carbon-pricing mechanisms in the US and elsewhere could eventually be far greater than those of the CBAM enacted by the EU.

3.2. Direct and indirect CBAM effects on Mexico's economy

Manufacturing, worth an estimated USD 331 billion in 2023, represents about 20% of Mexico's total GDP (Figure 4). The cement industry, with a gross value added of USD 5.7 billion USD in 2023, is the largest of the CBAM-affected sectors for Mexico. Gross value added from iron and steel was about USD 2.8 billion, followed by fertiliser (USD 1.4 billion) and aluminium (USD 1.3 billion).[41] While these figures show the economic weight of these industries, they also interact as suppliers and consumers for other sectors throughout the economy. This means that these sectors pull and push other sectors of the economy by requiring their inputs and providing their outputs.

[36] *World Bank, 'Exportaciones de Bienes y Servicios (% Del PIB)', Datos de Cuentas Nacionales Del Banco Mundial, 2024, https://datos.bancomundial.org/indicator/NE.EXP.GNFS.ZS?locations=MX&view=chart.*

[37] *OEC, 'Cemento En México', 2023, https://oec.world/es/profile/bilateral-product/cement/reporter/mex.*

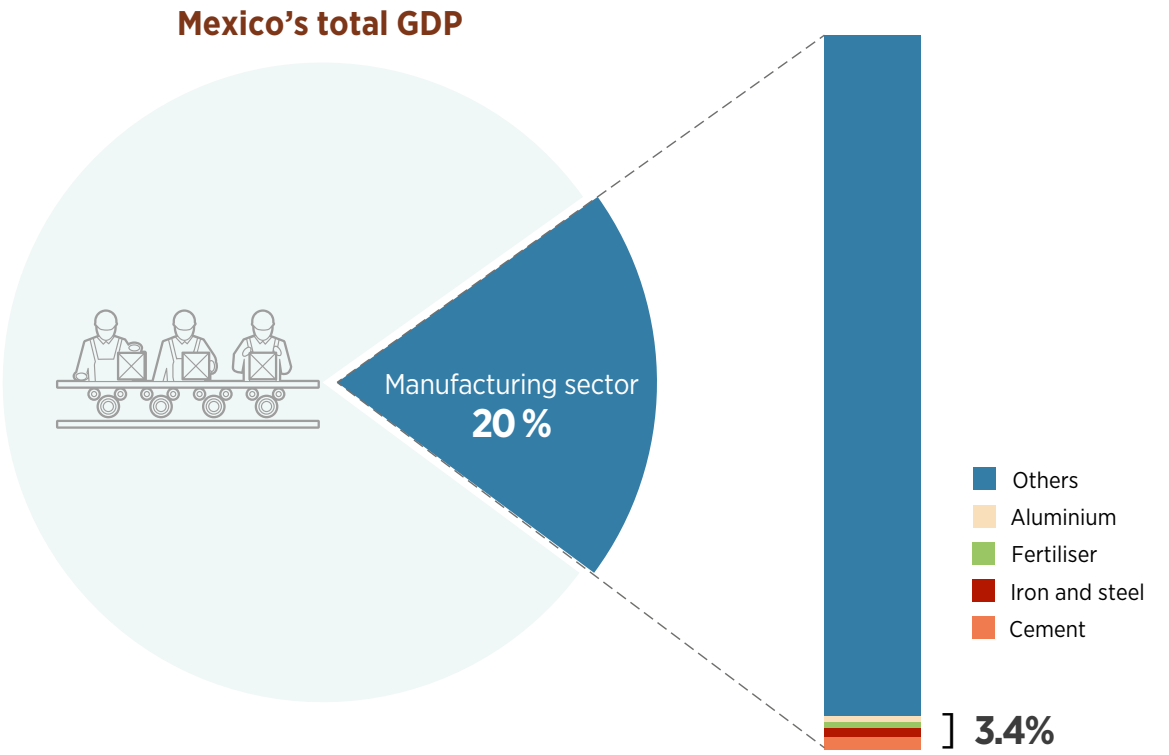
[38] *Secretaría de Economía, 'Fabricación de Fertilizantes, Pesticidas y otros Agroquímicos: Salarios, producción, inversión, oportunidades y complejidad', Data México, 2024, https://www.economia.gob.mx/datamexico/es/profile/industry/pesticide-fertilizer-and-other-agricultural-chemical-manufacturing.*

[39] *Secretaría de Economía, 'Fabricación de Productos de Hierro y Acero'.*

[40] *Secretaría de Economía, 'Comercio Exterior'.*

[41] *INEGI, 'Producto Interno Bruto Por Actividad Económica', 30 April 2025, https://www.inegi.org.mx/temas/pib/.*

Figure 4. GDP contribution of CBAM-affected industries



Source: INEGI (2025)

An input-output model can further help to analyse potential trade realignments in CBAM-affected sectors. Work by Brazil's NEREUS – the Regional and Urban Economics Lab (Laboratório de Economia Regional e Urbana), part of the Department of Economics at the University of São Paulo – provided a helpful basis for such analysis on Mexico's economic inputs and outputs in 2018.[42] A key first step was to establish plausible coefficients for absorption (backward linkages) and dispersion (forward linkages) in the model. Thus, the model should show how the sector's demand for inputs and subsequent output influence other sectors throughout the economy.

According to Rasmussen[43] and Hirschman,[44] the most critical sectors are those with both coefficients larger than 1, reflecting high interlinkages with other sectors. Figure 5 presents the forward and backward linkages of key manufacturing industries in Mexico, with bubble sizes reflecting relative importance in terms of total production and the red bubbles corresponding to CBAM-affected sectors.

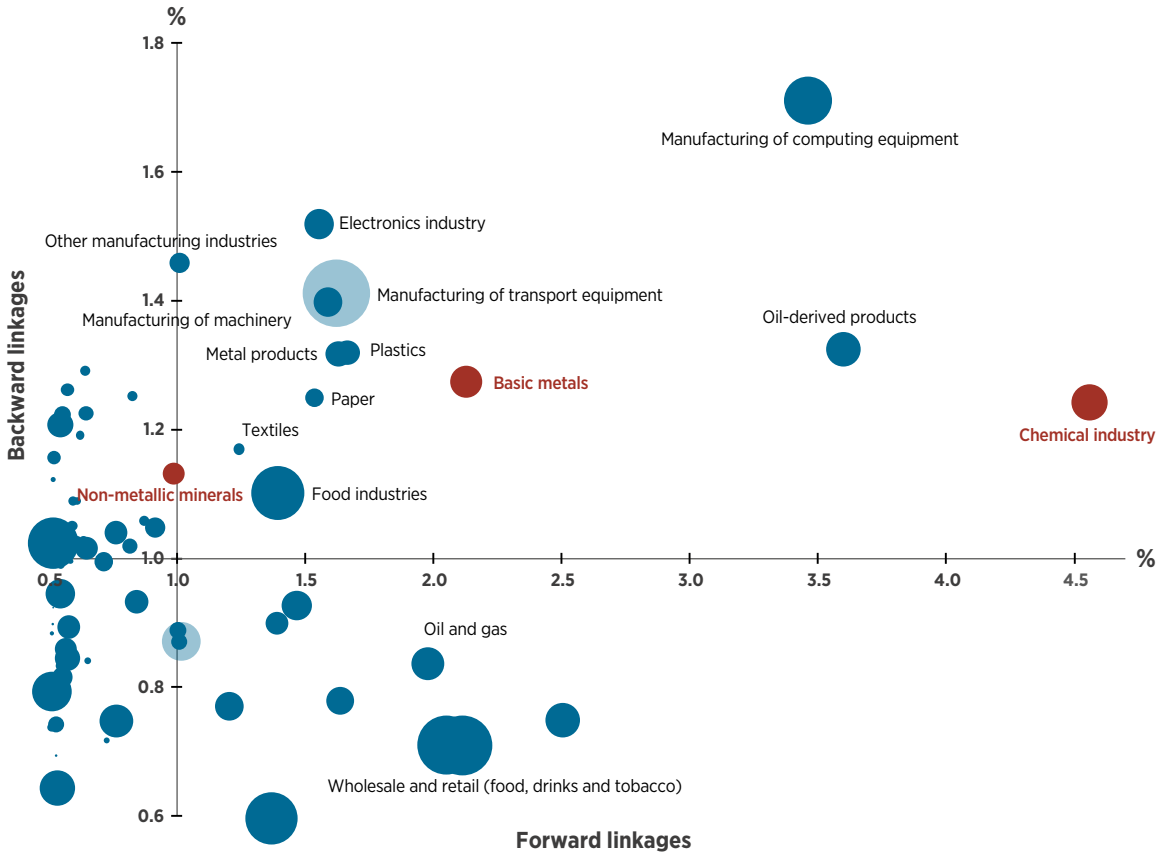
In this figure, basic aluminium is lumped together with the larger iron and steel industry under basic metals. The cement sector falls under non-metallic minerals, along with the concrete and glass industries. As the figure shows, Mexico's CBAM-affected industries are critical to the wider economy, even if the forward coefficient for non-metallic minerals, at 0.99, falls just short of the benchmark.

[42] *'NEREUS', Núcleo de Economia Regional e Urbana Da USP, 27 April 2011, https://www.usp.br/nereus/?page_id=480.*

[43] *Poul Nørregaard Rasmussen, Studies in Inter-Sectoral Relations (E. Harck, 1956).*

[44] *Albert O. Hirschman, The Strategy of Economic Development (Yale University Press, 1964).*

Figure 5. Key sectors of the economy



Note: The size of the bubbles represents their relative importance in terms of total production, and the red bubbles correspond to CBAM-affected sectors.

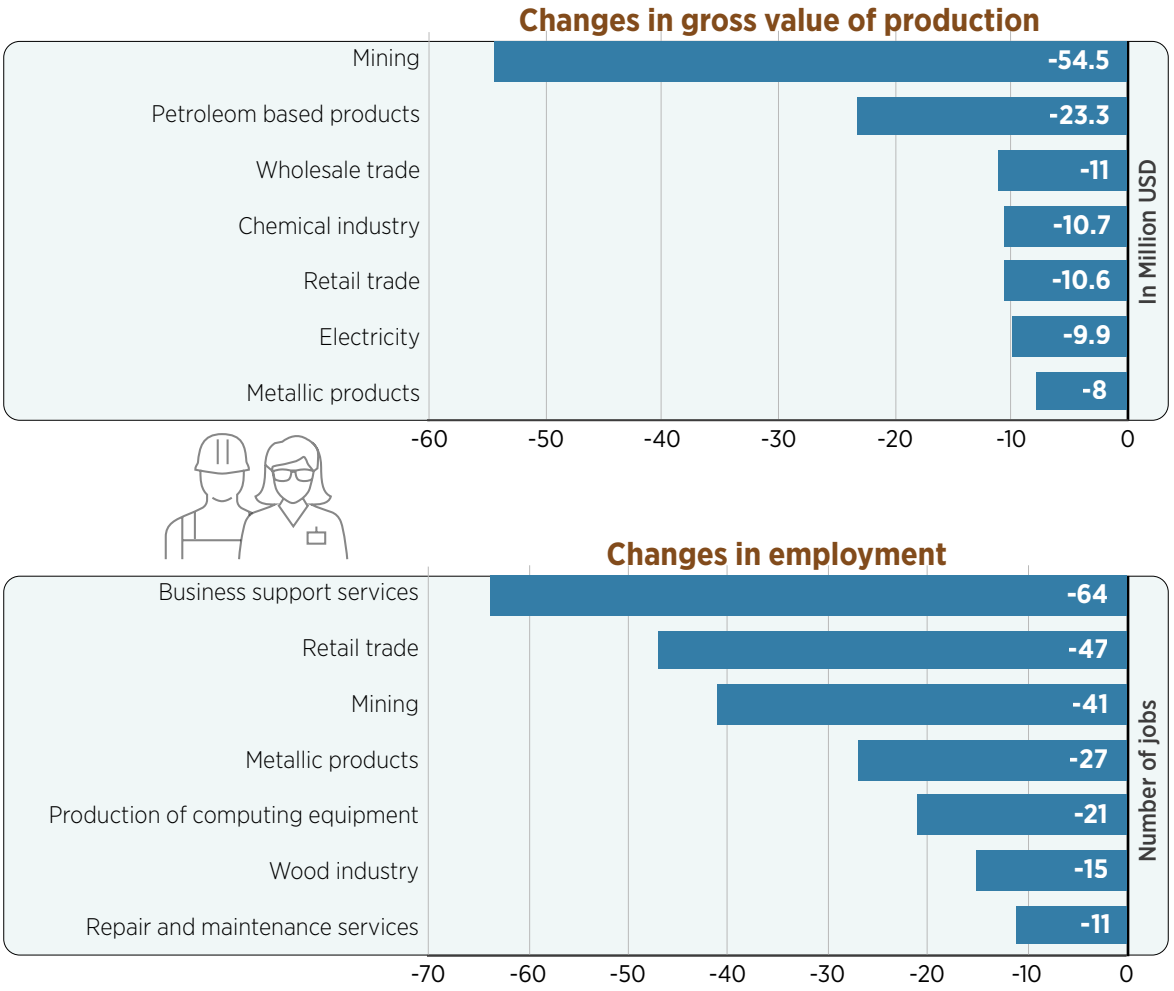
The input-output analysis also required realistic multipliers to estimate indirect CBAM impacts. In Mexico's case, we assumed that the largest indirect impacts would stem from implementation in the iron and steel industry. The fertiliser and aluminium sectors, accounting for lesser shares of Mexico's production, were left out of this analysis. So was the cement industry, where exports to the EU generate only marginal value.

For iron and steel, with comparatively high carbon content, the analysis assumes a demand shock equivalent to USD 162 million – corresponding to exports to the EU in this sector in 2023. Loss of export value in the sector could amount to USD 403 million, equivalent to 0.03% of Mexico's GDP in 2018. Direct impacts represent 51% of this, while the rest involves indirect impacts in other sectors, mainly mining, petroleum-based products, wholesale trade, chemicals industry and retail trade.

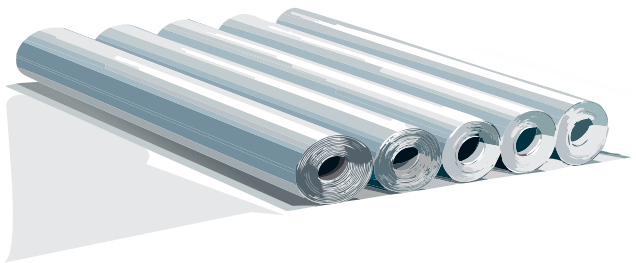
In terms of employment, Mexico would lose 404 jobs, representing 0.0007% of total jobs in the country, including 87 jobs lost due to direct impacts in the iron and steel sector. Business support services, retail trade, mining, metallic products, computing equipment production and other sectors would suffer indirect impacts from the employment shock.

Figure 6 summarises the main indirect impacts from CBAM-related disruptions to iron and steel exports, based on this input-output analysis.

Figure 6. Changes in gross value of production and changes in employment



Evidently, the impact of CBAM implementation on demand for Mexican iron and steel products would not be significant overall. In this respect, the analysis reflects the low share of exports in the sector going to the European Union.



3.3. National and sub-national implications

In 2023, the World Bank proposed a multiplicative index to identify countries with high exposure to the EU's enactment of carbon pricing. The index combines an environmental component, reflecting the carbon intensity of each country's CBAM-affected products, and an economic component, looking at the amounts exported to the EU. This approach also classifies countries by their carbon intensity relative to an EU benchmark.

This variant of the index helps to identify countries that are competitive in the EU market based on low-carbon intensity processes (a negative index value), as well as those with a disadvantage (a positive index value) and needing to improve their production processes.

Out of 57 countries analysed in the World Bank's exposure index, Mexico ranks 34th in terms of CBAM exposure in exports to the EU. The country's exposure, while limited overall, is primarily concentrated in the fertiliser sector, where the carbon intensity of Mexico's exports is 24% higher than the EU average due to the use of fuel oil in the production process (see Table 1). Iron and steel products are Mexico's second-most exposed exports to the EU. Mexican aluminium, in contrast, is 20% less emissions-intensive than the EU benchmark, with the resulting negative index value indicating high competitiveness under the CBAM.[45]

The World Bank index can also highlight CBAM exposure for different sectors at the sub-national level. An initial analysis[46] identified the areas of Mexico most exposed to CBAM economic and environmental components. The state-level analysis revealed environmentally and economically vulnerable sectors and locales, key CBAM-affected stakeholders, and each state's overall exposure in qualitative terms, based on the World Bank's methodology. A second stage of the analysis introduced a labour component,[47] highlighting Mexico's most exposed states in terms of job dependency on CBAM-related sectors.

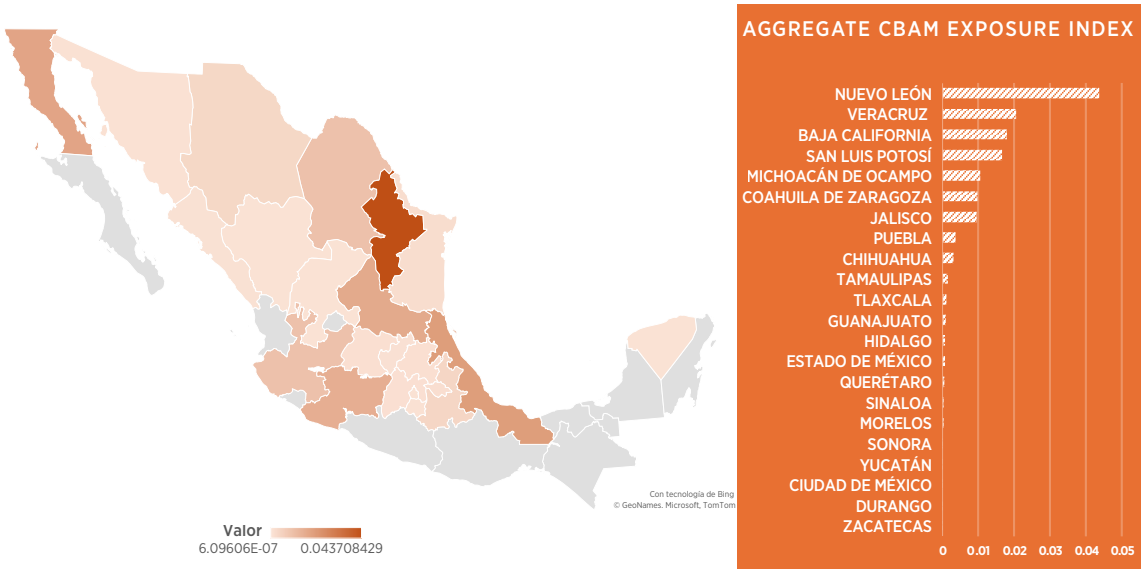
[45] *World Bank Group, 'Relative CBAM exposure index', 2023, https://www.worldbank.org/en/data/interactive/2023/06/15/relative-cbam-exposure-index.*

[46] *The following analysis is based on our document*

[47] *This represents the proportion of workers in each industry with respect to the workers in the secondary sector for each state adjusted by the proportion of workers in the secondary sector at national level.*

Figure 7 shows the results for the initial index, considering only environmental and economic components, with Mexico's states ranked from highest to lowest in terms of CBAM exposure. Nuevo León, a northern state with a strong presence in steel production, automotive manufacturing, and construction materials, is one of the top contributors to Mexico's GDP accounting for around 8% of the national economy.[48] It also has the highest CBAM exposure (making it darkest on the map), followed by Veracruz, Baja California, and San Luis Potosí.

Figure 7. Sub-national CBAM exposure index, World Bank approach



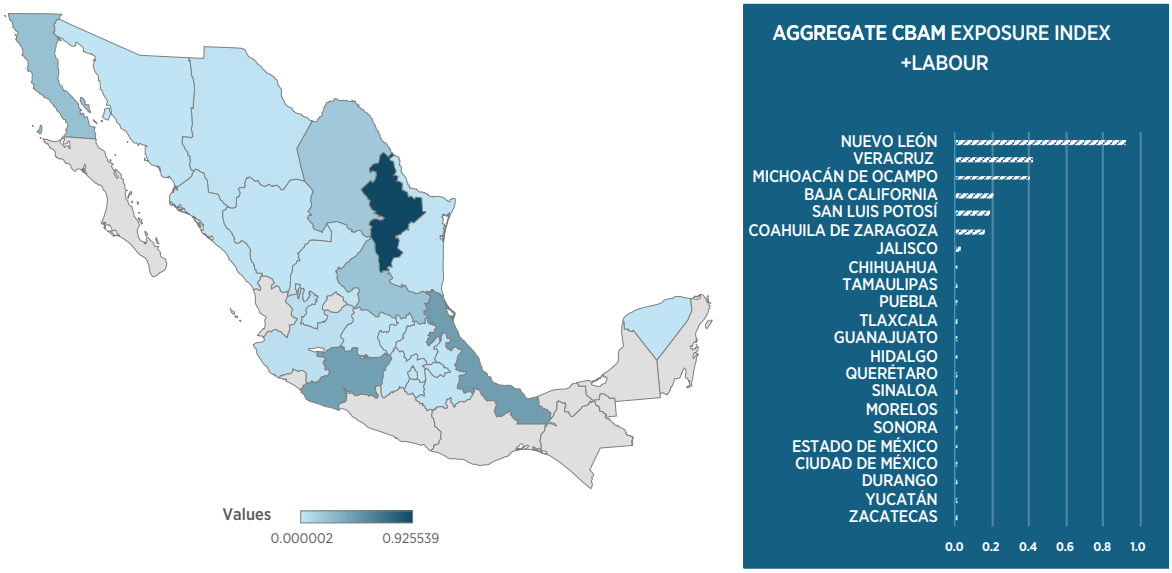
Source: GIZ, ICM, IDEA (forthcoming)[49]

While Mexico's overall CBAM export exposure remains modest, the most affected industries, particularly iron and steel, represent a large part of the industrial output from certain states. Nuevo León, for example, provides 30% of the country's total iron and steel sector exports to the EU, leaving the state highly vulnerable if exporters face higher costs or trade barriers. Thus, exposure is not only a trade issue, but also a matter of industry policy alignment and local economic resilience. Nuevo León remains Mexico's CBAM-exposed state with employment impact factored in. Figure 8 shows the results for the aggregate exposure index, including the labour component.

[48] *César Cubero, 'Nuevo León Tuvo La Tercera Mayor Aportación al PIB Nacional En 2023', Telediario, 2024, https://www.telediario.mx/economia/nuevo-leon-tuvo-la-tercera-mayor-aportacion-al-pib-nacional.*

[49] *GIZ, ICM, IDEA (forthcoming), Análisis de Las Implicaciones Del Mecanismo de Ajuste de Carbono En Frontera (CBAM) de La Unión Europea En México: Perspectivas y Desafíos Para La Industria y La Acción Climática, México.*

Figure 8. Sub-national CBAM exposure index, including the labour component



Source: GIZ, ICM, IDEA (forthcoming)

With or without the labour component, the same five states are most exposed. Nuevo León (producing iron and steel and aluminium) and Veracruz (iron and steel and fertilisers) retain first and second place, respectively. CBAM-related job losses would affect up to 1.93% of workers in secondary industries in Nuevo León and 1.05% in Veracruz.

However, the positions of other states change when labour is considered. Michoacán, with 52% of Mexican fertiliser production, rises from fifth to third place with the labour component added to the index, while Baja California (without large numbers of workers in the fertiliser sector) drops from third to fourth.

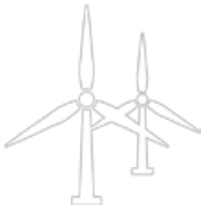
Although Baja California ranks higher in the iron and steel and aluminium sectors, its overall exposure is slightly lower than Michoacán's because these sectors have a more diversified workforce given the state's export-oriented manufacturing. Nearly 0.90% of Baja California's workers in secondary industries are employed in those two CBAM-affected sectors (about 0.45% in each), compared to 0.75% in the fertiliser industry in Michoacán.

In the case of San Luis Potosí and Coahuila, the first state is consistently more exposed than the second. This is the case even though Coahuila accounts for 12% of Mexico's iron and steel production, with around 0.86% of the state's workforce employed in secondary industries, compared to just 0.33% in San Luis Potosí. This last state ranks as more CBAM-exposed because of higher emissions intensity in its iron and steel production processes: 0.95 tCO_2/USD compared to Coahuila's 0.2 tCO_2/USD.

The geographic distribution of high-emitting industries, combined with sectoral characteristics, export dependencies, and trade relationships with the EU, matches state-by-state CBAM exposure. States with a strong presence of industries such as steel, aluminium, and fertilisers (particularly those with high export volumes to the EU), but also those where the labour force is concentrated in one sector, face the greatest challenges in the face of the new carbon regulations.

4

Institutional and technical readiness for CBAM implementation



The EU's CBAM design assumes harmonised and centralised institutions. In practice, however, climate governance in Mexico remains fragmented, making a co-ordinated response to the CBAM hard to achieve.

The CBAM's effectiveness will depend partly on each exporter country's capacity to measure, verify, and report emissions content at required level of detail. The European Commission insists that CBAM measures focus on actual carbon content in goods without targeting countries at all.[50] However, this leaves aside the fact that technical infrastructure, certification systems, and regulatory support in countries like Mexico are more state dependent than market driven. Disregarding institutional inequalities effectively shifts the burden of adaptation onto private companies that may lack the financial capacity for adaptation the new requirements.

This section examines Mexico's institutional and technical preparedness to comply with CBAM requirements. While key climate institutions and reporting systems are in place, gaps remain in data traceability, sectoral co-ordination and private sector readiness. Box 2 summarises how Mexico's climate policy aligns with CBAM requirements.

Box 2. Mexico's climate policies and how they align with CBAM requirements

Mexico has advanced on several fronts, such as carbon-pricing instruments and MRV. Its energy policy aligns with decarbonisation goals, as do various initiatives in key energy-intensive industries. Still, the country needs stronger institutional co-ordination, greater policy cohesions, and a more adaptive approach to international trade, both in response to the CBAM from the EU and in case other markets implement similar measures.

Dimension	Mexico's climate policy	What CBAM compliance requires in practice
Carbon-pricing instruments ✓	Basic instruments in place: • **ETS** – pilot phase • **Federal carbon tax** – fossil fuel consumption • **Sub-national carbon taxes** –non-homogeneous between states (3 USD/tCO_2 – 32 USD/tCO_2)	Domestic carbon pricing: If EU importers can prove that a carbon price was already paid during production of goods, the corresponding amount can be deducted. However, key criteria remain unclear.
MRV ✓	• **National Registry of Emissions (RENE)**: • Information at sectoral, not product level • Reporting required only for firms with emissions above 25,000 tCO_2 per year • Emissions estimation based on theoretical values, not considering case-by-case details	Stronger MRV: CBAM rules require product-level emission reporting and third-party verification to ensure consistency with the EU standards.

[50] *Comisión Europea, 'Carbon Border Adjustment Mechanism: A New, Green Way of Pricing Carbon in Imports to the EU', 2023, https://www.eeas.europa.eu/sites/default/files/documents/2023/Carbon%20Border%20Adjustment%20Mechanism.pdf.*

Institutional set-up 	Limited climate-energy-trade integration, fragmented responsibilities, and lack of co-ordination among key institutions: • **SEMARNAT** – environmental policy, including ETS and RENE efforts • **Ministry of Energy** – energy policy • **Ministry of Economy** – trade and industrialisation policies	Co-ordination and alignment of climate, trade and industrial policy
Energy policy 	Strengthening energy independence while reducing emissions and aiming to meet climate goals: • About of 16.9% of Mexican energy supply comes from clean sources • President Claudia Sheinbaum has announced a 2030 energy transition plan as part of **"Plan México"** aiming to increase the clean energy share by 28.7%	Access to clean electricity to decarbonise production
Industry engagement 	Independent decarbonisation efforts (including scrap iron and aluminium recycling) by each firm and sector, largely driven by ongoing priorities, not newly imposed CBAM requirements	Overall alignment with CBAM emissions thresholds
CBAM response 	No official CBAM strategy or institutional response	Active trade co-ordination

4.1. Climate and energy governance

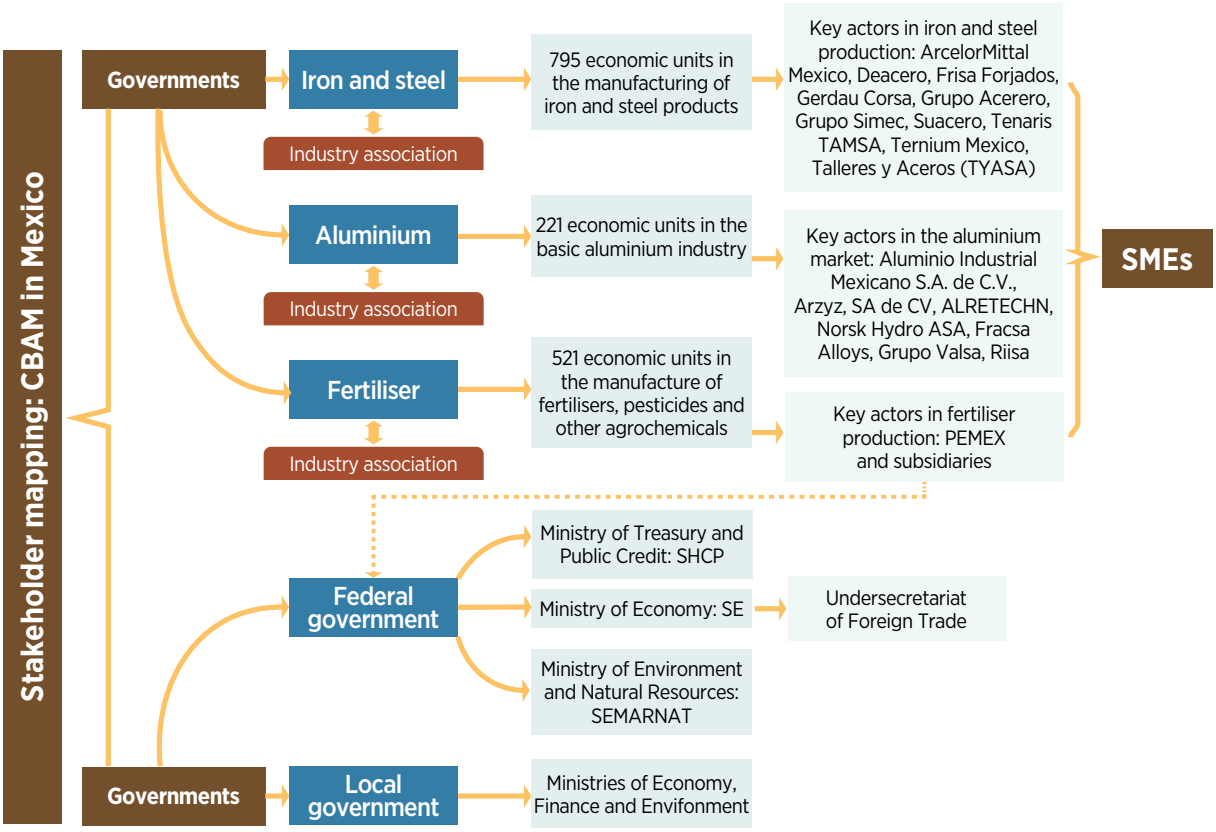
The EU's CBAM design assumes harmonised and centralised institutions. In practice, however, climate governance in Mexico, as in many developing or emerging economies, remains fragmented, making a co-ordinated response to the CBAM hard to achieve. Figure 9 outlines various stakeholder responsibilities for CBAM implementation in Mexico.

On the industry side, key actors include sector-specific associations such as CANACERO (steel), CANALUM (aluminium) and ANACOFER (fertilisers). These associations promote, co-ordinate with, and provide technical support to their members. However, they cannot provide the needed financial capacity to implement emissions reporting or compliance systems.

On the government side, institutional responsibilities are distributed across the federal and sub-national levels, without any defined co-ordination role for Mexico's CBAM response. The federal Ministry of Environment and Natural Resources (SEMARNAT) leads on climate policy agenda and oversees the National Emissions Registry (RENE) and pilot-phase ETS, both key instruments to smooth the CBAM transition and avoid double taxation. Ministry of Economy (SE), through the Undersecretariat of Foreign Trade (SGT), oversees trade relations with the EU and could call for recognition of domestic emissions reduction or propose transitional arrangements. Thus far, however, no such dialogue appears to have taken place.

State-level (local) governments are responsible for compiling emissions data and feeding these sub-national statistics into the National Emissions Inventory. Federal entities, meanwhile, are better placed to design incentives for industries to reduce emissions and comply with CBAM requirements.[51] Although at least seven Mexican states have implemented carbon taxes, no consensus has emerged on the optimal tax rate or use of those sub-national revenues.

Figure 9. CBAM stakeholder mapping



Source: CANACERO (2024)[52]

4.2. MRV, carbon accounting and product traceability

Mexico's national registry of greenhouse gas and compound emissions, known as the RENE, enables the federal government to analyse emission trends and identify potential opportunities for sector-level and even localised reduction. The RENE requires reporting from operations in the energy, industry, transport, agriculture, waste, and commercial or service sectors with annual emissions exceeding 25,000 tCO_2e.[53] This makes it an important mechanism for measurement, reporting and verification (MRV) as Mexico strives to meet international climate and environmental commitments.

[51] *SEMARNAT, 'Ley General de Cambio Climático', 2012, https://www.diputados.gob.mx/LeyesBiblio/pdf/LGCC.pdf.*

[52] *CANACERO, 'Radiografía de La Industria Del Acero En México', 2024, https://www.canacero.org.mx/aceroenmexico/descargas/Radiografia_2024_vpub.pdf; EMR, 'Mercado de Aluminio en México, Tamaño, Informe 2025-2034', 2023, https://www.informesdeexpertos.com/informes/mercado-de-aluminio-en-mexico; Secretaría de Economía, 'Industria Básica del Aluminio'; Secretaría de Economía, 'Fabricación de Productos de Hierro y Acero'; Secretaría de Economía, 'Fabricación de Fertilizantes, Pesticidas y otros Agroquímicos', 2024.*

[53] *SEMARNAT, '¿Qué es el Registro Nacional de Emisiones?', gob.mx, 2018, http://www.gob.mx/semarnat/articulos/que-es-el-registro-nacional-de-emisiones.*

Still, the RENE may contain inconsistencies or errors in quantification due to inaccurate source data or the incorrect application of reporting methodologies, particularly when unit conversions are omitted. In addition, calculations based on theoretical values, such as industry averages, may lead to over-or underestimation of emissions. To ensure reliable emissions reporting, the federal government needs to improve the RENE platform, update the reporting methodology, and enhance communications on submitting emissions data.[54]

While these investments represent an additional cost for the Mexican government, they will help CBAM-affected companies become more familiar with the reporting process and meet CBAM compliance requirements.

While large firms stand to benefit, the RENE would still exclude SMEs, which are not obliged to report their emissions. Thus, SMEs exporting CBAM-affected products to the EU would lose ground to larger firms that are more familiar with reporting requirements and able to cover compliance costs.[55] SMEs, consequently, might opt to start avoiding the EU as an export destination. Even for larger firms, exposure to increased export costs could be greater than the potential benefits of CBAM compliance. Ultimately, unless other markets replace the EU, all Mexican exporters could become less competitive.

Notably, the RENE still cannot guarantee product traceability as required by the CBAM. Although several institutions track sectoral or national emissions, they lack the necessary co-ordination, either to trace carbon by product and producer, or to link production, trade and emissions data. Given the fragmentation of powers among federal and sub-national institutions, Mexico cannot realistically create the integrated reporting system required by the CBAM.

4.3. Readiness of the private sector

Despite the low overall impact of initial CBAM application in Mexico, the mechanism could soon expand to more industries. Furthermore, other countries, including major Mexican export markets, could adopt comparable carbon-pricing schemes. These international trends, along with Mexico's own adoption of carbon pricing, increase the pressure on companies of all sizes to adopt cleaner technologies and improve energy efficiency. International competitiveness for Mexican-based exporters could increasingly depend on compliance with evolving environmental standards.

Each CBAM-affected industry faces its own distinct challenges and opportunities, necessitating different decarbonisation plans, projects and pathways. Pathways for each sector to reduce carbon emissions involve different timelines, financial requirements, and regulatory frameworks, not all in direct response to the EU's new carbon-pricing mechanism. Mexico needs a more tailored strategy to ensure these industries meet international standards, comply with CBAM requirements, and thrive in the evolving global market. Urgent climate commitments must be balanced with the economic realities of each sector.

Iron and steel

The most CBAM-exposed sector, iron and steel,[56] lacks any unified national decarbonisation plan. Even so, producers in Mexico are pursuing decarbonisation with specific emission reduction goals. Around 93.5% of Mexican iron and steel production is achieved through electric arc furnace (EAF) technology,[57] which is less carbon intensive than conventional production processes. Mexico, therefore, at 1 tonne of carbon dioxide (CO_2) for every tonne of steel production, falls below the global median average value. This lower carbon intensity reflects a high degree of electrification in the sector, along with extensive scrap use and the increasing adoption of CO_2 capture by Mexican-based iron and steel firms. Other

[54] *2016 SEMARNAT, 'Trámite SEMARNAT-10-001', gob.mx, 2016, http://www.gob.mx/semarnat/documentos/tramite-semarnat-10-001.*

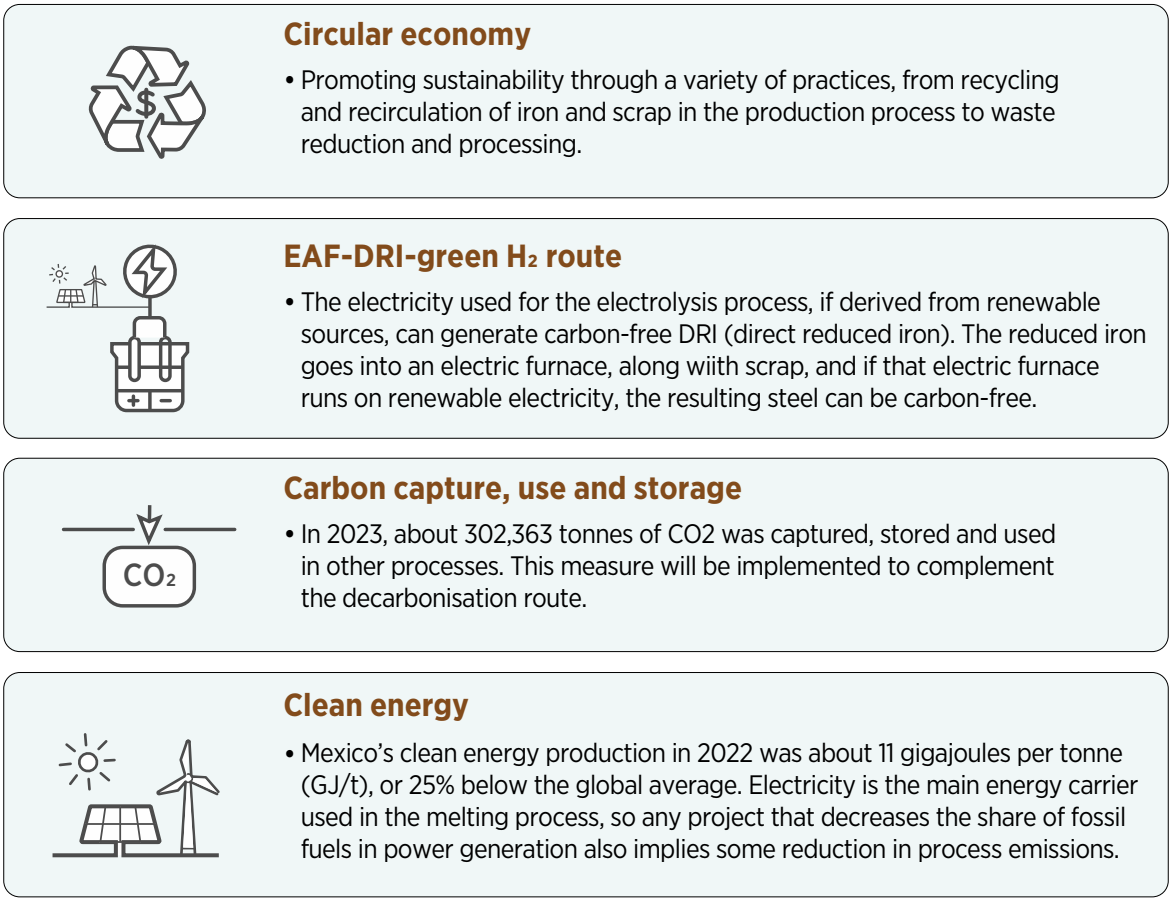
[55] *There is an EU proposal that may exempt some importers from CBAM if their exports fall below a certain mass value.*

[56] *GIZ, ICM, IDEA, [Forthcoming] Análisis de Las Implicaciones Del Mecanismo de Ajuste de Carbono En Frontera (CBAM) de La Unión Europea En México: Perspectivas y Desafíos Para La Industria y La Acción Climática, México.*

[57] *CANACERO, 'CANACERO', ACERO EN CIFRAS, 2024, https://www.canacero.org.mx/index.php#start.*

options for the future include boosting renewables in the electricity mix and using renewable-based hydrogen (green H2) as the reducing agent in the production of direct reduced iron (DRI). These alternatives are shown in Figure 10.

Figure 10. Measures for emission reduction in iron and steel industry



Source: CANACERO (2024)[58], [59]

A December 2024 workshop conducted by the German International Cooperation Agency (GIZ) in collaboration with the Mexican Climate Initiative (Iniciativa Climática de México – ICM) and the Institute for Development, Energy and Environment (Instituto de Desarrollo, Energía y Ambiente – IDEA) found green hydrogen and other less carbon-intensive technologies would entail high costs for the iron and steel industry. However, workshop participants also recognised such investments as a way to strengthen companies in response to the CBAM and enhance Mexican competitiveness across the entire production chain.

The iron and steel industry holds limited potential for energy efficiency improvements. Several companies already use scrap in their production processes, which facilitates CBAM compliance. Nonetheless, substantial opportunities exist for reducing emissions in the short or medium term, particularly through increased use of renewable energy and high-cost innovations like green hydrogen for DRI.[60]

[58] *CANACERO, 'Radiografía de La Industria Del Acero En México', 2024.*

[59] *CANACERO, 'CANACERO'.*

[60] *GIZ, ICM, IDEA, [Forthcoming] Análisis de Las Implicaciones Del Mecanismo de Ajuste de Carbono En Frontera (CBAM) de La Unión Europea En México: Perspectivas y Desafíos Para La Industria y La Acción Climática, México.*

Fertilisers

Strengthening fertiliser production has become a top priority to cover domestic demand and strengthen Mexican food self-sufficiency. Current projects aim to boost national production and reduce dependence on fertiliser imports. In 2024, the government planned to invest USD 750 million in renovating fertiliser plants in Mexico.[61]

Emissions from the fertiliser sector are not significant compared to Mexico's total emissions, and there are no national targets or specific actions planned for decarbonising this industry. Projects are under development to produce green ammonia, utilising renewable energy for a key fertiliser input.

A workshop for the fertiliser industry, held by GIZ and IDEA in January 2025, highlighted the key role of Pemex[62] as the country's largest producer. Unless Pemex invests in new energy and production technologies, emissions from the sector are unlikely to decline in the short term. The workshop also underlined the need for effective public policies and environmental regulations to drive emission reductions in the fertiliser industry. Public-private co-operation, particularly between Pemex and private fertiliser producers, could help mitigate the added cost burden of infrastructure upgrades. Mixed investments in clean technologies could support more sustainable production and facilitate the sector's transition to lower emissions.[63]

Aluminium

Since 2010, Mexico's aluminium industry has focused on secondary aluminium production. The secondary aluminium process, which involves recycling aluminium scraps, is typically 5% less energy-intensive than primary aluminium production from raw materials. Therefore, fewer emissions are generated. Current CBAM accounting, however, by not covering indirect emissions due to energy usage, obscures a potential competitive edge for secondary aluminium producers.

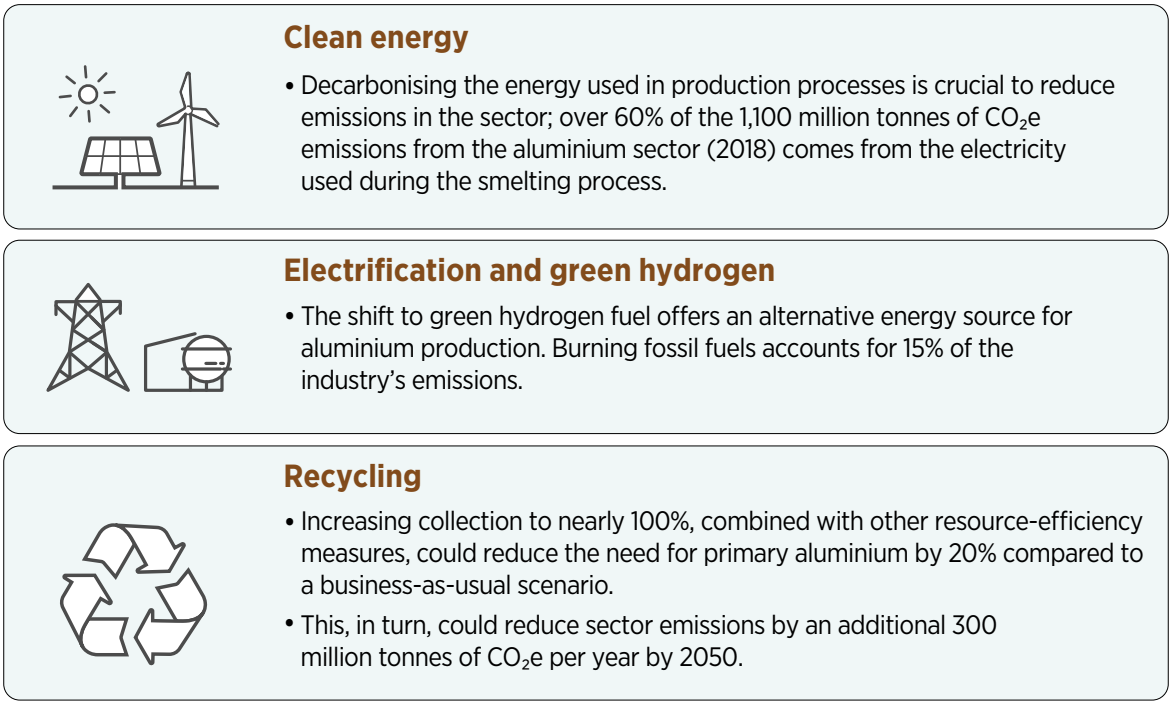
[61] *ICM, 'Rutas de Emisiones Netas Cero Para México 2060, Desde La Sociedad Civil' (2023), https://www.iniciativaclimatica.org/emisionesnetascero/wp-content/uploads/2023/11/REN0-SC-final.pdf.*

[62] *State-owned Mexican producer, refiner, and distributor of crude oil, natural gas, and petroleum products, among the world's largest petroleum companies and a major revenue source for Mexico's federal government(https://www.britannica.com/money/Petroleos-Mexicanos).*

[63] *GIZ, ICM, IDEA (forthcoming), Análisis de Las Implicaciones Del Mecanismo de Ajuste de Carbono En Frontera (CBAM) de La Unión Europea En México: Perspectivas y Desafíos Para La Industria y La Acción Climática, México.*

The National Chamber of the Aluminium Industry of Mexico (CANALUM), based on the International Aluminium Institute (IAI) document "Greenhouse Gas Trajectories for the Aluminium Sector until 2050" from the International Aluminium Institute (2021), identifies three key areas of opportunity for mitigation. These areas are presented in Figure 11.

Figure 11. Measures for emission reduction in the aluminium industry



Source: Canalum, (2022)[64], Canalum, (2025)[65]

These key priorities for aluminium decarbonisation also informed announcements by top government officials in early 2025 about a major economic and infrastructure development project in southern Mexico, which includes the planned construction of an aluminium recycling plant in Istmo de Tehuantepec (a planned "development pole for well-being") based on nearby renewable energy sources. This project aligns with decarbonisation goals while striving to meet future aluminium demand. It seeks to promote the use of recycled aluminium as the basis for building a circular economy in the southern area of the country.[66]

In summary, the CBAM entails limited costs for Mexico's industrial sector and wider economy. However, the technological, energy, and infrastructure changes that companies must implement to reduce their emissions involve high investment costs for medium to long-term benefits. Even if relatively few Mexican companies export CBAM-affected products to the EU, those companies must train their personnel, establish emission reporting processes (if not already in place), and adopt new technologies to enhance their sustainability and global competitiveness.

[64] *Canalum, 'Rutas de los gases de efecto invernadero del sector del aluminio hasta 2050.', Canalum, 2022, https://www.canalum.org.mx/post/rutas-de-los-gases-de-efecto-invernadero-del-sector-del-aluminio-hasta-2050.*

[65] *Canalum, 'Rutas de los gases de efecto invernadero del sector del aluminio hasta 2050.'*

[66] *El financiero, 'Van El Interocéanico y Planta de Aluminio', (Mexico), 2025, https://www.elfinanciero.com.mx/opinion/de-jefes/2025/04/04/van-el-interoceanico-y-planta-de-aluminio/.*

5 Conclusions

The EU accounts for a relatively low share of Mexico's exports of CBAM-affected products: only 1.4% of the total for those products and just 0.02% of national GDP in 2023. The mechanism's direct impact on the Mexican economy, therefore, is expected to be minimal in the short term, with negligible effects on Mexico's position in the global market. Even in the northern states, those most exposed, the impact of CBAM implementation does not exceed 0.1% of GDP.

However, certain industries and locations are clearly more exposed than others. Analysis based on the World Bank's index flags the states of Nuevo León, Veracruz, Baja California and San Luis Potosí as the most affected because of their concentration of iron and steel producers. When labour is added to the index, Michoacán (with jobs concentrated in the fertiliser sector) overtakes Baja California (diversified between iron and steel and aluminium) as the country's third most CBAM-exposed state.

Heavy industries in Mexico, such as iron and steel and aluminium, have undertaken decarbonisation efforts. However, these are undermined by the lack of co-ordination with national energy independence policies. In addition, the limited development of domestic carbon pricing hinders full CBAM compliance. The Mexican ETS, still in its trial phase, has no clear implementation schedule. With such low shares of exports affected by initial CBAM implementation, there is little incentive for the government and key industries to harmonise carbon pricing, either internally or with the EU market.

Fundamentally, the CBAM approach presumes institutional parity and regulatory maturity, with an implicit assumption that all countries can meet the new conditions for exporting to the EU if they choose. In practice, however, developing countries struggle with short-term adaptation and face considerable lags in updating their production processes to comply with CBAM requirements. CBAM adaptation also depends on domestic ETS development and wider decarbonisation frameworks that some developing economies often lack.

That said, CBAM introduction presents both challenges and opportunities for Mexico. Compliance requirements could spur the country to invest in cleaner and more efficient technologies, strengthen its national MRV systems, foster public-private partnerships for technology procurement, and put its ETS into full operation sooner.

Yet the country also faces major challenges to achieve compliance, such as:

- Ensuring exporters understand and can obtain reliable supplier data and apply the required emissions-reporting methodologies.
- Managing the transition from reporting carbon content (2023-2025) to paying EU carbon prices via CBAM certificates (starting 2026).
- Financing low-carbon technology adoption.
- Supplying key industries with clean, affordable energy.
- Achieving coherence between public policies, industrial decarbonisation strategies, and wide development priorities.

Mexico needs a proactive CBAM response, supported by clear government policy to prioritise low-carbon production. This approach would enable the country to mitigate immediate risks and seize new opportunities in the evolving global trade landscape. However, CBAM measures on the European side must also facilitate compliance by interested exporters if the mechanism is to be seen as an opportunity to expand exports to the EU.

In addition, the mechanism should help exporting countries start developing higher-value final products. The Mexican government can explore alternatives for successful CBAM adaptation internally, with the country's main industries, as well as externally with EU institutions and member states.

Long-term trade relations are a form of partnership requiring give and take on both sides. Looking ahead, the success of the CBAM in relation to EU climate objectives could depend on recognising the principle of common but differentiated responsibility for GHG emissions and climate change. While carbon pricing is sound from a climate perspective, it represents a major challenge for developing countries facing tight fiscal constraints. Even those with vibrant economies need to prioritise social and economic development alongside environmental action.

The burden of implementation and compliance with EU standards, therefore, cannot rest solely on exporting countries with limited means to undertake costly reforms. To ensure that CBAM measures support rather than hinder sustainable development, the EU could return part of the resulting fiscal revenues to exporting countries to help with greening key industries. Doing so could help align international carbon pricing with broader fairness and justice, strengthen trust in the EU as a trade partner, and enable developing economies like Mexico to pursue ambitious climate goals.

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