



The European Carbon Border Adjustment Mechanism and its Effect on the EU's Chemical Industry

Many European chemical companies are facing a significant capital investment to meet the drive by the European Union ("EU") to carbon neutrality. Companies are closing plants rather than investing, particularly in Germany, as a response to their lack of "carbon competitiveness". The Carbon Border Adjustment Mechanism ("CBAM") will help to tackle carbon price policy asymmetries and safeguard industrial investments from being undercut by the importing of cheaper, 'dirtier' non-EU products. It will, however, take time to be effective and Natrium Capital expects that there will be potential refinement before the full potential of the policy can be unlocked. The CBAM is likely to have a positive impact on the chemical mergers and acquisitions ("M&A") market insofar as it will reduce uncertainties for domestically manufactured goods against imports.

INTRODUCTION

The Chemical industry is the backbone of the complex value chains that manufacture industrial goods. According to the European Commission, approximately 95% of manufactured goods contain products or solutions from the global Chemical sector. Unlocking the emissions reduction potential of the EU's Chemical industry will be critical to realising the EU's net zero ambitions because it is the largest industrial consumer of energy in the EU. This is made clear by the International Energy Agency's ("IEA") scenario modelling for net zero emissions by 2050, which states that a reduction specifically in carbon dioxide ("CO₂") emissions from primary chemicals production is needed immediately.

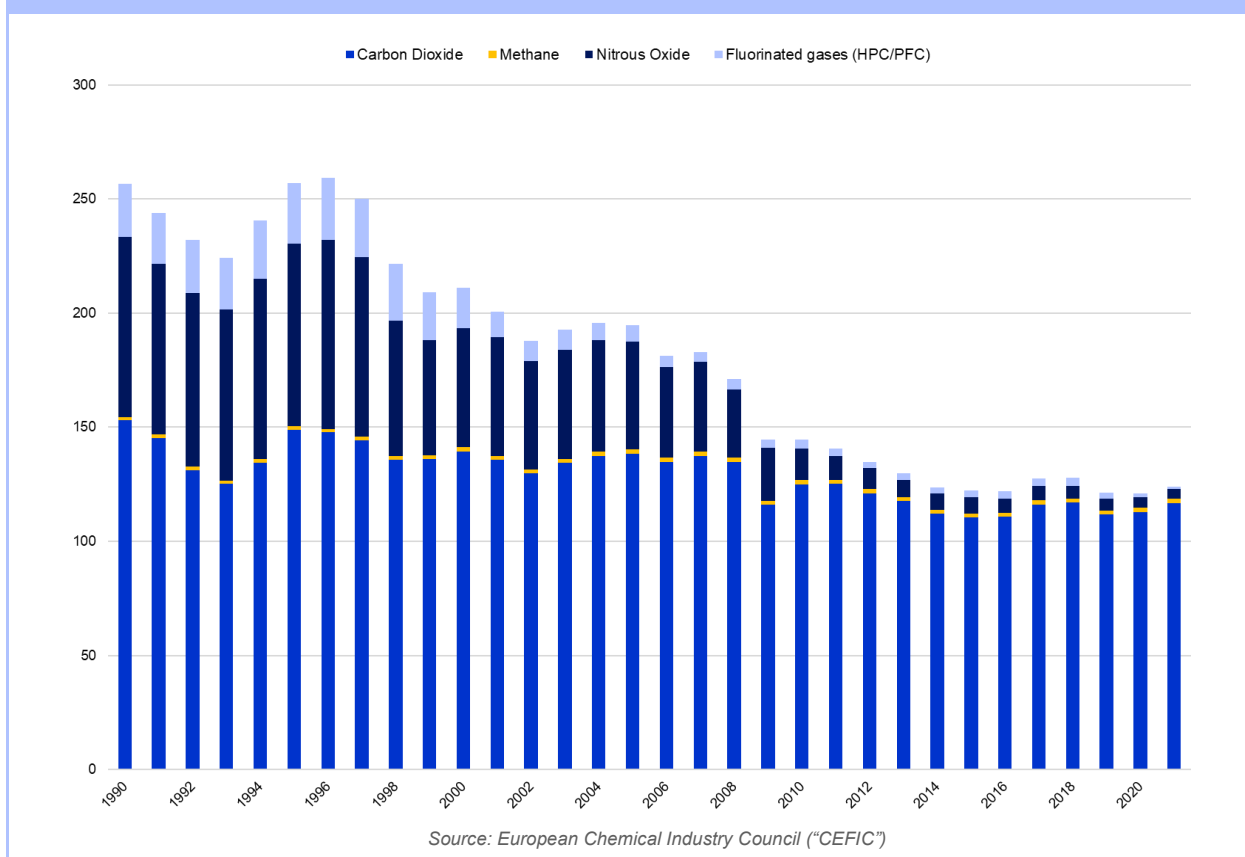
The EU's implementation of carbon pricing has placed the domestic Chemical industry at a competitive disadvantage relative to other regions and resulted in the offshoring of production. This offshoring has led to the loss of economic value in Europe as well as unabated CO₂ emissions. The EU

has reacted with the CBAM, which intends to charge specific products imported into the EU by a price equivalent to that paid under the EU's emissions trading system ("ETS"). The CBAM is primarily designed to disincentivise the offshoring of manufacturing and encourage low carbon investment. As a further benefit, the CBAM may lead to globally harmonised carbon pricing and accelerate international decarbonisation given the numerous prior examples of the EU's environmental policies that have quickly achieved global adoption.

CARBON DIOXIDE AND CARBON PRICING ARE THE ISSUES

The EU has achieved significant success in curbing the Chemical industry's emission of a targeted number of pollutants thanks to historically stringent restrictions on air emissions. According to the European Commission, pollution to air has reduced by up to 85%, dependent on pollutant type, since the inception of the Industrial Emissions Directive ("IED") in 2010.

Figure 1. Total Scope 1 GHG Emissions per type of GHG by the EU27 Chemical Industry.



As illustrated in Figure 1, reductions have occurred principally to nitrous oxide ("N₂O") as well as to fluorinated gases like hydrofluorocarbons ("HFC") and perfluorocarbons ("PFC"). **However, CO₂ emissions have remained stubbornly high.**

Carbon pricing under the EU's ETS has contributed to reduced profit margins for the EU's Chemical industry and this may have been set to further exacerbate in line with the predicted increases to carbon price that have been estimated for the future. Indeed, the current carbon price of €95 per tonne of CO₂-equivalents ("CO₂e ") is expected to rise to €160 by 2030 and €400 by 2040. Whilst similar schemes exist in non-EU countries, the EU's carbon pricing significantly exceeds that in other regions. For example, the carbon price was around €7 to €8 per tonne in China, approximately a tenth of the EU's price. This has led many companies to rethink their production networks and contributed to plant closures across the EU, as summarised on the following page in Table 1.







WHAT IS CARBON LEAKAGE?

The CBAM is designed to mitigate the risk of 'carbon leakage' which, in this context, occurs when industry-linked emissions increase in non-EU countries due to

the implementation of emission reduction policies within the EU. This phenomenon arises when companies shift carbon-intensive production from EU to non-EU countries in order to lower their emission costs by circumventing stringent climate policies. It can also occur when low-carbon EU products are undercut by carbon-intensive, non-EU imports because the manufacturer does not have to pay an equivalent compliance cost.

The CBAM has been implemented to level the playing field on carbon pricing that has previously contributed to the exit of manufacturing businesses from the EU as well as to capitalise on the precedent that EU-originating climate policy has often set a gold standard for adoption elsewhere. For example, the United Kingdom ("UK"), South Korea, and Turkey all adopted frameworks similar to the Regulation on the Registration, Evaluation, Authorisation, and restriction of Chemicals ("REACH"). This trend may continue with the CBAM as the UK recently announced an intention to implement its own version by 2027, with Canada, Australia and potentially the United States ("US") following suit, as indicated by proposals for the Foreign Pollution Fee Act in November 2023. In summary, the CBAM is designed to act as a catalyst to encourage global parity on carbon price.

Table 1. Permanent & Temporary Chemical Plant Shutdowns in Europe announced¹

COMPANY	EVENT	DATE	LOCATION	CAPACITY LOSS (KT)
 ADVANSA Advanced Fibre Technology	Closure of polyester fibre production facilities	2023	Uuentrop 	40
	Closure of hydrogenated hydrocarbon resin plant	2023		20
 BASF We create chemistry	Closure of adipic acid facilities	2023	Ludwigshafen 	130
	Closure of polyacetal facilities	2023		130
	Closure of caprolactam facilities	2023		70
	Closure of toluene diisocyanate facilities	2023		300
	Planned closure of multiple plants to reduce fixed costs by €200m / year	2026		-
 Celanese	Planned closure of nylon 6,6 and high performance nylon plants	2024	Uuentrop 	n.d.
	Closure of acrylic acid operating facilities	2022	Bohlen 	100
	Closure of butyl acrylate operating facilities	2022		63
	Closure of polyethylene terephthalate (PTA) plant	2023	Sines 	700
	Closure of polyethylene terephthalate (PTA) plant	2023	Geel 	442
	Closure of phenol and acetone facility	2022	Antwerp 	420
	Closure of caustic soda and chlorine plant	2023	Lavera 	675
	Closure of caustic soda and chlorine plant	2023	Fos 	2838
	Planned closure of hexane oxidation operations	2026	Krefeld-Uerdingen 	n.d.
	Proposed sale/shutdown of chromium oxide production	n.d.		n.d.
	Planned closure of polypropylene plant	2023	Brindisi 	495
	Shutdown of methylene chloride and chloroform production	2022	Stade 	n.d.
	Closure of ethylbenzene styrene monomer (EBSM) plant	2023	Terneuzen 	n.d.
	Shutdown of styrene production facility	2022	Bohlen 	300
	Closure of polycarbonate (PC) production line	2022	Stade 	n.d.
	Closure of polyester fibre production facilities	2022	Deggendorf 	16

¹Includes all plant closures, hence may not be exclusively attributed to manufacturing cost rises linked to carbon pricing. N..B. non-exhaustive list.

CARBON BORDER ADJUSTMENT MECHANISM: HOW DOES IT WORK?

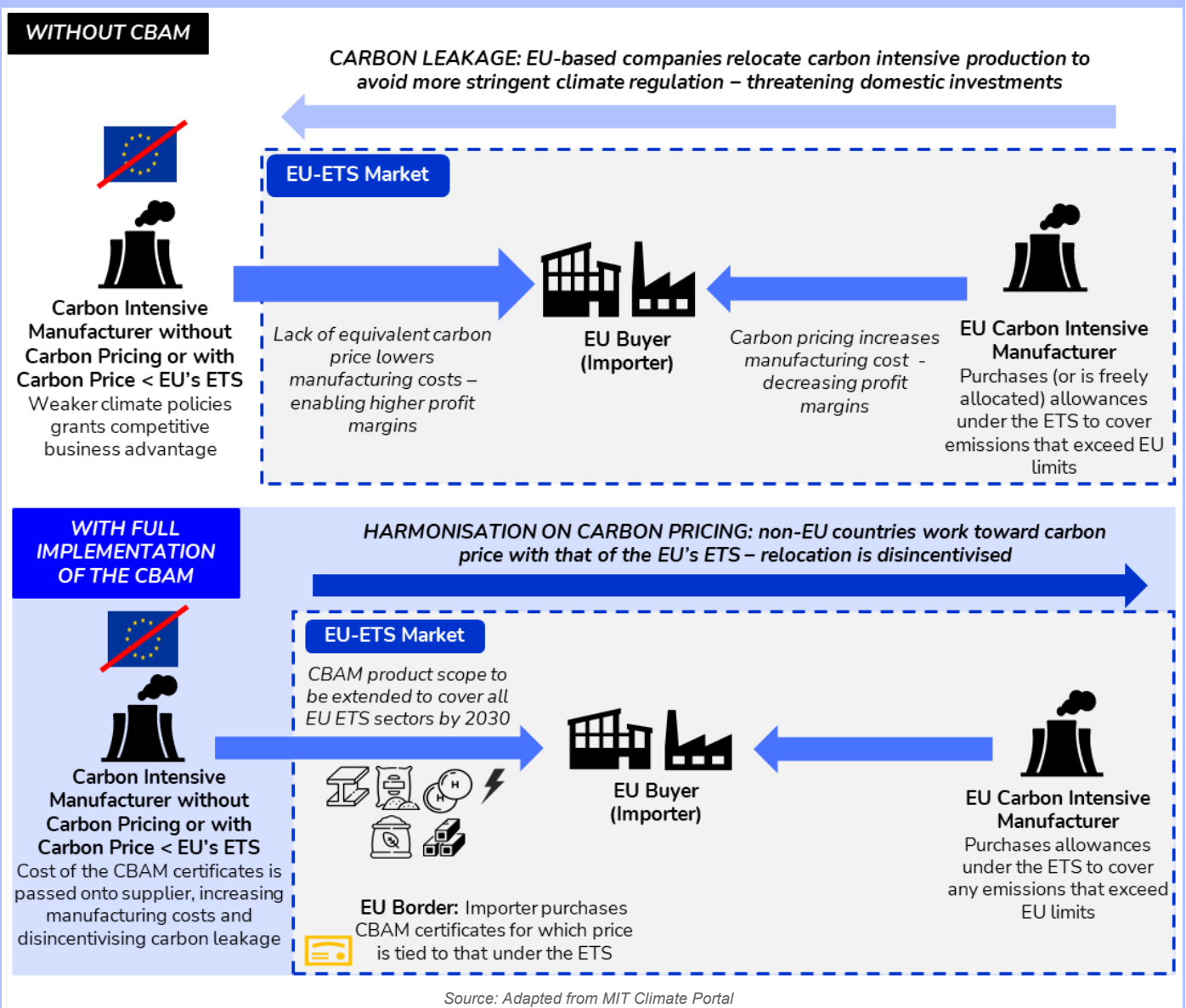
The CBAM is the EU’s latest landmark policy in their strategy to curb carbon emission and carbon leakage.

The concept follows that importers of specific carbon intensive goods into the EU will be charged a fee that is equivalent to the carbon price that the production of the same goods would have incurred had they been produced domestically. Operationally it will work by importers purchasing emission certificates, equivalent to the amount of embedded emissions in these specified goods, of which the value will be tied to the weekly average auction price of EU ETS allowances.

The desired effect of the CBAM is “carbon competitiveness” so that there is no advantage, in carbon pricing terms, of producing these goods outside of the EU as illustrated in Figure 2. Overall, this aims to restrict the offshoring of production and better safeguard the long-term future of the EU’s heavy industries.

The CBAM will be implemented in phases. In its first transitional phase, initiated on 1st October 2023, the CBAM covers six key basic goods, namely electricity, aluminium, cement, fertiliser, hydrogen and iron and steel. In this first phase, importers of such goods will need to report on information such as the carbon emissions incurred during production as well as the carbon price in the country of production.

Figure 2. Simplified Illustration of the Scenarios Without and With the CBAM



In 2026, this reporting will be replaced with actual financial obligations equivalent to the reported figures, operating through the purchase of certificates. For goods that are manufactured in countries with carbon pricing frameworks, the carbon cost incurred during its production will need to be validated before the corresponding amount can be deducted. From 2026 to 2034, there will be a gradual removal of the free allocation of ETS allowances to EU industries previously deemed carbon intensive and trade sensitive.

In 2026, the scope of the CBAM will be further extended to more products, by then likely also including diverse chemicals and polymers for which the free emission allocations will be gradually removed, as well as the inclusion of indirect emissions. The CBAM's product scope will be expanded to cover all EU ETS sectors by 2030.

WHAT EFFECT IS THE CBAM EXPECTED TO HAVE ON THE EU'S CHEMICAL INDUSTRY?

Despite its phased introduction and initially limited scope, the CBAM is likely to have an immediate impact on the Chemical industry and heavy industries alike.

The CBAM sends a clear signal to investors that any decision that grounded in perceived differences in emission pricing is likely to be flawed and that offshoring on the basis of carbon price will come with significant repercussions. As such we expect to see a slowing of offshoring decisions driven by differences in carbon price. It is worth noting that offshoring decisions are also driven by structurally lower energy costs, which is not something that is currently addressed or covered by the CBAM. We therefore expect the CBAM to lead to a definitive strengthening of the competitive position of products designed for domestic consumption that are manufactured within the EU.

Simultaneously, it is likely that the CBAM in its current form will detrimentally affect EU products that are heavily exported to regions that do not charge equivalently for carbon emissions due to the phasing out of free allocations. This will negatively

impact the competitiveness of such products and is of particular concern for the EU's Chemical industry because it is the largest chemical exporting region in the world with a €41bn trade surplus for chemical products. Therefore, unless equivalent carbon price schemes are adopted elsewhere, the removal of free allocations will be detrimental to domestic capacity utilisation. Given the overall climate positive ambitions of the CBAM, it is unlikely that an inverse CBAM that reduces carbon costs for exported goods would be installed to counter this loss of competitiveness thus it is a considerable negative effect that will need to be reckoned with.

The narrow scope of the initial phase of the CBAM to the upstream commodity businesses may lead to the CBAM's circumvention by encouraging non-EU manufacturers to export more processed or finished goods. These non-EU products may be more competitive than their EU counterparts, which are not covered under the current scope of the CBAM or by free allocations, thus leading to a shift in the location of carbon leakage within the value chain, rather than its effective removal.² This may complicate the strategies of EU chemical companies that are increasingly focusing on manufacturing high-value specialty chemicals (which are found further downstream than their basic counterparts).

Such concerns have already been expressed by leading chemical associations, such as the European Chemical Industry Council ("CEFIC"), and it remains to be seen how the details of the implementation beyond 2026 will address these legitimate concerns. Therefore, the CBAM may need targeted refinement to better serve the EU's Chemical industry with these groups calling for earlier clarification on the scope of the 2026 extension as well as overall earlier inclusion of key chemical goods and polymers where the reduction of carbon leakage is optimised.

The CBAM makes it clear that the EU recognises the potentially detrimental impact of environmental regulation on competitiveness. This should be seen as a welcome reassurance to investors that the EU is committed to supporting industry.

² Further reading: <https://open.overheid.nl/documenten/ronl-2e12007dc2baf07c608e4902f19425ecd9834f6/pdf>

IMPACT ON M&A PROCESSES

The impact of high energy prices and the increasingly onerous EU CO₂ emissions legislation has had a negative effect on investment in the more energy intensive parts of the chemical industry and is leading to a re-evaluation by companies of their operations in these areas. This is leading to the exit of businesses either by selling or closing them. The future prospects for higher operating costs and capital investment needed to remain within permits is leading to lower valuations of businesses today. This is creating opportunities for investors willing to acquire businesses with good technology and market positions but requiring often substantial investment. The CBAM legislation will reduce the risk for those willing to invest but will take time for the benefits to be evident.

Given the long-term nature of the implementation of the CBAM legislation, companies and PE investors may take advantage of depressed valuations to consolidate these sectors. Any benefits will be realised in the sale of these assets in five plus years time, the normal cycle of PE owners buying businesses today.

CONCLUSION

With the CBAM, the EU have initiated a monumental effort to preserve the competitiveness of domestic industry and claim international climate leadership. The need for the CBAM arises from significant discrepancies to carbon prices and the policy will have significant implications because the EU's Chemical industry is a significant emitter and vulnerable to carbon leakage. Whilst the implementation of the CBAM is expected to be positive overall, it remains to be seen whether the CBAM will curb the offshoring of chemical production given its phased introduction to the sector, incomplete value chain coverage thus far and potentially reduced competitiveness to exported goods. Certainly, the CBAM will provide stimulus and confidence to the EU's Chemical industry and chemicals M&A, but it requires time to improve visibility into the workings of the policy and revise it before its full potential can be realised.

ABOUT NATRIUM CAPITAL

Natrium Capital Limited is the specialist Chemicals M&A boutique which sets a new standard in M&A advice. Led by Alasdair Nisbet and staffed by bankers, all of whom are also scientists, Natrium Capital provides strategic and M&A transaction services focused on the chemical industry, covering, amongst others, the sectors: plastics, fine and specialty chemicals, personal care ingredients, food ingredients, chemical distribution, engineering materials, paints and coatings, inks, adhesives, biotechnology and clean technologies. Headquartered in London (UK), Natrium Capital advises on both sell-side and buy-side transactions, including carve-outs and complex global cross-border deals. The team has advised on transactions with a combined value of over \$100bn.

Natrium Capital is authorised and regulated by the Financial Conduct Authority.

SELECT PREVIOUS DEALS OF NATRIUM CAPITAL

UNDISCLOSED	UNDISCLOSED	€300m	UNDISCLOSED	\$360m
ADVISOR TO on the sale of the Carbon Nanotube business to 	ADVISOR TO on the merger of Connell, its Asian Speciality Chemical Distribution business with 	ADVISOR TO in the acquisition of Performance Polyamide Business in Europe from 	ADVISOR TO in the sale of its Amphoteric Surfactant Business in N. America & Europe to 	ADVISOR TO in the acquisition of

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