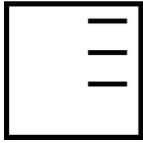


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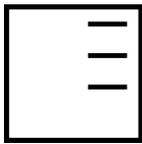
How will CBAM affect manufacturing industries in the Czech Republic?

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Introduction

The issues of carbon leakage and competitiveness have recently become major topics of concern for policy makers and stakeholders involved in decarbonisation, as international commitments of the European Union (EU) on climate change are moving higher on the agenda. The much-needed target of reaching climate neutrality by 2050 has led to increased interest, and urgency, in examining options to address the risk of carbon leakage as well as measures to prevent it from happening. On July 14, 2021, the European Commission presented a draft proposal for the Carbon Border Adjustment Mechanism (CBAM) that aims to implement a levy on carbon-intensive products imported into Europe.¹ Set to begin in 2023, the CBAM essentially puts a tax on target products with significant carbon footprints (see figure 1). The robust carbon pricing framework with anti-carbon-leakage measures on carbon intensive industries will begin with steel, cement, iron, fertilisers, aluminium, and electricity. The CBAM is part of the ‘Fit for 55’ legislative package that proposes measures for cutting the EU’s greenhouse gas emissions by at least 55% (compared to 1990 levels) by 2030.²

Currently, there are several options for how the CBAM could be implemented. Figure 1 displays the central element whereas importers from brown countries are required to obtain emission certificates for the embedded CO₂ content of the carbon-intensive traded good.³ It is also expected that the general requirement of obtaining emission certificates for the product sold in the EU is World Trade Organization (WTO) compliant, and to achieve WTO compliance, importers and exporters must be treated in a non-discriminatory way. If you are a business in a green foreign country with an “EU approved stamp” on your product, it makes it much easier to trade your good since there is no need for certificates. Therefore, the idea behind CBAM is to

encourage producers in non-EU countries to green their production processes.

Figure 1

Possible elements of a certificate-based CBAM⁴



Furthermore, the CBAM applies to the sectors covered by the EU Emissions Trading System (ETS) where free allowances have been used to prevent carbon leakage so far, which, however, do not motivate other countries to reduce their emissions. CBAM should do both: 1) protect domestic industry from carbon leakage and 2) motivate business partners to adopt a more ambitious climate policy. At the same time, when CBAM is introduced, free allowances must be abolished, otherwise European companies will receive double compensation, which goes against WTO rules.

In other words, the goal of CBAM is to ultimately lead the market towards low carbon products. Figure 2 demonstrates which industries will be impacted directly and why. The blue bubbles are sectors with more than 50% of direct emissions and the size of the bubble is proportionate to the emissions. The sectors that fall above the red line are at risk of carbon leakage. The vertical axis measures the relative exposure to carbon pricing-related costs, and the higher the emission intensity, the more the industry pays.

¹ European Commission. Carbon Border Adjustment Mechanism, 2021. Available at: https://ec.europa.eu/taxation_customs/green-taxation-0/carbon-border-adjustment-mechanism_en.

² ‘Fit for 55’: delivering the EU’s 2030 Climate Target on the way to climate neutrality [2021] COM/2021/550 final.

³ Holzhausen, Arne, et al. European Climate Policy Goes Global. Euler Hermes & Allianz Research, 2020: 7. Available at: https://www.eulerhermes.com/content/dam/onemarketing/ehndb/x/eulerhermes_com/en_gl/erd/publications/pdf/2020_10_14_CarbonBorderTax.pdf.

⁴ Ibid.

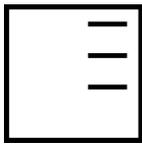
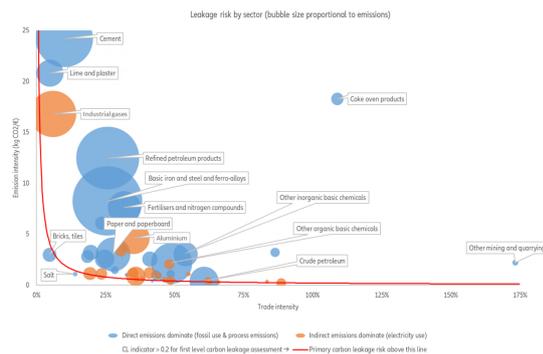


Figure 2

Location and size of sectors in the leakage risk dimensions diagram⁵



Furthermore, CBAM will not only have an impact on global trade, but it may carry diplomatic consequences as well. There will be a need for EU climate diplomacy and the use of CBAM proceeds to support the decarbonisation of EU's trading partners, especially the least developed ones, otherwise CBAM can be seen as a protectionist measure at best and at worst could end in a potential trade war. Nevertheless, the success of CBAM is inherent for the 'Fit for 55' impacts on revolutionising international climate policies and greening important industries.

What will CBAM mean for the Czech Republic?

The Automotive Industry

The automotive industry is the Czech Republic's single largest industry as it is responsible for more than 10% of GDP and accounts for nearly 25% of the country's industrial production. Together with the almost 140 equipment manufacturers, the industry provides employment to 180,000 people.⁶ In short, it

is an industry of great national importance. Car production in the Czech Republic makes up 24% of all Czech exports and 33% of R&D investments.⁷ Most car production is concentrated in internationally known automotive centres of Skoda Auto and Toyota Peugeot Citroën Automobile (TPCA) Czech.⁸

This background is important because the Czech Republic's car manufacturing industry is essential for the Czech economy and CBAM will likely impact the industry in a way that will shift the very practices of how companies such as Skoda, and 100 other automotive suppliers based in the Czech Republic, produce their cars and components. The car manufacturing industry in the Czech Republic utilizes materials for production such as steel, aluminum, and iron that are considered heavy emitting materials. The main concern from the perspective of the equipment production and car manufacturing industry is that the CBAM will make those essential materials such as steel more expensive in a moment when prices are already hitting record levels. However, the impacts on prices will only be short-term – with long-term gains on the horizon.

The CBAM is directly motivating manufacturing industries to increase their levels of sustainability because (a) having high energy outputs responsible for considerable CO₂ emissions, combined with rising market prices for electricity, results in substantial financial and environmental losses; (b) operating primarily on carbon-intensive processes results in emissions above the permitted levels and requires the purchase of emission allowances. Moreover, the automotive industry requires large amounts of raw materials, mostly metals, and depending on the price and durability of the imported resources needed for the initiation of every manufacturing process, it would impose a high demand on the available resources and cause their

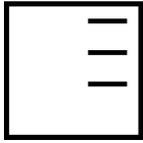
⁵ Ibid.

⁶ Karolina Konicarova, "Mobility," CzechInvest, 2019, <https://www.czechinvest.org/en/Key-sectors/Mobility>.

⁷ Muller, R. Czech car production will slide 20% in 2020, auto group says, 1/7/2020. Available at:

<https://europe.autonews.com/automakers/czech-car-production-will-slide-20-2020-auto-group-says>.

⁸ Ibid.



rapid depletion. It is thus a natural consequence that renewable materials will be increasingly used.

Renewable, recycled, or innovative lightweight materials are becoming more popular⁹ and attractive to heavy emitting industries because they are becoming more durable and cheaper in the long run as companies save on high carbon prices. The BMW Group, for example, has recently created a closed-loop material cycle for a vital heavy-duty metal called tungsten used in everyday products such as mobile phones, lightbulbs, and heavy machinery, by collecting old drill and milling bits at its plants in Germany and Austria for recycling.¹⁰ The secondary tungsten collected will then be used to manufacture new milling and drilling tools and this in turn reduces the amount of tungsten required by seven tonnes per year, reducing energy consumption by 70% and CO₂ emissions by more than 60%.¹¹

Therefore, the manufacturing of vehicles is a good example of how integrated value chains may be impacted by supply chain friction and regulatory divergence. Automotive supply chains are complex and interwoven, where a modern car can have in excess of 30,000 parts. Skoda currently produces 3,000 cars daily in the Czech Republic alone.¹²

To reduce costs, companies import components using different raw materials and manufacturing processes from different parts of the world. The Skoda Parts Center in Mladá Boleslav sends around 28,000 shipments of genuine parts and accessories to more than 100 countries around the world per day.¹³ During the manufacturing of a car, car parts such as fuel injection components or bumpers and spark plugs could be sent around to the different manufacturing plants. If the CBAM were applied at

each stage, the price of imports of certain car parts using materials such as steel, iron, and aluminum could be affected.

Therefore, Skoda and TPCA Czech prepare themselves for the future trends. Eighty percent of all parts are sourced in the Czech Republic and Skoda, under the Volkswagen Group, plans to reduce its CO₂ emissions over the entire vehicle life cycle by transforming its supply chain to sustainable resources with renewable raw materials that includes flax, hemp, cellulose, cotton and kenaf. By going more sustainable, automotive companies will cut not only their emissions, but also huge expenses off their books as they avoid the rising carbon prices. This is, after all, what the CBAM aims to incentivise. CBAM should fuel a virtuous cycle aimed, first and foremost, at climate protection with the goal of “reshoring” economic activity back to Europe and boost the Union’s reusability of its own resources.¹⁴

The Steel Industry

Another heavy emitting industry, which falls under CBAM and whose developments will affect the Czech Republic, is steel. This industry will also be forced to find new, cheaper, and more sustainable ways of manufacturing. As of 2021, the mid-range benchmark of carbon costs is 60 EUR/tonne of CO₂.¹⁵ Steel, a key input for engineering, construction, and car manufacturing, is the world’s most commonly used metal, providing the foundation of today’s industrial economy, but due to its high carbon footprint is getting increasingly more taxed. In 2018, for every ton of steel produced, 1.85 tons of carbon dioxide was emitted on average, equating to about 8% of global carbon dioxide emissions.¹⁶ Therefore, a surge in carbon emission

⁹ See case study on BMW found in Sanders, Nada, and John Wood. *Foundations of Sustainable Business: Theory, Function, and Strategy*. 2nd ed., Wiley, 2019.

¹⁰ BMW Group creates closed-loop material cycle for tungsten production tools to protect valuable resources, 24/06/2021. Available at: <https://www.press.bmwgroup.com/latin-america-caribbean/article/detail/T0336291EN/bmw-group-creates-closed-loop-material-cycle-for-tungsten-production-tools-to-protect-valuable-resources?forceSitePreference=DESKTOP>.

¹¹ Ibid.

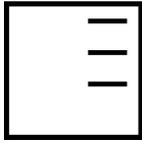
¹² Cee, J., et al. System oriented Sustainable Supply Chain Management innovations in automotive industry - SKODA auto case study. *Communications*, 3/2016: 18. 54-59.

¹³ ŠKODA guarantees reliable supply of genuine parts worldwide despite coronavirus restrictions, press release, 21/04/2021. Available at: <https://www.skoda.co.uk/news/details/skoda-guarantees-supply-of-genuine-parts>

¹⁴ European Parliament. Towards a WTO-compatible EU carbon border adjustment mechanism, 2020. Available at: https://www.europarl.europa.eu/doceo/document/A-9-2021-0019_EN.html.

¹⁵ OECD. *Effective Carbon Rates 2021: Pricing Carbon Emissions through Taxes and Emissions Trading*, OECD Publishing, Paris, <https://doi.org/10.1787/0e8e24f5-en>.

¹⁶ Hoffmann, C., et al. *Decarbonization challenge for steel*, 2020. Available at: <https://www.mckinsey.com/industries/metals-and-mining/our-insights/decarbonization-challenge-for-steel>.



allowance prices will be felt by European steelmakers once steel price levels normalise.

In addition, the revision of the EU Emissions Trading Scheme (ETS) pricing mechanism, which was proposed in July 2021, is likely to spur further carbon price growth. In 2021, domestic steel prices have already increased by 30%-60%. The surge in carbon prices provides extra motivation for EU policymakers to implement the CBAM – in order to avoid carbon leakage and ease competitive pressures on domestic steelmakers. The idea is to enforce a charge on steel imports into the EU designed to offset carbon costs paid by EU producers.

Overall, with the implementation of CBAM, heavy emitting industries in the Czech Republic as well as in the EU could risk losing higher value-added sectors, such as the car industry, that are essentially built on carbon-heavy input materials such as steel. This is why companies such as Skoda are encouraged to move to a system that supports green production technologies, enables industrial decarbonisation in the EU and ensures global competitiveness of EU's manufacturers.

Lastly, the European Commission has said that countries whose climate policy ambitions match those of the EU will be exempt from the border fee. High carbon prices in the EU could thus be driving structural shifts in global industry investments and encourage a global shift towards green technology.

Green Steel

There is a great opportunity for Czech steel producers to invest into the development of low-carbon version of this strong and versatile material known as “green steel.” Currently, 14% of steel companies’ potential value is at risk if they are unable to decrease their environmental impact.¹⁷ In the attempt to reduce emissions from steel

production, several large industry decarbonisation projects in Europe have already taken this path.

As of February 2021, there are 18 EU green steel projects by companies such as Swedish steel producer Ovako, ArcelorMittal, and Austrian Voestalpine, that are making the switch.¹⁸ These companies are producing green flat steel products using a system of certificates, as well as technological advancements that produce steel without the use of coal.¹⁹ Such breakthroughs are linked to the tonnes of CO₂ savings achieved through the company's investment in decarbonization technologies in Europe.²⁰ ArcelorMittal, for example, achieved its first sales of certified green steel in 2020 with 120,000 tonnes, and is expected to increase to 600,000 tonnes by 2022.²¹

On the other hand, European steel producers can still reap the benefits of free emission allowances, thus undermining the EU's decarbonisation efforts. According to reports, European companies have gained over 1 billion euros of windfall profits by selling their surplus allowances on the market.²² The Czech Republic's Liberty Steel group attempted and failed to transition to green steel when their Executive Chairman, Sanjeev Gupta, involved the company in a scandal by selling one million carbon emission allowances to its sister company in Romania after facing a carbon credit shortfall.²³

The Czech Republic's steel industry still has a long way to go and is under threat to outside competition if it does not begin to invest into the technology needed for the green steel industry transition.

¹⁷ Hoffmann, C., et al. Decarbonization challenge for steel, 2020.

¹⁸ Bone, C. Producers bring first certified green steel to the market, 15/02/2021. Available at: <https://www.metalbulletin.com/Article/3975256/EU-GREEN-STEELMAKING-Producers-bring-first-certified-green-steel-to-the-market.html>.

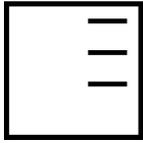
¹⁹ Reuters in Stockholm, “Green Steel”: Swedish Company Ships First Batch Made without Using Coal,” The Guardian (Guardian News and Media, August 19, 2021), <https://www.theguardian.com/science/2021/aug/19/green-steel-swedish-company-ships-first-batch-made-without-using-coal>.

²⁰ Ibid.

²¹ Ibid.

²² Quercia, P. Polluting for Profit: The Paradox of the EU's Emissions Trading System, 2019. Available at: <https://www.iai.it/en/publicazioni/polluting-profit-paradox-eus-emissions-trading-system>.

²³ Pfeifer, S. & Smith, R. Czechs demand probe into carbon credits sale by Sanjeev Gupta steel plant, 30/4/2021. Available at: <https://www.ft.com/content/21ebb15e-255b-4f17-a9bc-edff63d0e918>.

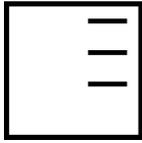


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Conclusion

Overall, CBAM can be a driver of reusability of resources in the manufacturing sector and can motivate heavy emitting industries to adapt their practices and supply chains to more sustainable materials. The Czech Republic should step up its efforts in reducing its industrial emissions and could become a leader of industrial decarbonisation in the Central and Eastern European region. The increasing price of the EU ETS allowances and the unprecedented volume of available EU funds should catalyse swift decarbonisation in all Member States.

Companies that use products covered within the scope of the CBAM could face significant additional cost by trading with existing international suppliers. European and Czech companies should therefore ensure that they understand the geographical composition of their emissions. This would enable them to undertake a supply chain review where required and hence, make conscious cost-versus-carbon trade-offs to safeguard their pricing models towards resiliency. As shown above, domestic companies such as Skoda, have realized the monetary potential of going green, and others should follow suit.



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Katharine holds an MSc degree in International Relations and Diplomacy from Leiden University in The Hague, The Netherlands taught jointly by the Clingendael Institute, and the Institute for Security and Global Affairs. She completed her BA in Political Science from Simon Fraser University in Vancouver, Canada. In EUROPEUM, she specialises in climate change, economic sustainability, environmental security.

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