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THE CARBON BORDER ADJUSTMENT MECHANISM: TURKEY'S PERSPECTIVE AND STRATEGIC RESPONSE*

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Abstract

The goal of the paper is to reveal the positive and negative aspects of Carbon Border Adjustment Mechanism for Türkiye and to discuss Turkey's strategic response. This paper uses a document analysis method to achieve the objectives of the study. The main subject of the research, the Carbon Border Adjustment Mechanism, is excluded from the application results due to being a relatively new practice and gradually coming into effect. Additionally, another limitation of the study is that its scope is limited to Türkiye. The Carbon Border Adjustment Mechanism, which came into effect on October 1, 2023, brings about certain advantages in terms of environmental protection and effectively addressing global warming. However, it also raises some concerns. It is believed that this process could have an impact on national economies and may lead to disadvantages for developing countries like Türkiye, which may not have the resources to sustain stable climate policies in the global market. Turkish businesses exporting to the EU would be required to pay indirectly the carbon tax imposed by the EU if carbon pricing is not implemented in Türkiye. Therefore, it would be in Turkey's favor to accept carbon pricing through domestic regulations. Since the paper focuses on a current debate, so academic studies on this subject are limited. Although there are studies discussing the Carbon Border Adjustment Mechanism, this project differs from others in that it focuses on Türkiye. Additionally, this paper is important in that it focuses on one of the most important problems facing countries. The fact that the step taken by the European Commission to solve this problem will entirely come into force very soon makes it even more important to discuss its positive and negative effects comprehensively.

Keywords: carbon pricing, carbon tax, carbon border adjustment mechanism, carbon emission

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1. INTRODUCTION

Following the European Green Deal, which was adopted by the European Commission on December 11, 2019, and aims to make Europe the world's first climate-neutral continent by 2050 with net-zero greenhouse gas emissions, EU member states have implemented stringent measures to reduce carbon emissions. However, this has led to the issue of carbon leakage, as firms have shifted their activities to countries without carbon pricing.

The European Commission has adopted the Carbon Border Adjustment Mechanism to prevent the shift of production from the EU to countries with lower emission reduction targets, thereby protecting Europe's competitiveness, as well as to ensure more effective environmental protection. The transition period for the implementation began on October 1, 2023, while the financial obligations are planned to be enforced starting in 2026.

Although this new regulation is an effective method for environmental protection, it poses certain risks, particularly for developing countries like Türkiye. In this context, the study examines what Türkiye needs to do to avoid negative impacts from this regulation.

The study is divided into three main parts. The first part provides information on the scope of environmental issues and the Carbon Border Adjustment Mechanism. The second part analyzes Türkiye's environmental performance by detailing the methods it employs to protect the environment and its emission levels. The final part evaluates potential risks for Türkiye, ongoing efforts, and necessary actions.

2. ENVIRONMENTAL ISSUES AND THE CARBON BORDER ADJUSTMENT MECHANISM

The National Aeronautics and Space Administration (NASA) reveals that the last ten years were the 10 warmest years out of 143 years due to temperature measurements made since 1880 when record-keeping began. This means that in 2023 the Earth is about 1.4 degrees Celsius warmer than the late 19th-century average (NASA, 2024).

According to NASA scientists, “The reason for the warming trend is that human activities continue to pump enormous amounts of greenhouse gases into the atmosphere, and the long-term planetary impacts will also continue” (NASA, 2023). Intergovernmental Panel on Climate Change also reveals that greenhouse gas emissions from human activities have contributed to an average global temperature increase of 1.1°C between 1850 and 1900. Over the next 20 years, this increase is predicted to reach or exceed 1.5°C. (IPCC, 2021).

Carbon dioxide gas, which causes the temperature to increase by controlling the world's climate, comes out with the burning of fossil fuels for energy production. Recently, NASA scientists and international scientists determined that carbon dioxide emissions were the highest recorded in 2022 (NASA, 2023).

This ominous image demonstrates that nations bear a heavy burden in the fight against environmental issues, particularly global warming. Taxes are one of the most useful tools that nations have in their fight against environmental issues. The "double dividend hypothesis" suggests that it may be possible to use the revenue generated by a tax on pollution emissions to finance reductions in other taxes elsewhere in the economy, even though it is generally agreed that the priority of environmental taxes is not a fiscal goal but rather an effective fight against environmental problems (McKittrick, 1997). In this sense, it can also help achieve the goal of a more equitable tax system.

The European Commission, which aims to reduce carbon emissions by 55% by 2030 and to zero it completely by 2050, draws attention to the fact that climate change is a global problem that requires global solutions. For this reason, the European Commission has introduced the Carbon Border Adjustment Mechanism (CBAM) to combat "carbon leakage" (European Commission, n.d.).

The Carbon Border Adjustment Mechanism is an EU mechanism to promote cleaner industrial output in non-EU nations and to set a fair price on carbon emissions from the production of items that are carbon intensive and entering the EU (European Commission, n.d.).

The primary reason for the EU implementing this mechanism is that climate change is a global issue requiring global solutions. Although the EU raises its climate targets and implements stringent policies to achieve them, many non-EU countries have less strict climate policies, leading to carbon leakage and so less successful outcomes. Carbon leakage becomes inevitable when EU-based companies shift their carbon-intensive production to countries with less stringent climate policies or when EU products are replaced by more carbon-intensive imports (European Commission, n.d.).

The CBAM will guarantee that the carbon price of imports is equal to the carbon price of domestic production and that the EU's climate objectives are not compromised by verifying that a price has been paid for the embedded carbon emissions generated in the production of specific goods imported into the EU (European Commission, n.d.).

The first products and precursors whose manufacturing is carbon intensive and has the highest risk of carbon leakage are cement, iron and steel, aluminum, fertilizers, power, and hydrogen. These imports will be subject to the CBAM (European Commission, n.d.).

The transitional phase of the CBAM went into effect on October 1, 2023, and importers' first reporting period ended on January 31, 2024. The present transitional period runs from 2023 to 2025, after which CBAM will implement its final regime in 2026. In order to assist the decarbonization of EU industry, the CBAM is being gradually introduced in coherent with the phase-out of free allowance allocation under the EU Emissions Trading System (ETS) (European Commission, n.d.).

3. TURKEY'S ENVIRONMENTAL REPORT CARD

To understand how ready Türkiye is for CBAM, it would be useful to look at environmental taxes and CO₂ emissions in Türkiye.

As part of the global fight against climate change, Türkiye is a party to the Montreal Protocol, the United Nations Framework Convention on Climate Change, the Kyoto Protocol, and the Paris Agreement. Under the Paris Agreement, Türkiye initially committed to reducing its greenhouse gas emissions by 21% by 2030, later updating this target to 41%. Türkiye also has a net-zero emission target for 2053 (Republic of Türkiye Ministry of Foreign Affairs, 2022a; Republic of Türkiye Ministry of Foreign Affairs, 2022b; Republic of Türkiye Ministry of Foreign Affairs, 2022c; Republic of Türkiye Ministry of Foreign Affairs, 2022d).

There is no carbon tax implemented in Türkiye. The only tax directly applied to protect the environment is the Environmental Cleaning Tax. Additionally, since 2019, the Recycling Contribution Fee, commonly known as the plastic bag tax, has been in place, which imposes a fee of no less than 0.25 TL per plastic bag. Furthermore, there are taxes in Türkiye that primarily aim to generate revenue but indirectly contribute to environmental protection, such as the Motor Vehicle Tax and the Special Consumption Tax, particularly on petroleum products. In Türkiye, although there is no direct carbon tax application in the field of carbon tax, it ranks first among OECD countries in terms of the tax rate applied indirectly to petroleum (Republic of Türkiye Ministry of Environment, Urbanization and Climate Change, 2018).

On the other hand, Türkiye is a country that uses taxes, especially through tax incentives, as a tool to protect the environment and promote renewable energy. However, looking at Türkiye's carbon emission figures, it is clear that the incentives for the use of sustainable and clean energy sources are insufficient, and significant steps need to be taken to reduce carbon emissions (Artun, 2024).

The overall greenhouse gas emissions in Türkiye rose by 7.7% in 2021 compared to the year before, according to figures from the Turkish Statistical Institute, and were estimated to total 564.4 million tons. Emissions of greenhouse gases per person increased from 4 tons in 1990 to 6.3 tons in 2020 to 6.7 tons in 2021 (TurkStat, 2023). On the other hand, the total greenhouse gas emissions for 2022 decreased by 2.4% compared to the previous year, amounting to 558.3 million tons of CO₂ equivalent (TurkStat, 2024).

Table 1 reveals the Greenhouse gas emissions (CO₂ equivalent), between 1990 and 2022 in Türkiye.

Table 1. Greenhouse gas emissions (CO2 equivalent), 1990 – 2022 Türkiye

Year	Total Emissions	CO2	Year	Total Emissions	CO2	Year	Total Emissions	CO2
1990	228,0	154,1	2001	287,6	216,3	2012	455,2	357,4
1991	235,4	160,6	2002	292,5	223,7	2013	447,3	349,2
1992	241,8	166,7	2003	312,1	239,2	2014	466,4	365,7
1993	249,1	173,8	2004	321,7	247,2	2015	480,1	386,3
1994	242,8	170,1	2005	344,8	267,0	2016	504,1	404,6
1995	256,5	184,1	2006	365,2	284,6	2017	531,1	429,4
1996	275,9	202,5	2007	399,0	315,6	2018	528,1	422,1
1997	286,7	214,9	2008	394,9	311,7	2019	515,6	404,3
1998	288,1	215,0	2009	401,3	317,5	2020	530,2	414,4
1999	285,6	210,7	2010	405,3	317,6	2021	572,0	455,2
2000	306,4	232,4	2011	434,8	343,0	2022	558,3	441,4

Source: TurkStat, 2024

As seen in Table 1, Turkey's total emissions and CO2 emissions have more than doubled compared to the 1990s. Looking at Turkey's position globally and among OECD countries, it is clear that in 2021, Türkiye was one of the countries with the highest CO2 emissions within the OECD, with approximately 422 million tons, following the USA, Japan, Germany, South Korea, the UK, Mexico, Canada, and Italy. The countries with the highest CO2 emissions in the world are China, the USA, and India, respectively (Ritchie et al., 2023).

Considering Turkey's goals to reduce greenhouse gas emissions by 41% by 2030 and achieve net zero emissions by 2053, it is inevitable that some measures need to be taken. Additionally, the CBAM implemented by the European Commission serves as a significant pressure for Türkiye to act without delay, as a large share of Turkey's foreign trade is with European Union member countries.

4. TURKIYE IN VIEW OF CBAM: POTENTIAL RISKS, EXISTING REGULATIONS, AND NECESSARY ACTIONS

CBAM, which came into effect on October 1, 2023, is advantageous for safeguarding environmental rights and effectively addressing global warming, but it also raises some issues. It is thought that this process may have an impact on national economies and result in disadvantages for emerging and southern nations that lack the resources to maintain stable climate policies on the global market (Ergün, 2023). Türkiye is one of these countries.

When looking at the situation from the perspective of Türkiye, it is crucial to note that EU-27 Countries and Germany from these countries are the states that Türkiye exports the most goods (Republic of Türkiye Ministry of Trade, 2023). Turkish businesses exporting to the EU will be required to pay the carbon tax that the EU would impose if there is no carbon pricing in Türkiye.

Carbon pricing is the fundamental policy tool in the fight against climate change (Çelikkaya, 2023). Carbon pricing tools are mechanisms that internalize negative environmental externalities by pricing the environmental costs of greenhouse gas emissions. The revenues

generated from pricing are used for environmental purposes and create significant opportunities for green transformation (Republic of Türkiye Ministry of Environment, Urbanization and Climate Change, Directorate of Climate Change, 2024a). The two main options used for this purpose are carbon tax and emissions trading systems (Çelikkaya, 2023).

In 2023, global revenues from carbon pricing mechanisms saw a significant increase, reaching 104 billion US dollars. Approximately three-quarters of these revenues were generated by emissions trading systems operating worldwide, and most of the revenues were used in climate and environmental areas, contributing to global decarbonization efforts (World Bank Group, 2024).

Since the introduction of the ETS in the EU in 2005 to limit greenhouse gas emissions, the number of ETSs has significantly increased (Republic of Türkiye Ministry of Environment, 2019).

In Türkiye, the most significant work on carbon pricing mechanisms has been carried out under the Partnership for Market Readiness (PMR) led by the World Bank. The aim of the partnership program is to support the reduction of greenhouse gas emissions and to facilitate the assessment of market-based mechanisms for countries. The technical assistance project, which started in 2013 and concluded in 2021, examined the impact of carbon pricing mechanisms on the economy, budget, and sectors. Based on analytical evaluations, it was suggested that, considering Turkey's policy priorities and local context, an ETS would be the most suitable market-based mechanism for Türkiye. (Deniz, 2023).

The process of establishing an ETS in Türkiye began in 2015 with the establishment of a Monitoring, Reporting, and Verification (MRV) system (Aşıcı, 2024). Under the "Regulation on Monitoring Greenhouse Gas Emissions," published in the Official Gazette on May 17, 2014, and effective from 2015, greenhouse gas emissions from facilities operating in the electricity generation, cement, iron and steel, refinery, ceramics, lime, paper, chemicals, and glass sectors are monitored at the facility level (Republic of Türkiye Ministry of Environment, Urbanization and Climate Change, Directorate of Climate Change, 2022).

Since 2015, the Republic of Türkiye Ministry of Environment has been maintaining this system, which currently ensures regular monitoring of greenhouse gas emission data from approximately 750 facilities. Additionally, the quality of verified greenhouse gas emission reports from facilities covered by the "Regulation on Monitoring Greenhouse Gas Emissions" is emphasized as being of great importance for the establishment of the "National Emissions Trading System" (Republic of Türkiye Ministry of Environment, Urbanization and Climate Change, Directorate of Climate Change, 2024b).

The drafting of a Climate Law in Türkiye has been underway since 2019. This law is expected to be presented to the Grand National Assembly of Türkiye in 2024 (Yeşil Ekonomi, 2024). The Climate Law aims to establish an Emissions Trading System and implement a voluntary

carbon market in line with green development and the 2053 Net Zero Emission Target. It also facilitates the expansion of climate finance and the use of climate change incentives. The Emissions Trading System is expected to include at least a two-year pilot phase. Specifically, the period from October 15, 2024, to October 15, 2026, is designed as the pilot phase, with the period from October 15, 2026, to June 30, 2035, planned as the first implementation phase (Republic of Türkiye Ministry of Environment, Urbanization and Climate Change, Directorate of Climate Change, 2024c).

With the enactment of the Climate Law in Türkiye, the aim is to establish a national emissions trading system aligned with the European Green Deal, preventing the diversion of resources to Europe and allowing Türkiye to use its own resources for its green transformation needs (Yeşil Ekonomi, 2024). Since Article 46 of the Regulation of the European Parliament and of the Council establishing a carbon border adjustment mechanism allows importers in the EU to reduce the final payment if they can prove, based on verified information from third-country producers, that they have already paid a carbon price during the production of the imported goods (Regulation (EU) 2023/956 of the European Parliament and of the Council, 2023).

For the ETS to be successful when implemented in Türkiye, it must be well-designed. For example, an excess of free allocations could drive carbon prices to zero and render the ETS ineffective (Aşıcı, 2024). Civil society organizations point out that poor design of the ETS could not only result in Türkiye bearing the financial cost of the CBAM but also lead to some companies gaining unfair profits through pollution allowances (Uğurtaş, 2024).

Another measure Türkiye can take in response to the CBAM, which will significantly impact its economy due to intense external trade with EU countries, is the implementation of a carbon tax. It is suggested that supporting the carbon border adjustment mechanism with a carbon tax in our domestic legislation could have positive outcomes for our economy. Since there will already be a requirement for carbon certification and reporting in the sectors covered, the amount of carbon emissions identified will also provide a basis for determining the carbon tax base (Artun, 2024).

5. CONCLUSION

The Carbon Border Adjustment Mechanism, implemented by the European Commission and set to become financially binding by 2026, directly impacts Türkiye. This is because Türkiye conducts a significant portion of its foreign trade with EU member countries, particularly Germany and Italy.

In Türkiye, which has a carbon-neutral target by 2053, efforts to protect the environment began long ago. The project conducted with the World Bank indicated that the most effective carbon pricing method for Türkiye is an ETS. Work on the Climate Law, expected to come into effect in Türkiye in 2024, is ongoing. This law is also anticipated to establish a national ETS. Additionally, the process of setting up an ETS in Türkiye began in 2015 with the establishment

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