

**THE EFFECTS OF THE EUROPEAN GREEN  
DEAL ON TURKEY'S TRADE INTEGRATION  
WITH THE EU**



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## **THESIS APPROVAL PAGE**

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## ÖZET

*Avrupa Birliđi, insan faaliyetlerinden kaynaklanan iklim deđişikliđi ve çevresel bozulma ile mücadele etmek için yeni büyüme stratejisi olan Avrupa Yeşil Mutabakatını (AYM) açıkladı. AB, söz konusu hedeflerini gerçekleştirmek için Sınırda Karbon Düzenlemesi Mekanizması (SKDM) dahil olmak üzere çeşitli politikalar hayata geçirmektedir. AB, fikirlerini ticaret ortaklarına yaymak için ticaret politikasını ekonomik bir kaldıraç olarak kullanmaktadır. Vogel tarafından tanımlanan “Kaliforniya Etkisi” ile uyumlu olarak, AB'nin ticaretle ilgili katı çevresel önlemlerinin, ticaret ortaklarının pazara erişimini ve rekabet gücünü etkilemesi ve böylece onları AB'nin karbondan arındırma uygulamalarına uymaya teşvik etmesi muhtemeldir. AB'nin Türkiye'nin en önde gelen ticaret ortađı olduđu göz önüne alındığında, bu çevresel önlemlerin, Türkiye'nin ihracatını etkilemesi, bu nedenle Türkiye'yi zararlarını azaltmak için politika belgelerini, düzenlemelerini ve kurumsal yapılarını güncellemeye ve AYM'ye uyum için deđişiklikleri benimsemeye teşvik etmesi muhtemeldir.*

**Anahtar Kelimeler:** *Avrupa Yeşil Mutabakatı, Kaliforniya Etkisi, Sınırda Karbon Düzenlemesi Mekanizması*

## **II. ABSTRACT**

*To combat climate change and environmental degradation caused by human activities, the European Union has announced its new growth strategy, European Green Deal (EGD). The EU has been initiating several policies to realise its objectives, including Carbon Border Adjustment Mechanism (CBAM). The EU uses its trade policy as economic leverage to spread its ideas through its trade partners. In line with the “California Effect” described by Vogel, environmentally stringent trade-related measures of the EU are likely to affect the market access and competitiveness of its trading partners, thus incentivising them to comply with the decarbonisation practices of the EU. Considering the EU is the leading trade partner of Turkey, Turkish export is likely to be affected by these environmental measures, thus encouraging the country to update its policy documents, regulations, and institutional structures to mitigate the harms and adapt the changes to EGD.*

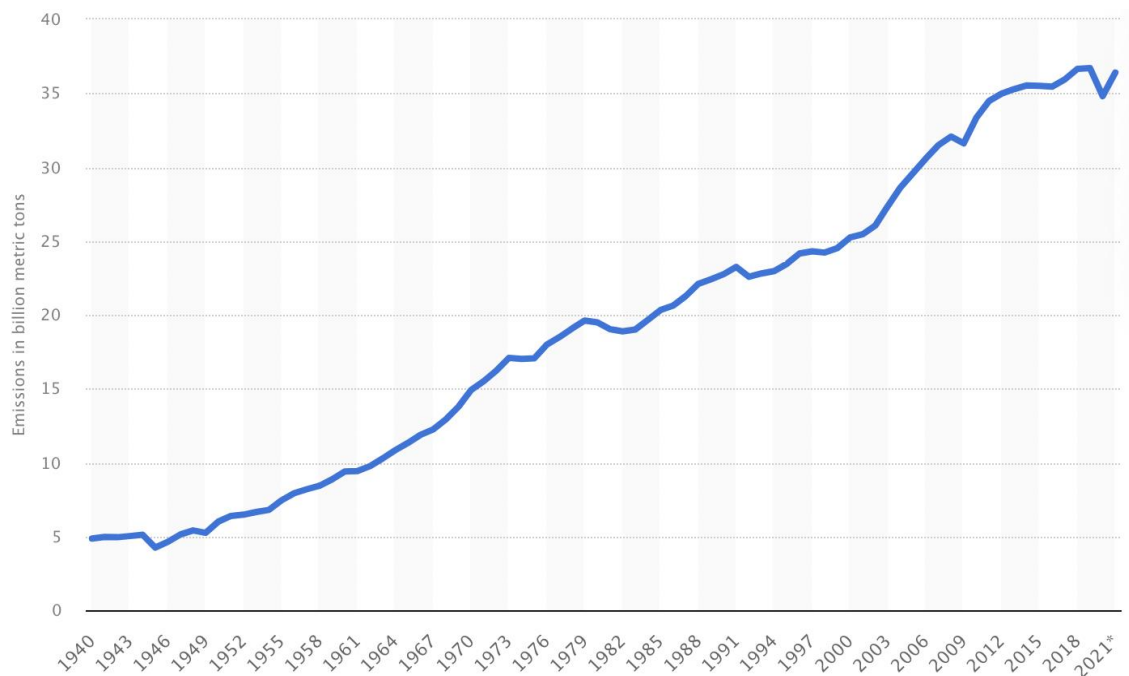
**Key Words:** *European Green Deal, California Effect, Carbon Border Adjustment Mechanism*

### III. INTRODUCTION

#### Impacts of the Climate Change

Since the 1800s, human activities—primarily the combustion of fossil fuels like coal, petroleum, and gas—have been the main source of climate change (IPCC, 2019), indicating long-term changes in temperature and weather patterns (United Nations, 2022). As described in **Figure 1**, these human-related emissions continued to grow, and in 2019, CO<sub>2</sub> emissions peaked at a record high of 36.7 billion metric tons (Statista, 2021)

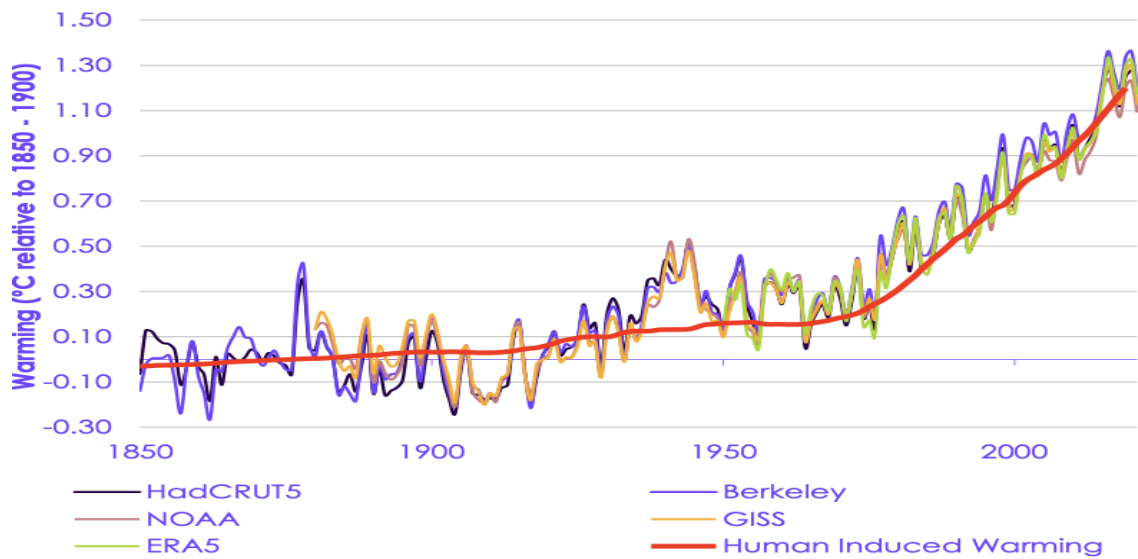
**Figure 1:** Yearly CO<sub>2</sub> emissions in the world between 1940 to 2020 (in billion m. tons)



**Source:** (Statista, 2021)

Because of the increase in greenhouse gas (GHG) emissions levels in the atmosphere, as depicted in **Figure 2**, global temperatures have already reached 1.2 degrees Celsius above the pre-industrial levels (1850–1900) (Climate Change Committee, 2022).

**Figure 2:** Worldwide average surface temperature increase

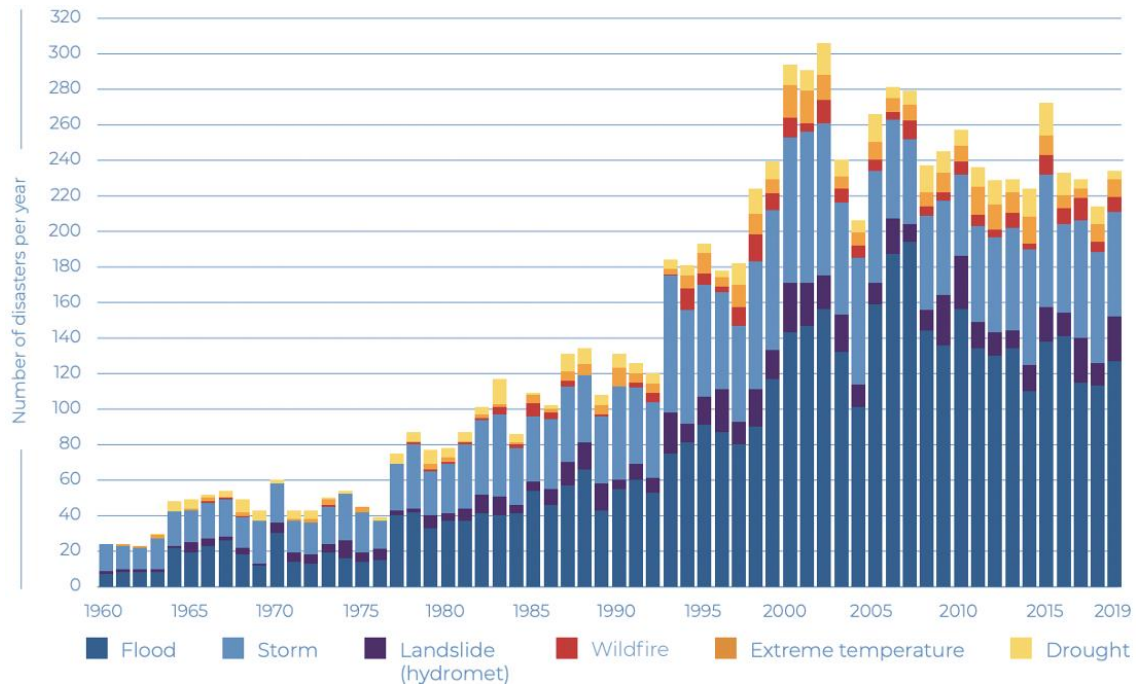


**Source:** (Climate Change Committee, 2022)

As a result, as described in **Figure 3**, the annual incidences of disasters, including floods, storms, landslides, wildfires, extreme temperatures, and droughts caused by climate change and weather, have increased dramatically (IFRC, 2020). These climate-related disasters cause human misery and significant economic and ecological harm every year. To illustrate, between 1970 and 2019, weather, climate, and water risks caused half of all catastrophes, 45% of all recorded fatalities, and 74% of all reported economic harms (Brenton & Chemutai, 2021, p. 1). Moreover, direct losses from such catastrophes are estimated at nearly US\$ 1.3 trillion over the previous ten years (Suntheim & Vandebussche, 2020). Even worse, if the temperatures reach 3.2 degrees by the mid-21st century, anticipated GDP losses will be 18.1% (Swiss Re Institute, 2021, p. 2).

Unfortunately, scientists are very confident that the rise in global temperatures will last for many decades (NASA, 2022). Thus, the catastrophic long-term scenario indicated by scientific evidence of the climate crisis calls for aggressive and urgent action (Muench, et al., 2022, p. 2). Otherwise, the capacity of the whole world to minimise as well as adapt to climate change will decline, eventually creating a "too little, too late" situation and, in the long-term, making the entire planet almost uninhabitable (World Economic Forum, 2022, p. 31). Therefore, limiting anthropogenic greenhouse gas (GHG) emissions is more important than ever as the climate catastrophe's adverse effects worsen.

**Figure 3: Yearly Climate Change and Weather-Related Catastrophes (1960-2019)**



**Source:** (IFRC, 2020)

### **The Paris Climate Agreement (PCA)**

To combat climate change on a global scale, on 21 December 2015, countries signed The Paris Climate Agreement (PCA), a legally binding global climate change pact adopted by 196 nations and entered into force on 4 November 2016 (UNFCCC, 2022). The PCA was a turning point in combating climate change for two main reasons. Firstly, it institutionalised climate reduction and adaptation measures on a global scale (Muench, et al., 2022, p. 3). The main aims of the PCA are to limit global warming to below 2, ideally to 1.5 Celsius compared to pre-industrial conditions, and to reach global net zero emissions (Maizland, 2021). Secondly, The Paris Climate Agreement helped draw attention to the need to "decarbonise" the world's economy. In line with the "common but differentiated responsibilities and respective capacities (CBDR-RC)" of PCA, various nations are making different efforts and using other tools to contribute to this global activity (UNFCCC, 2015). To illustrate, thanks to the PCA, as of June 2022, 136 countries which account for 83 % of world emissions, 91% of GDP (PPP) and 80% of the world population have set net-zero targets (Net Zero Tracker, 2022).

## **Origins of Green Deal Ideas**

Plenty of new green ideas have flourished to combat climate change and mitigate environmental degradation, affecting an ever-increasing number of people worldwide (Selwyn, 2021, p. 779). The origins of Green New Deal proposals date back to the 2008 financial crisis when the green economy gained popularity. At that time, the “Greens” defined the global crisis as a triple crisis with social, ecological, and economic dimensions and proposed a Green New Deal (GND) to overcome it (Şahin, 2017). Furthermore, in 2009, the Green Economy Initiative of the United Nations Environmental Programme (UNEP) published a report called Global Green New Deal (UNEP, 2009). To boost recovery from the crisis and stimulate the global economy, the report proposed several environmental measures related to economic recovery, poverty eradication, reducing ecosystem degradation and mitigation of carbon emissions (Adamowicz, 2022).

## **Green Ideas in the EU**

The EU has been adapting leading decarbonising policies to combat climate change since the 1990s. For instance, the EU established the first Emission Trading System (ETS) in 2005 with the participation of multiple economies to lower GHG emissions (Siddi, 2020). It was the first significant carbon market in the world and continues to be the most prominent (European Commission, 2022a). Moreover, in 2009 the EU adopted the first coordinated package, “20-20-20,” which set the stage for the Union to oversee the energy transition (Gerbeti, 2021). However, only after the 2010s did the green objectives that direct the regulations of the EU in fundamental areas like industrialisation, agriculture, trade, investments, competition, digitalisation, and transportation begin to emerge (Kaygusuz, 2020, p. 33).

However, the idea of a Green Deal in the European Union has been shaped particularly after the Paris Climate Agreement (Adamowicz, 2022). The PCA of December 2015 was a diplomatic victory for the EU and inspired the EU to raise its targets for energy efficiency, renewables, and carbon reduction (Siddi, 2020). To comply with the PGA, in November 2016, the European Commission (EC) unveiled the "Clean Energy for all Europeans" that was designed to keep the European Union competitive while the clean energy transition transforms the world's energy markets (Capros, et al., 2018). Moreover,

on 17 January 2018, the EU adopted new, legally enforceable goals known as “A Clean Planet for all”, which states that the EU must attain net-zero GHG emissions by 2050 while boosting competitiveness, inclusion, fairness, and prosperity for everyone (Keppo, Mazza, Natalini, Pudjianto, & Velasco-Fernández, 2022).

### **European Green Deal**

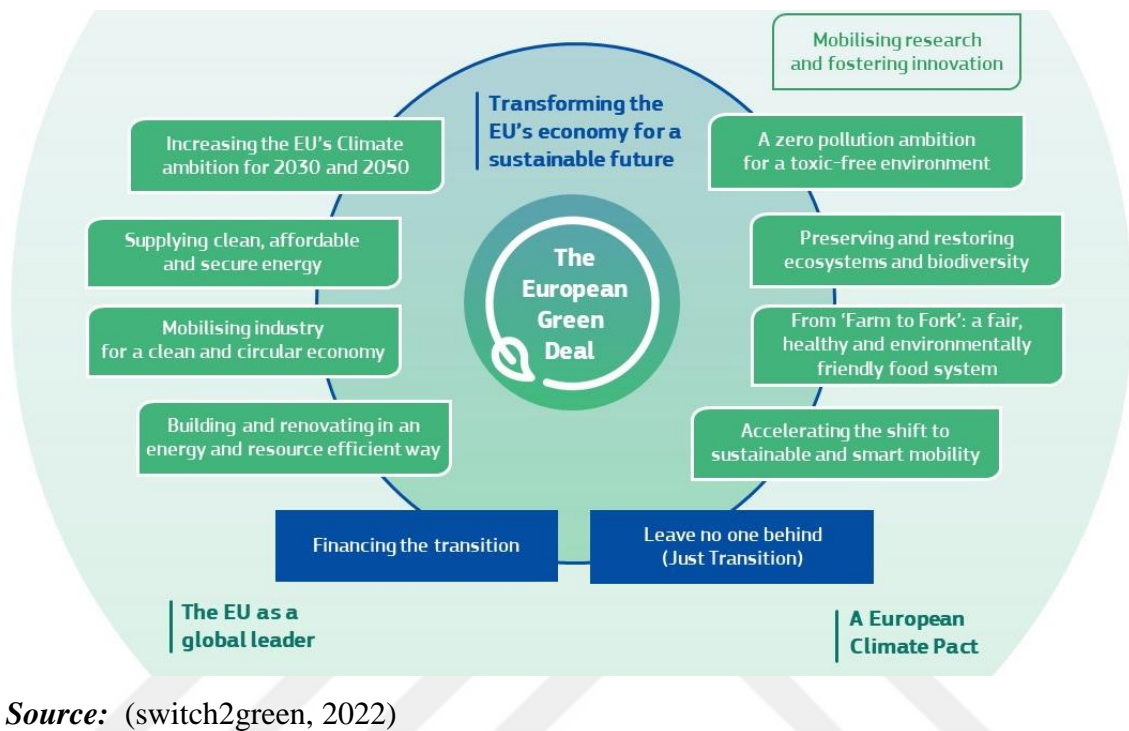
In December 2019, European Commission (EC) rolled out the European Green Deal (EGD) (Belardo, 2021). EGD institutionalised the Paris Climate Agreement targets at the EU level and initiated a green transition for reducing environmental degradation, upgrading the economy, and reducing dependency on energy and raw materials. (Muench, et al., 2022, p. 3). The main goal of the EGD is to make Europe climate-neutral by 2050 by achieving net-zero GHG emissions (Selwyn, 2021, p. 787). It also aims to decouple economic development from resource usage and to convert the EU into a just and wealthy community with a competitive, modern, and efficient economy (Bongardt & Torres, 2020, p. 172). Moreover, with the EGD, the EU hopes to demonstrate how to be sustainable and competitive to the rest of the world (Fuchs & Rounsevell, 2020, p. 671).

EGD proposed several ambitious policy spheres, from clean energy to sustainable industry, from building and renovation to food sustainability, from eliminating pollution to sustainable transportation and sustainable finance, as well as preserving biodiversity (Bongardt & Torres, 2020, p. 178). **Figure 4** below describes actions taken by the EU under EGD.

The reason why the EU take such bold measures is that early adoption of European standards would provide the EU with the advantage of being the "first mover," which would help the EU to build dominant players in emerging and expanding economic sectors and segments (Muench, et al., 2022). In this perspective, on July 14, 2021, the EC presented its “Fit-for-55” package for the EU’s new climate and energy legislative framework to reduce GHGs by 55% by 2030 (Gläser, Kleimann, Panzeri, & Vangenechten, 2022). The package also includes a proposal for a regulation creating a “Carbon Border Adjustment Mechanism” (European Council, 2022). On 22 June 2022, this proposal was approved by (European Parliament, 2022) with minor amendments

together with a carbon legislation package, which also includes several changes regarding the Emissions Trading System (EU ETS) and the Social Climate Fund (EY, 2022).

**Figure 4:** EU Green Deal Actions



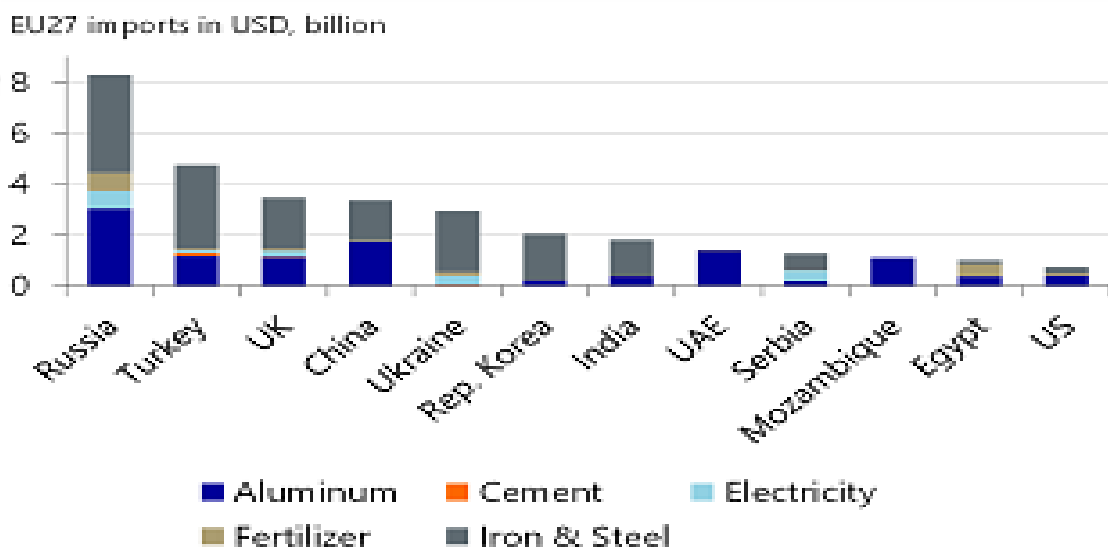
**Source:** (switch2green, 2022)

However, putting a price on carbon may pose a “carbon leakage” risk to the EU (Evans, Mehling, Ritza, & Sammone, 2021). In other words, as the EU increases its decarbonisation targets, the cost of compliance for domestic firms in the EU continues to grow, incentivising them to flee their production to other economies with lax environmental standards. Until now, the EU has allocated free allowance to specific sectors to prevent this leakage (Titievskaia, Simões, & Dobрева, 2022). With the CBAM proposal, the EU seeks to avoid this problem and create a level playing field for its producers.

However, these indirect interventions in international trade like passing new laws and standards, implementing market signals and carbon pricing mechanisms can have significant cross-border repercussions since they have an impact on imports and exports of goods even though they are primarily intended as local measures (Mehling, Van Asselt, Das, Droege, & Verkuijl, 2019).

On the other hand, CBAM's effects are unevenly dispersed across the world. Countries with higher EU exports may be exposed to the negative consequences of CBAM (Eicke, Weko, Apergi, & Marian, 2021, p. 1). Turkey is the EU27's second top supplier of CBAM goods, followed by Russia and the fourth most reliant trade partner of EU27 after the UK, Serbia, and Mozambique (Dumitru, Kölbl, & Wijffelaars, 2021). (See **Figure 5**) Therefore, CBAM helped Turkey to alleviate debates about climate change and low carbon transition due to its adverse effects on trade with the EU.

**Figure 5:** Mostly impacted countries and sectors



**Source:** (Dumitru, Kölbl, & Wijffelaars, 2021).

The lure of the EU single market influences its trading partners. Thanks to its giant economy, the EU may spread its idea through its trade policy. In this respect, Turkey's strategic desire to align itself with the European Green Deal is currently gaining new momentum (Toygür, Tekin, Lecha, & Danforth, 2021). Therefore, Turkey has implemented various policy amendments and enacted institutional changes to support the green transition and adopt EGD and its trade-related measures like CBAM. In this respect, the first chapter of this dissertation attempts to answer the question, "How does trade-related CBAM of the European Green Deal affect Turkey's Trade Integration with the EU?" The second part of the study addresses the question, "How do CBAM and EGD, in general, contribute to the green transition in Turkey regarding policy documents and institutional changes?"

## **IV. LITERATURE REVIEW**

### **EU as a Trade Norm Influencer**

The GDP of the European Union (EU) was USD\$ 15.29 trillion in 2020 (World Bank, 2022a), which makes the EU an “economic superpower”. Thanks to this significant market, advanced transportation infrastructure, 440 million wealthy consumers, transparent laws and standards, and secure legal frameworks for investments, the EU has been a lucrative market for its trading partners (European Commission, 2022c). The EU does about 15% of global trade in goods. Together with China and the United States, the EU is one of the most important international players in world trade (European Commission, 2022d). The EU is a valuable export market for numerous developing countries. To illustrate, except for fuels, the EU buys more from developing nations than imports from the United States, Canada, Japan, and China. Moreover, the EU is their top commercial partner for 80 countries (Committee for European Construction Equipment, 2022). Likewise, The EU is the greatest investor in the world and a significant beneficiary of other people's foreign direct investment (FDI) (European Parliament, 2021).

Thanks to this economic power, The EU acts as a powerful regional actor influencing national and international policymaking (Damro, Hardie, & MacKenzie, 2008). Based on the Single European Market, “Market Power Europe” is an essential source of EU trade norm influence (Dent, 2018, p. 22). Thus, the regulatory arrangements of the EU may have considerable consequences worldwide (Tosun J. , 2012). Trade partnerships with the EU remarkably influence third nations' environmental and sustainability policies. Through bilateral alliances and other efforts, the EU is increasingly addressing these worldwide issues (Blot, Oger, & Harrison, 2022, p. 2). For instance, The EU has long been using its transformative power by employing sector-specific policies such as EU Timber Regulation (EUTR) (Forest Legality Initiative, 2022), EU Conflict Minerals Regulation (Deloitte, 2018) and the EU Circular Economy Package (Arbinolo, 2022). Moreover, the EU has been exporting its environmental ideas to its neighbours. For example, the EU expanded its ETS to Iceland, Liechtenstein, and Norway (Environment Protection Agency, 2022).

## **Common Trade Policy of the European Union**

The EU's trade policy plays a key coherence role in the scope of the EGD and its detailed proposals like the EU Climate Law and the Fit-for-55 package (Blot, Oger, & Harrison, 2022). Article 207 of the Treaty on the Functioning of the European Union (TFEU) outlines the EU's trade policy, a crucial competence of the EU (EUR-lex, n.d.). In other words, the EU is solely responsible for trade with countries outside the EU rather than the national governments of member nations. Through its trade and investment policies, the EU manages its relationships with non-EU nations (Committee for European Construction Equipment, 2022).

In line with the EGD objectives, on 18 February 2021, EU Commission rolled out its new Trade Policy Review (TPR), which reflects the “open strategic autonomy” vision of the EU (European Commission, 2021a). The TPR, which replaces the 2015 "Trade for All (European Commission, 2015), incorporates terms like "assertiveness" and "resilience" into the lexicon of trade in addition to the well-known ideas of "fairness" and "sustainability." This reflects the global shifts that have occurred since then.

Using "Open Strategic Autonomy", the EU seeks to adapt trade policy to contemporary issues and speed up the green and digital transitions (European Parliament, 2021). With the Trade Policy Review, the EU Commission declared that it could not act alone to combat climate change; therefore, when negotiating trade and investment agreements with G20 partners, it will demand commitments on climate neutrality.

Moreover, the European Commission also showed its commitment to leveraging its extensive network of trade agreements to improve partnerships with stakeholders in the circular economy, sustainable agricultural systems, biodiversity, and environmental damage. In addition, the Commission announced that it would make Paris Agreements a part of its future trade deals (European Commission, 2021b).

Furthermore, the Commission described the Carbon Border Adjustment Mechanism as an environmental mechanism to prevent carbon leakages and use Trade Policy to avoid trade frictions and ensure World Trade Organisation and Free Trade Agreement

compatibility (European Commission, 2021b). Additionally, the EU's trade policy will support climate-friendly public procurement while facilitating investment in "green goods and services." (Bostanoğlu N. M., 2022)

Likewise, by stressing the importance of global partnerships and the power of trade agreements, In July 2022, The EU published the "Power of Trade Partnerships" Communication which aims to allocate environment and climate protection burdens worldwide (European Commission, 2022b). According to Communication, the EU is determined to enforce Paris Climate Agreement via the "Trade and Sustainable Development" (TSD) clauses on its trade treaties. On the other hand, according to a 2017 European Court of Justice judgement, the EC may suspend a portion of a trade agreement if the opposing party breaks the sustainability chapter (Vivid Economics, 2018).

The (European Commission, 2019) underlined that only if its immediate neighbours take practical actions can the ecological transition for the EU be completely effective. Therefore, the EU plans to mobilise its neighbours and partners to follow its sustainable path by leveraging its influence, expertise, and financial resources (European Commission, 2019).

To promote its values and policies, The EU expands its regulatory procedures to the rest of the globe using tools of international commerce (European Parliament, 2021). As a result, EU Trade Policy significantly impacts achieving the climate targets of both the EU and third countries (Bostanoğlu & Sezgin, 2022, p. 3).

### **Effects of CBAM on Turkey**

There is emerging literature regarding Carbon Border Adjustment Mechanism (CBAM) and its impacts on Turkey. According to (Gross, 2021, p. 12), Russia, China, Turkey, the UK, and Ukraine will face the harshest burdens under the CBAM based on current export and import activities. Besides, (Tunç, Akbostancı, & Türüt-Aşık, 2022) points out that unless Turkey decreases its emission intensity dramatically, it will encounter substantial losses in terms of its EU trade. Moreover, in their quantitative study (Acar, Aşıcı, & Yeldan, 2022) analysed the static implications of CBA on the Turkish economy and

concluded that CBAM might bring a 1.1 to 1.8 billion euros tax burden to the nation's exporters. Another study reflects that CBAM will cost the economy of Turkey as much as 0.07% of its GDP, but if Turkish firms do not produce long-term policies against climate change, they will struggle to access finance (Ecer, Guner, & Çetin, 2021).

Although the EU CBAM has a minor influence on Turkey's overall commerce, this negative impact will grow over time as other nations are likely to establish similar carbon mechanisms and as product and scope coverage of CBAM will increase (Besley, et al., 2022, p. 19). If the largest carbon emitters in the world apply CBAM harmoniously, this will incentivise other countries to lower their emission levels because other countries will lose their competitiveness in international trade if they don't decarbonise themselves (Jakob, 2021).

Looking from a positive perspective, (Aşıcı, 2021) argues that EGD is a late transformation opportunity for Turkey rather than a threat. Similarly, the (World Bank , 2022e) concluded that the CBAM offers Turkey the chance to gain an advantage in markets where rival companies are more carbon-intensive, particularly if Turkey increases its efforts to improve industrial energy savings and efficiency of the logistics chain. Besides, engaging Turkey in conversation about the EGD benefits Turkey's business sector and civil society, which are the leading proponents of Turkey's EU orientation (Aydintasbas & Dennison, 2021). Therefore as (Kuşcu, 2022) argues, if Turkey wants to keep its relations with the EU sustainable and robust, it is inevitable for Turkey to decarbonise its economy.

On the other hand, the consumer markets of Turkish exporters in emission-intensive and trade-exposed industries (EITE) affect their preparedness levels. For instance, analysing steel & iron, aluminium, and cement sectors (Kenanoğlu & Özokcu, 2022) found a correlation between firms' shares in EU markets and their willingness to adopt EGD-related measures.

## **Trade and Environment**

The literature on the impacts of international trade on environmental regulatory policies can be divided into two sides. From the perspective of those who worry about the effects of competition on globalisation, growing international trade and competitiveness negatively impact domestic regulations, especially in developing countries. The cost of manufacturing in environmentally advanced nations is generally more significant than in industries producing the same items in jurisdictions with either lax or non-enforced environmental regulations, depending on how strict these policy instruments are (Brauch, Arnold, Klonsky, & Everard, 2021). Therefore, it is argued that emerging nations use the strategy of lowering their environmental laws and creating “*pollution havens*” to compete with the superior infrastructures of rich countries (Singhania & Saini, 2021). Furthermore, this competitive pressure among developing countries may encourage “*a race to the bottom*” regarding environmental norms (Goodman, 1993). In other words, developing nation-states may feel themselves under pressure to restructure their domestic market regulations to prevent regulatory costs from limiting the competitiveness of domestic sectors because of the growing integration of global markets, the removal of domestic protectionist measures, and the international mobility of commodities, labourers, and investment (Holzinger & Sommerer, 2011, p. 317). Moreover, some argue that due to the high competitiveness pressure in international trade and lack of responsive institutions, rapidly industrialising nations may lower their standards and face with “*stuck at the bottom*” problem (Porter, 1999). Lastly, some scholars also claim that because of concerns about investor-state conflict, governments may not act quickly to regulate in the public interest (like environmental protection and public health), referred to as “*regulatory chill*” (Tienhaara, 2017).

However, proponents of global trade believe that increasing transnational trade connections, competitiveness and international agreements boost the global adoption of ecologically advantageous regulations, leading to increased environmental efficiency. According to (Perkins & Neumayer, 2008), rapid increases in domestic CO<sub>2</sub> and SO<sub>2</sub> efficiency are related to imports from nations with lower pollution levels and telecommunications connections. For (Busch, Jörgens, & Tews, 2005), economic competition may lead to a “*race to the top*” instead of a “*race to the bottom*,” in which

nations attempt to imitate novel and ambitious regulatory strategies early in their global dissemination to gain "first-mover advantages" and avoid falling behind other countries. Furthermore, as (Lazer, 2005) argues, access to larger markets also incentivises better regulations in domestic markets. In addition, by drawing attention to the "California Effect", in his influential article "*Trading up and governing across transnational governance and environmental protection*" (Vogel, 1997) argues that to access their markets, countries rapidly adopt the norms of their wealthier, more environmentally conscious trade partners and, many national environmental practices have been strengthened as a result of this dynamics of international trade. To support that idea, (Perkins & Neumayer, 2012) found that developing countries' automotive and car component industries are likely to adopt stricter emission standards if they have advanced export markets with more stringent emission standards. Likewise, (Prakash & Potoski, 2006) demonstrated that firms adopt better environmental measures like ISO 140001 if their major export markets adopt them.

In addition to the dynamics of the competitive process, negotiated agreements on international cooperation may also contribute to increasing environmental standards (Genschel & Plumper, 1997, p. 627). For (Brauch, Arnold, Klonsky, & Everard, 2021), international accords may spur significant economic benefits and effectively persuade reluctant nations to participate if market signals are strong enough, driving the world's transition to a green economy.

Moreover, other factors contribute to the positive impacts of foreign trade on environmental regulations. For instance, if a country with lax regulation receives significant direct investments from higher-regulating countries, this may also contribute to the "Trading Up" (Perkins & Neumayer, 2012). Furthermore, public concerns, activities of NGOs and acts of corporations also play an essential role in explaining both increases in domestic regulatory stringency and global "trading up" dynamics (Bernauer & Caduff, 2004). Furthermore, by pointing out the role of behavioural sub dynamics, (Stadelmann-Steffen, Eder, Haring, Spilker, & Katsanidou, 2021) argues that individual preferences based on political or environmental reasons also affect firms and markets to adapt to more stringent and greener jurisdictions. For instance, as (Benos, Burkert, Hüttl-

Maack, & Petropoulou, 2022) argue, recent buying preferences are highly influenced by ecological awareness in European countries. Likewise, signed in October 2017, The Buy Clean California Act was the first-ever legislative effort to restrict carbon emissions throughout the supply chain, which enforces that only certain types of products that comply with California's rigorous emission regulations are permitted for public procurement (Carlisle, et al., 2022). Geographical affinity is also another contributor to the “*trading up*”. Analysing the chemical industry (Holtmaat, Adolph, & Prakash, 2020) demonstrates that domestic firms adopt better self-regulation if firms in neighbouring countries adopt similar jurisdictions.

All in all, developments in international trade might fundamentally alter the course of the world's attempts to prevent climate change (Brauch, Arnold, Klonsky, & Everard, 2021).

## V. THEORETICAL FRAMEWORK

### **The California Effect**

“The California Effect” is the term used to describe how wealthy and prominent economies encourage a "race to the top" in terms of regulatory standards among their trading partners (Vogel, 1997). The GDP of California in 2021 was \$3.35T, or 14.6 % of the whole U.S. economy, and if it were a nation, it would rank fifth in the world in terms of productivity, surpassing that of the UK and India (Hughes, 2021). Due to California's relatively large market, the state has significant economic clout, which has increased both national and international businesses' willingness and capacity to produce goods that adhere to California's unique regulatory norms (Vogel, 2018). Thanks to this market access leverage, by setting stricter environmental adjustments, larger economies may increase domestic producers' competitiveness, satisfy environmentalists' demands, and influence their trading partners to produce more environment-friendly goods. Moreover, large economies like the EU may negotiate to improve the environment in their international agreements. (Vogel, 1997)

As Vogel argues, when a nation depends heavily on exports to a sizable "greener" market, a "race to the top" frequently occurs (Vogel, 2018). For him, domestic firms support greener regulations in the developed markets for three reasons: First, thanks to better environmental standards in their domestic markets, they fulfil the requirements of their profitable export markets and continue to sell their products. Secondly, if their domestic markets adopt the same regulations by selling the same products to domestic and export markets, these firms may enjoy “economies of scale”. Lastly, these export-oriented firms also gain an advantage over firms mainly producing for the domestic market (Vogel, 2018).

As (Vogel, 1997) argues, the “California Effect” has been very significant for the EU due to its large market, economic integration, and strong institutions. To reach the EGD objectives, establish a “level playing field” for its industries, and to incentivise its trading partners to contribute to its climate efforts, the EU has been setting new environmental

adjustments like CBAM, which has considerable effects on the market access and competitiveness of exporters of other countries like Turkey.

The EU is the top export market for Turkey due to their deep economic integration thanks to Customs Union Agreement. Due to the CBAM and other trade-related measures of the EU, Turkey has been setting new policy documents, rules, and institutional adjustments to maintain competitiveness and market access to comply with the EGD. Moreover, export-oriented producers in Turkey that will be affected by CBAM are in favour of better regulations in Turkey. Considering the advanced economic ties of Turkey with the EU, Turkey may show a similar pattern of the “California Effect” to improve the environmental quality of its products to comply with the regulations taken by the EU in the scope of the EGD. Therefore, in this dissertation, California Effect will be used to analyse Turkey-EU trade relations in terms of the European Green Deal.

## VI. METHODOLOGY

### Research Aims

There are three main aims of this dissertation. The first is to contribute to Turkey's green transition through the lens of David Vogel's "*Trading Up*" idea by employing the "California Effect". Since the economies of the EU and Turkey are closely tied together in a Customs Union and two other FTAs, it is critical to determine how the EU's actions on climate change will affect Turkey's economy. The second aim is to contribute to the literature on the governance of this process in Turkey. The third one is to contribute to the green transition of Turkey's international trade through policy recommendations.

#### ❖ Research Question

- How does the trade-related CBAM of the European Green Deal affect Turkey's Trade Integration with the EU?

#### ❖ Sub Questions

- Which measures does European Green Deal Envisage?
- How does EU-TR Trade Relations Structure?
- How do CBAM measures affect Turkey-EU trade?
- How is Trade Policy Governed in Turkey?
- Which policies are employed in Turkey to mitigate the adverse effects of CBAM and foster its positive outcomes?
- Which policies can contribute to Turkey's green transition?

### Data Collection Methods

The CBAM of the European Green Deal will be analysed by using secondary data derived from emerging literature from academia, open-source reports from the World Bank and other international institutions such as UNDP, official documents of both the EU and Turkey and studies conducted by civil society organisations such as TUSIAD and IKV, as well works of numerous think tanks.

## **Limitations**

There are four main limitations in the scope of this dissertation. Firstly, it is mainly focused on secondary data. A more detailed analysis could be conducted by using primary data. Interviews with state officials and exporters would enhance the quality of the research. Secondly, even though the possible effects of the Carbon Border Adjustment Mechanism have been thoroughly studied, the EU has not legislated it yet. Likewise, there is no empirical evidence of CBAM or CBAM-like measure in the world except for the California Electricity market. Therefore, both the scope and practical outcomes of CBAM will be different than anticipated. Thirdly, literature on the effects of CBAM on Turkey's trade relations with the EU is still emerging. This creates a limitation for the depth of the analysis. Lastly, access to some official draft documents in Turkey is limited, hindering further study of possible policies regarding the research topic. All in all, all these limitations make it harder to draw precise conclusions regarding the research area.

## **Ethics**

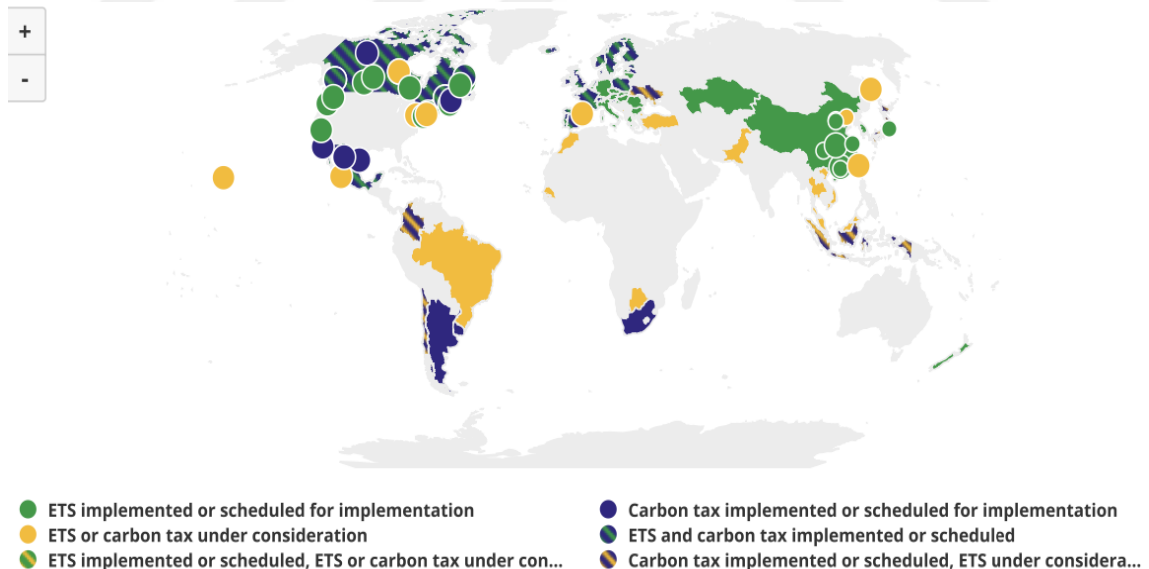
This research has been conducted in line with the Ethical Review Process of the University of Sussex.

## CHAPTER 1: CBAM AND THE TURKISH ECONOMY

### 1.1. Carbon Pricing

Putting a price on carbon is a market-based method to mitigate GHG emissions, reflecting the idea that the “polluter pays” the price (CPLC, 2022). Carbon pricing may also cover the external costs associated with manufacturing and using products with a high carbon footprint, defined as scopes. (Brenton & Chemutai, 2021) states that “Scope 1” emissions are produced directly by owned or managed sources, such as burning fuel in onsite gas boilers. “Scope 2” emissions resulting from the operation of equipment that uses the power purchased and are indirectly tied to the purchase of energy, heat, steam, or cooling. On the other hand, all additional indirect emissions, such as those from inputs acquired from outside suppliers, employee commutes, business trips, trash management, distribution, and energy required to consume the product (such as electricity used to heat water for preparing vegetables), are considered as “Scope 3” emissions (Brenton & Chemutai, 2021).

**Figure 6:** Carbon Pricing Instruments (CPIs) Across the World as of August 2022



**Source:** (World Bank, 2022c)

There are several benefits of carbon pricing. Carbon pricing may flexibly and affordably cut emissions in the economy (Vivid Economics, 2018). In addition to “keeping 1.5 alive”, carbon pricing can also increase energy and industry effectiveness, reduce

dependency on energy imports, promote clean air, protect and regenerate landscapes, and help governments with a significant source of revenue (World Bank, 2022d). As of August 2022, sixty-eight carbon pricing instruments (CPIs), like carbon tax and emissions trading systems (ETSs), are already in use in the world, and three more are slated for introduction (World Bank, 2022d) (see **Figure 6**).

## **1.2. Carbon Leakage**

However, carbon pricing might harm the nation's global competitiveness of emission-intensive and trade-exposed industries (EITE) because to avoid carbon costs, investment and production may flee to other countries that have less stringent regulations, which is known as "carbon leakage" (Evans, Mehling, Ritza, & Sammone, 2021). Putting a price on carbon without a border carbon adjustment mechanism may trigger carbon leakage between 5% and 25% (Branger & Quirion, 2014).

## **1.3. Carbon Border Adjustment Mechanism (CBAM)**

The idea of dealing with carbon leakage has long been discussed worldwide. For instance, in the 1980s and 1990s, the United States employed the border regulation mechanism for the first time to offset the taxes on domestic products on imports of specific chemicals and to charge the entrance of ozone-depleting compounds (TUSIAD, 2020). According to (Branger & Quirion, 2014) a CBAM can help reduce carbon leakage by 6%. However, although California has been using a limited Carbon Border Adjustment Mechanism (CBAM) since 2013, no country currently uses a CBAM (House of Commons Environmental Audit Committee, 2022, p. 9). Moreover, as in California's electricity sector, this mechanism may cause "resource shuffling", a type of leakage that gives the impression of lower emissions without lowering net emissions to the air (Pauer, 2018). Yet, in addition to the EU, CBAM is likely to be adopted by other countries, including the UK, Canada, and the US (Brauch, Arnold, Klonsky, & Everard, 2021).

## **1.4. EU CBAM**

One of the most significant megatrends that will influence economic and social growth in the upcoming decades is the decarbonisation of the European economy (Jarosławska-Sobór, 2021). Since 2005, to combat climate change, the EU has been pricing GHG

emissions through its pioneering Emissions Trading System (ETS), which is the world's most potent carbon pricing mechanism. (Department for Business, Energy & Industrial Strategy, 2020). The new CBAM will be applied to products under the current ETS system, which accounts for 94 % of all EU emissions (Kuşçu, 2022, p. 82). The proposed CBAM will cover the carbon emissions of these products at prices equal to the recent carbon price within the EU ETS. Therefore, importers must purchase special certificates after 2026 (Jarosławska-Sobór, 2021). On the other hand, countries integrated into the ETS of the EU (i.e., Iceland, Liechtenstein, and Norway) will be exempt from CBAM (Environment Protection Agency, 2022). Therefore, combining with the EU ETS will benefit countries in the near future to maintain their competitiveness.

CBAM plans to tax imports to the EU according to the carbon density of those products (Tunç, Akbostancı, & Türüt-Aşık, 2022). According to the new CBAM proposal, if non-EU companies that export goods from specific industries (i.e. iron & steel, cement, fertilisers, aluminium, and electricity) are not bound to any carbon pricing system (like carbon tax or cap and trade system) in their domestic markets, they will be subject to carbon levy at EU borders (Deloitte, 2022).

By correcting intra-EU competitive distortions (carbon leakage), Carbon Border Adjustment Mechanism (CBAM) wants to ensure the EU's treaty-based polluter-pays principle (Bongardt & Torres, 2020, p. 178). With the CBAM, the EU hopes to persuade other countries to mitigate their emissions and take climate action (Gross, 2021, p. 15). To illustrate, the EU envisage that the proposed CBAM design will cut worldwide emissions in the relevant sectors by 0.4% and EU emissions by nearly 1% until 2030 (European Commission, 2021c).

According to the impact assessment conducted by EC, there are four objectives of CBAM, which are: to address the risk of carbon leakage; contribute to the EU's decarbonisation goals; incentivise industries in other economies that sells products to the EU to adopt low carbon technologies; and make sure that the price of imports more accurately reflects their carbon density (European Commission, 2021c).

The effect of CBAM on each nation will ultimately depend on a variety of variables, such as the degree of consumer cost pass-through, emission intensity and its potential for reducing them in comparison to competitors, potential export diversions, and the capacity of exporting countries to accurately measure and report emissions (Besley, et al., 2022, p. 5).

Reflections regarding the EU's CBAM vary. On the one hand, a Climate Club system that imposes minimal economic sanctions on non-participants may cause the formation of a sizable, durable coalition and significant levels of mitigation (Nordhaus, 2015). On the other hand, many developing nations are worried that the EU's CBAM pursues protectionist goals. Therefore, it may generate trade irritations threatening international climate change mitigation efforts (Gläser, Kleimann, Panzeri, & Vangenechten, 2022). Moreover, due to the current practical and legal implementation limits, the feasibility of CBAM can be significantly decreased (Böhringer, Fischer, Rosendahl, & Rutherford, 2022).

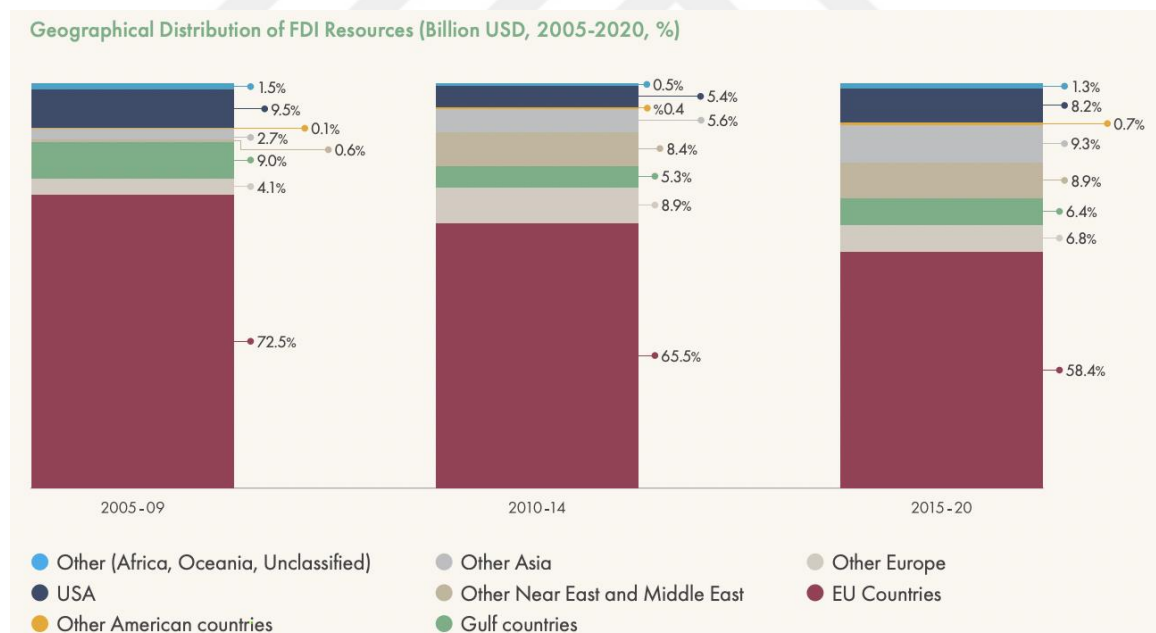
### **1.5. Economic Integration of Turkey and the EU**

The Turkey-EU trade ties are based on an Association Agreement signed in 1963 and a Customs Union agreement signed on 31 December 1995 (European Commission, 2022e). Thanks to the enhanced competition dynamics and market access benefits generated by CU, the composition of Turkish exports changed in line with the changing production structure and scales (Directorate for EU Affairs, 2019). Aside from traditional industries like clothing, textiles and agriculture, high-value-added sectors like automotive, machinery, and electronics expanded their share of overall exports while also improving their competitiveness in the EU (Ministry of Trade, 2022). In this regard, between 1995 and 2021, the percentage of cloth goods fell from 42.1 % to 19.2 %; the share of agricultural products exported to the EU fell from 15.4 % to 7 %; however, the percentage of machines and equipment commodities rose from 2.7 % to 10.0 %; the proportion of automotive rose from 2.5 % to 17.4 %, and the share of iron and steel products rose from 3.2 % to 10.0 % (Ministry of Trade, 2022).

Turkey is also becoming increasingly involved in European supply chains (Aydintasbas & Dennison, 2021). The EU defines Turkey as a critical trading partner (Toygür, Tekin, Lecha, & Danforth, 2021). To illustrate, Turkey was the sixth most significant exporter of EU commodities (3.6 %) and the sixth largest importer of EU goods (3.7 %) in 2021 (Eurostat 2022). On the other hand, the EU is Turkey's top trade partner, accounting for 31.5 % of total imports and 41.3 % of total exports in Turkey (Ministry of Trade, 2022).

Moreover, the EU is the most significant FDI source for the Turkish economy. As described in **Figure 7**, although the Foreign Direct Investments (FDI) of the EU in Turkey fell from 72.5% in the 2005–2009 era to 65.5% in the 2010–2014 period, it still consists of 58.4% of the total FDI in Turkey between 2015–2020 timeframe (Presidency of the Republic of Turkey Investment Office, 2021, p. 23).

**Figure 7: Geographical Distribution of FDI Resources in Turkey**



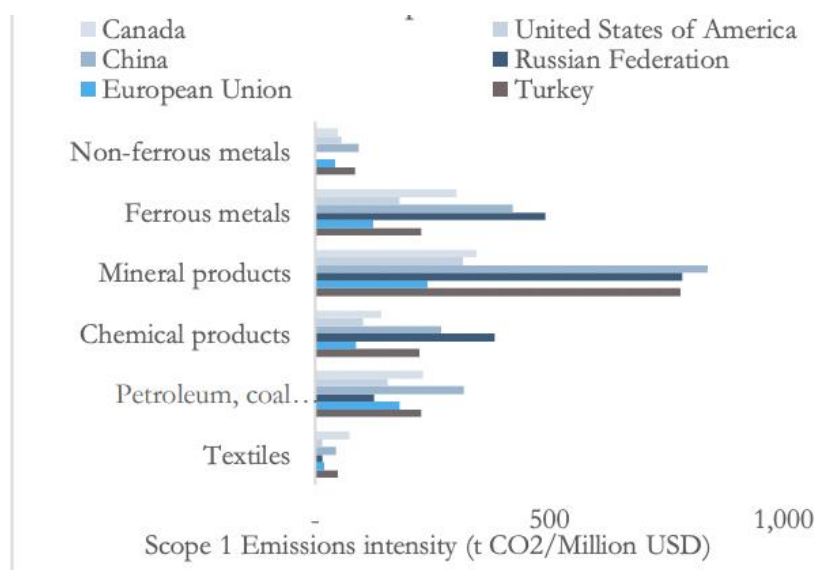
**Source:** (Presidency of the Republic of Turkey Investment Office, 2021, p. 23).

### 1.6. General Effects of the EGD on Turkey's Trade Integration with the EU

Implementing legislative measures declared by the EC under the EGD might result in significant cost increases for Turkish exporters of energy-intensive goods, including cement, steel, and aluminium (Bennett, 2021). The EGD will impact the Turkish economy in two ways: the anticipated implementation of the circular economy rules and the Carbon Border Adjustment Mechanism (Acar, Aşıcı, & Yeldan, 2022). Although the EGD could transform international trade via establishing a circular sustainable product form under the Circular Economy Action Plan (Emil & Bayülker, 2021), due to the limitations, the scope of this dissertation excludes the potential impacts of the Circular Economy on Turkey's economy.

CBAM, on the other hand, plans to tax imports to the EU according to the carbon density of the imported goods (Tunç, Akbostancı, & Türüt-Aşık, 2022). However, in general, Turkish industries emit more GHG in the production process than the EU27 industries (World Bank, 2022b). (See **Figure 8**). Hence, the CBAM will negatively affect the competitiveness of Turkey because these industries will encounter additional To illustrate, Turkey is by far the largest CBAM-covered cement exporter to the EU, accounting for 29.6% of cement, and a significant iron and steel exporter (8.6%), aluminium (5.6%) and electricity (1.5%) (Kardish, Mäder, Hellmich, & Hall, 2021).

**Figure 8:** Emission Intensity for Turkey and selected economies.



**Source:** (World Bank, 2022b)

Although the effects of CBAM on carbon-intensive sectors will be significant, the overall effect of the mechanism on Turkey's economy will be relatively limited (World Bank, 2022b, p. 95). According to a study, the CBAM's potential negative implications on the Turkish economy would be only between 2.7 and 3.6 % GDP loss by 2030 compared to the business-as-usual base path (Acar, Aşıcı, & Yeldan, 2022). However, other countries, including the UK, Canada, and the US, will likely adopt similar mechanisms (Brauch, Arnold, Klonsky, & Everard, 2021). If larger nations create a "Climate Club", future effects of CBAM will be more significant to Turkey.

### **1.7. Sectoral Impacts of CBAM on Turkey**

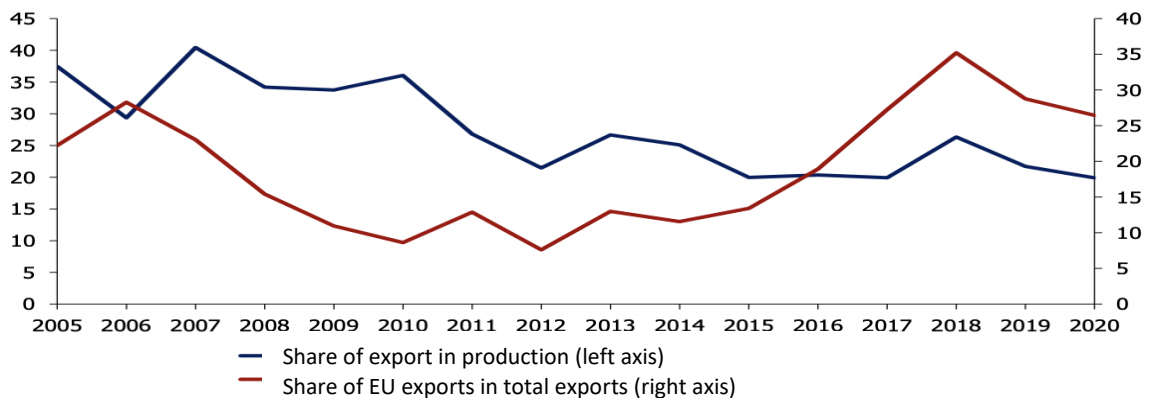
The CBAM has sped up sectoral debates in Turkey on the green transformation process and research on carbon pricing, which may have a detrimental effect on Turkey's ability to compete, given that it exports roughly half of its goods to EU nations (Kenanoğlu & Özokcu, 2022). In this part, the sectoral impacts of CBAM on Turkey's three selected carbon-intensive sectors, namely steel & iron, aluminium and cement, will be analysed.

#### ***Turkish Steel Sector***

Apart from Customs Union Agreement mentioned above, the European Coal and Steel Community (ECSC) and Turkey signed an additional free trade agreement (FTA) on coal, iron, and steel goods in 1996 (Yalcin & Felbernayr, 2021). This ECSC agreement mutually reduced customs charges on the steel trade (EUR-Lex, n.d.). The deal allows EU members to trade Turkey's iron and steel products duty-free. Additionally, according to the terms of the ECSC agreement, the government is prohibited from aiding the steel industry (EUR-Lex, n.d.).

Steel industry is one of the most advanced industries in Turkey. According to the Turkish Steel Exporters' Association (CIB, 2022), the fourth most significant sector of the Turkish economy is the steel industry, with 7.4 million tonnes, or 31% of all Turkish steel exports. Besides, the European Union will remain Turkey's top steel export market in 2021. (See **Figure 9**)

**Figure 9: Turkey's Iron & Steel Export to the EU27 (2005-2020)**



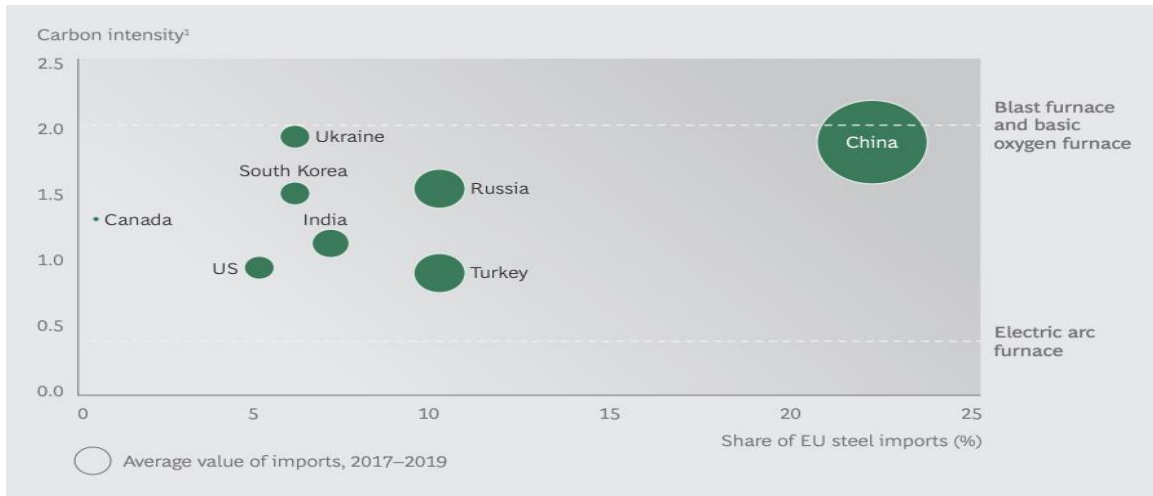
**Source:** (CIB, 2022)

Due to the FTA with the EU, Turkey's steel output has grown dramatically from 15 million tonnes in 2001 to 40.4 million tonnes in 2021. Turkey is the seventh-biggest producer worldwide and the largest producer in Europe (CIB, 2022). Thirty-seven % of Turkish Iron and steel exports consumed by the EU, which on average accounts for \$5 billion annually since 2018, are under threat of CBAM because the energy intensity of this sector higher than the Republic of Korea and the EU. Yet, it is lower than Russia and China (World Bank, 2022b, p. 95). The potential income losses in exports to the EU (depending on the carbon price of 30 or 50 euros per tonne) are 1.7 % to 2.8 % in the iron and steel industry; (TUSIAD, 2020).

Yet, Turkey is considered a carbon-efficient steel manufacturer compared to its rivals since its production methods mainly focus on electric arc furnaces and integrated plants (75%) more than any other type of steelmaking (SEFIA, 2022). Currently, Turkey has 3 BOF facilities, 11 induction furnace plants, and 26 electric arc furnace mill units (EAF) (CIB, 2022). Therefore, the steel sector of Turkey is in a favourable position relative to other nations in terms of carbon intensity. Turkey emits almost half of the emissions from China and Ukraine, the EU's other two main trading partners, when comparing the carbon intensities of steel manufacturing (Aylor, et al., 2020). **(See Figure 10)**

A carbon price affects the sourcing choices and trading connections of EU participants. Importers of steel from the EU may strengthen their ties with low-carbon manufacturers in countries like Turkey and India (Aylor, et al., 2020, p. 8). Therefore, Turkey may build better partnerships with EU buyers and take steel share from its rivals.

**Figure 10: Import Share and Carbon Emissions of Steel Producers**

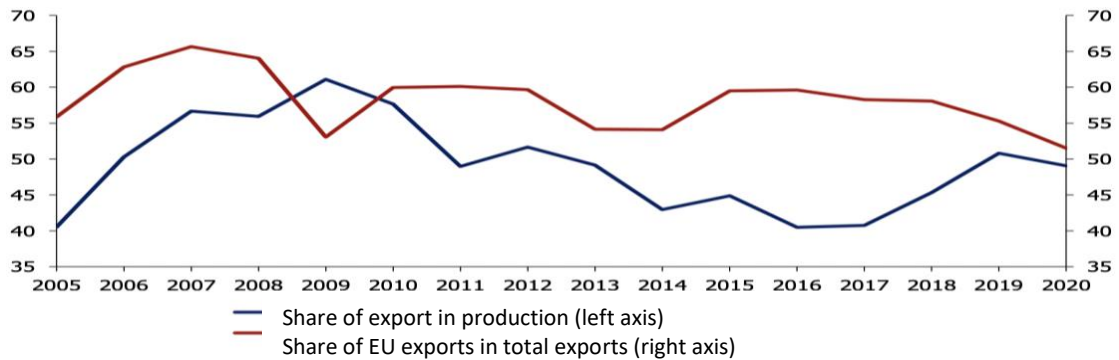


**Source:** (Aylor, et al., 2020)

### Aluminium Sector

Together with the Iron & Steel Sector, the aluminium sector is one of the most significant sectors in Turkey. Due to its share in export and contribution to the labour market, Turkey’s aluminium sector must retain its competitiveness. To illustrate, the industry hosts 1500 active firms which employ more than 30.000 labour (ASO, 2017, p. 11). Besides, with a share of 35%, the aluminium industry currently holds the top spot in the export of ferrous and non-ferrous metals, the industry has increased by 10% over the past ten years (Istanbul Ferrous and Non-Ferrous Metals Exporters' Association, 2022). For instance, in 2021, the aluminium exports of Turkey jumped to 5.1 billion dollars (Çirakoglu, 2022), and EU countries received 51% of this export (Kenanoğlu & Özokcu, 2022). (See Figure 11).

**Figure 11: Turkey’s Aluminium Export to the EU27 (2005-2020)**



**Source:** (Kenanoğlu & Ozokcu, 2022)

Although aluminium production in Turkey is also highly exposed to CBAM, compared to its other significant exporters like the EU and China, Turkey's non-ferrous metals (including aluminium) production performs somewhat better in terms of emissions intensity (World Bank, 2022b, p. 95). Due to their extensive electricity usage, businesses manufacturing aluminium have been shown to consume fewer hydrocarbons than other industries (Kenanoğlu & Özokcu, 2022). For instance, in comparison to other major exporters like China (93 tCO<sub>2</sub>e/Million USD), Turkey's output of non-ferrous metals (including aluminium) performs somewhat better in terms of emissions intensity at 85 tCO<sub>2</sub>e/Million USD (Besley, et al., 2022, p. 5).

### ***Cement Sector***

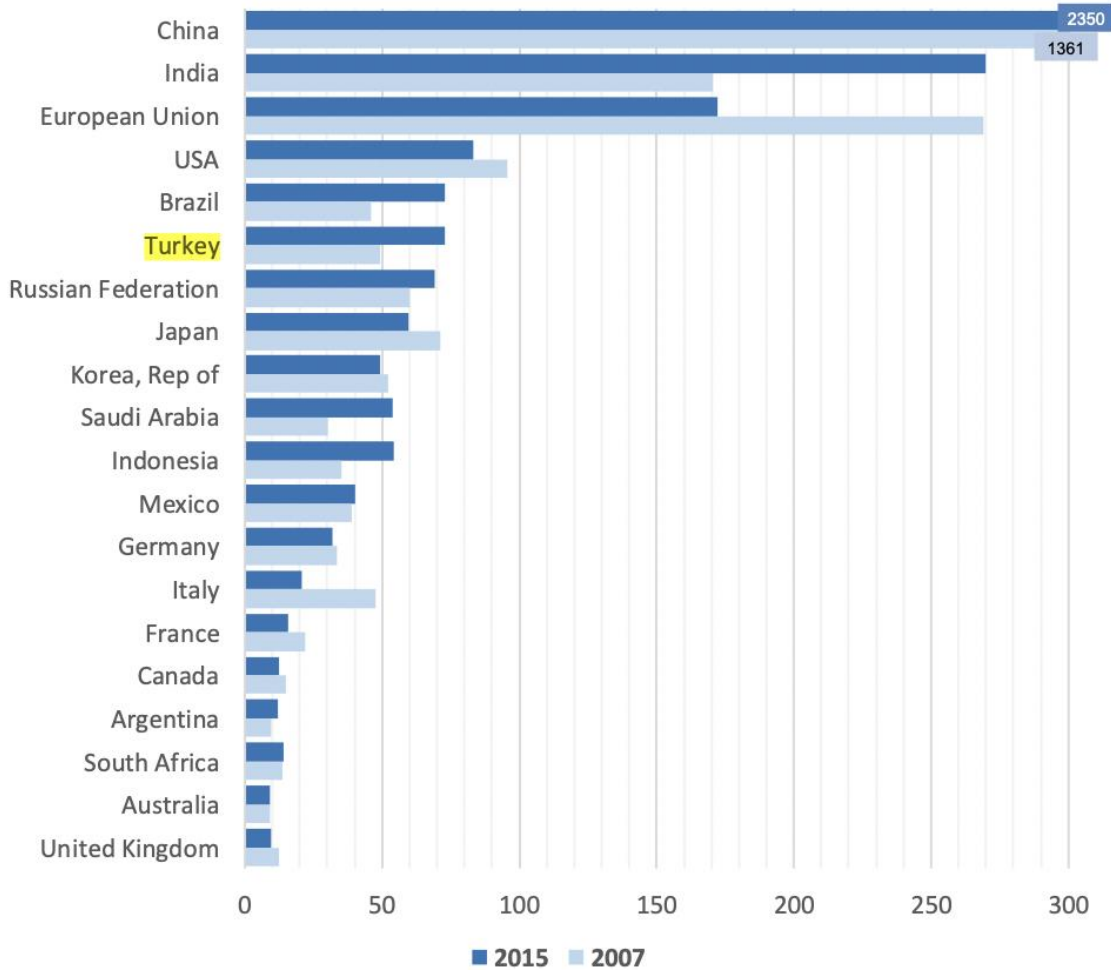
Turkey is the world's sixth largest cement producer (European Commission, 2017). (See **Figure 12**). Moreover, after Vietnam, it is the second-largest cement exporter in the world, with 1.2 billion dollars in exports in 2020 (Ministry of Industry and Technology, 2022). On the other hand, Turkey exports 21% of its cement production and realises 20 % of total exports to the USA, but only 10 % to the EU. (Kenanoğlu & Özokcu, 2022).

Just like other EITEs, the CBAM will also negatively affect cement export to the EU. According to the estimation of (TUSIAD, 2020) the cement industry will be the most negatively impacted, with a cost of 170 million Euros if a fee of 30 Euros per tonne must be paid for CO<sub>2</sub> emissions from exports to the EU market. Besides, the potential income losses in exports to the EU (depending on the carbon price of 30 or 50 euros per tonne) are 13.2 % to 22 % in the cement industry; (TUSIAD, 2020). Likewise, Cement exports to the EU would be around 5.8% lower under the current CBAM proposal of the EU than under the baseline scenario, which assumes there is no CBAM (Besley, et al., 2022).

There are some drawbacks of the Turkish Cement Sector regarding energy usage. Firstly, according to a sectoral report of the Turkish Cement Manufacturers' Association, about 80% of the cement cost is based on foreign currency fuel and electricity costs (TURKCIMENTO, 2022). Therefore, it is affected by soaring energy prices. Secondly, Turkey has a wide variety of cement factories, and around 35% of the 54 have a licence to use waste as an alternative fuel source. However, this only accounts for a thermal

substitution ratio of about 5% compared to 44% (in some facilities, even 100%) of the EU members (TURKCIMENTO, n.d.).

**Figure 12: Main Cement Producers in the World**



**Source:** (European Commission, 2017)

Turkish cement's low volume of exports to the EU market retards the need for preparation. It is believed that the lack of demand for emission reductions from their present clients will hinder cement businesses' transition (Kenanoğlu & Özokcu, 2022). Still, the negative impact will incentivise Turkish firms to increase their investment in environmental and innovative solutions (Ministry of Industry and Technology, 2022). For instance, thanks to the EGD and CBAM, carbon capture, energy efficiency, alternative and renewable energy sources, digitalisation and decarbonisation efforts are gaining prominence in the Turkish Cement industry (TURKCIMENTO, 2022).

## **CHAPTER 2: GOVERNANCE OF GREEN TRANSITION IN TURKEY**

While the competitive advantage in today's economy is gained with cost, logistics and agility, it will be achieved via sensitivity to climate change, carbon footprint and green production capacity due to the EGD (Kuşçu, 2022, p. 80). Therefore, as mentioned in the previous chapter, the competitiveness of Turkish emission-intensive and trade-exposed industries (EITE) in the EU market is projected to be affected by the possible implications of the trade policy measures of the EU, like the Carbon Border Adjustment Mechanism (CBAM).

Since the second half of the 1990s, Turkey's institutions, particularly the quality of regulations, have benefited from the country's integration into the global economy, which has increased particularly because of the Customs Union (TUSIAD, 2021, p. 22). Likewise, the market pressure caused by the CBAM proposal has boosted the support for a green transition in Turkey and resulted in considerable changes in both high-level policy documents and the institutional structures to mitigate the negative impacts and grasp the benefits of EGD.

### **2.1. Main Policy Documents**

The development toward net-zero emissions and environmental preservation is strongly influenced by political goals, policies, laws, norms, and regulations (Muench, et al., 2022, p. 15). In this respect, even if Turkey has only partially addressed combatting climate change, it has been reflected in the strategies and action plans created in various disciplines (TUSIAD, 2020). Moreover, Turkey has been working on comprehensive regulations aligned with the EGD (Ediboğlu, 2022).

To begin with, on 22 April 2016, Turkey signed the Paris Climate Agreement with the delegations of 175 nations (Ministry of Environment, Urbanisation and Climate Change, 2021). After countries from all over the world signed the historic global climate accord, they officially declared the post-2020 climate activities they intended to take under the novel international pact, known as Intended Nationally Determined Contributions (INDCs) (World Resource Institute, 2022). Accordingly, on 30 September 2015, Turkey

submitted its INDCs to the Paris Climate Agreement, which foreseen that greenhouse gas emissions will be reduced by an increase of up to 21% in 2030, according to the reference scenario (BAU) (Ministry of Environment, Urbanization and Climate Change, 2018b). On the other hand, the PCA had not been ratified for an extended period of time, which was highly criticised by both the EU (European Commission, 2020), the business sector (TUSIAD, 2020), and the NGOs (TEMA, 2018) in Turkey. Only six years later, the Grand National Assembly of Turkey ratified the Paris Climate Agreement with the “Law Concerning Approval of the Paris Transaction” on 7 October 2021 (Official Gazette, 2021b). The possible impact of a planned EU CBAM helped push Turkey to ratify the PCA (Weise, 2021).

After the EU announced its “Fit for 55” green transition package that includes CBAM, Turkey announced its Green Deal Action Plan (GPAP) on 16 July 2021, revealing the steps to be taken to harmonise with the European Green Deal. The GDAP include 32 targets and 81 policy measures under nine main activity areas covering CBAM, a green and circular economy, green finance, clean, affordable, and secure energy supply, sustainable agriculture, sustainable smart transportation, combating climate change, diplomacy and the EGD information and awareness campaigns (Ministry of Trade, 2021). The GDAP gives the impression that the fight against climate change is driven solely by economic and commercial interests because the Ministry of Trade announced it, and the Ministry of Environment, Urbanization and Climate Change is not included in it (Bostanoğlu N. M., 2022, p. 53). To support this economy-oriented Green Deal Action Plan, The Turkish Scientific and Technological Research Council (TÜBTAK) has produced guidelines on critical research and development (R&D) and innovation areas for green growth. It gives them a higher priority in their assistance programmes (TUBITAK, 2022).

Furthermore, as stated in the 2023 Industry and Technology Strategy of Turkey (Republic of Turkey Ministry of Industry and Technology, 2019), in line with the green production approach, Turkey plans to support the new investments based on cleaner production and technology-intensive modernisation of infrastructure in organised industrial zones and enterprises to mitigate the adverse effects of the industrial output.

According to Turkey's new Foreign Direct Investment (FDI) strategy (Presidency of the Republic of Turkey Investment Office, 2021, p. 48), the regulatory framework governing production and international commerce will be rebuilt through legislative action by the Sustainable Development Goals (SDG) and the European Green Deal; mechanisms for encouraging sectoral transformation will be set up to ensure adherence to the European Green Deal, and studies will be conducted to improve the business environment's and regulatory framework's conformity with the SDGs of the UN and the EGD of EU. Considering that nearly half of Turkey's FDI comes from the EU (see **Figure 8**), the direction of Turkey's new FDI strategy reflects the transformative influence of the EU.

Medium-Term Programme (MTP) is a strategy document that is part of the multiannual budgeting process and sets macro policies and objectives for Turkey (Ministry of Treasury and Finance, 2018). As stated in the latest MTP 2022-2024 (Presidency of Strategy and Budget, 2021), the implementation of new policies by nations, particularly in the EU, Turkey's top export market, brings the necessity for a green transformation of the Turkish economy. Therefore, to integrate with global value chains and lure more foreign investment, Turkey has announced seven objectives which include increasing export competitiveness in international trade via boosting investments which aim to decrease GHG emissions and increase productivity; developing and spreading necessary green production technologies via supporting R&D; creating sustainable industry and economic zones; developing the regulatory framework of the financial sector; encouraging green bond and Sukuk instruments to finance environmentally sensitive investments; supporting energy and resource-efficient investments to mitigate adverse effects of climate change; expanding of zero waste practices, and reducing the import of waste, excluding those in critical parts of manufacturing (Presidency of Strategy and Budget, 2021). Moreover, under the "Green Transformation" chapter of MTP, it is stated that "By promoting investments that aim to raise productivity and reduce the growth of greenhouse gas emissions, export competitiveness will be improved by international trade regulations on climate change." (Presidency of Strategy and Budget, 2021).

Likewise, in the New Economy Program (NEP) (2021-2023) of Turkey, which the Ministry of Treasury and Finance has announced, it is stated that "by coordinating the

public, private sector, NGOs and universities, within the scope of the Turkey-EU Customs Union, necessary steps and preparations will be carried out in dialogue with the EU to adapt Turkey's export to the European Green Deal" (Ministry of Treasury and Finance, 2021). Both the new MTP and the NEP reflect that adaptation to EGD has gained prominence in the budget priorities of Turkey.

Lastly, in addition to updating existing policy documents, Turkey is also working on other comprehensive regulations such as drafts of climate law and emissions trading regulation (Ediboğlu, 2022) to adapt to the green transition, which arises from the need to comply with the EGD of EU.

## **2.2. Institutional changes**

The green transition is driven mainly by policymakers and governing bodies (Muench, et al., 2022, p. 15). Therefore, there is a leading role of government and public institutions in Turkey. The creation of these institutions in Turkey was influenced by the Customs Union and EU accession processes and by interactions with global organisations, including the WTO, IMF, World Bank, OECD, Council of Europe, and NATO (TUSIAD, 2021, p. 22). With the potential implications of EGD policies, institutions in Turkey are once again influenced by the EU. Accordingly, many public authorities are restructured, and several coordination and regulation mechanisms have been established in Turkey to mitigate the adverse effects and enjoy the benefits of the green regulations of the EU.

To begin with, on 4 February 2020, under the coordination of the Ministry of Trade, Turkey established a Green Deal Working Group, which consists of the Presidency of Strategy and Budget, and other ministries (Ministry of Trade, 2021). The Working group's main objectives are to hold technical level meetings and provide sectoral-based consultations with private sector actors.

Moreover, Turkey has begun a thorough dialogue with many stakeholders about the actions to be made regarding green transformation and carbon pricing. In line with its 2053 net zero emission and green development goals, Turkey also established an "*İklim Şurası*" (Climate Council) to create a road map to contribute to the development of

climate legislation, fundamental policies, and priority actions in the context of reducing greenhouse gas emissions and adapting to climate change (Climate Council, 2022a). The Climate Council held its first meeting on 25 February 2022 and announced 217 recommendations, such as energy efficiency, transportation, GHG emissions reduction, agriculture, waste, buildings, and climate change (Climate Council, 2022b). These policy recommendations will have a considerable effect on the future climate policies of Turkey (Şahin, The Climate Council: Groundbreaking Work or Missed Opportunity, 2022).

In addition, according to (Presidency of the Republic of Turkey Investment Office, 2021), the Sustainable Development Goals (SDGs) of the UN and related global trade and investment regulations will have a particular impact on the investment choices of investors from the EU. Moreover, it is argued that countries unable to match their supplier base and economic environment with the SDGs are in danger of falling behind (Presidency of the Republic of Turkey Investment Office, 2021). Therefore on 19.07.2022, under the Presidency of Strategy and Budget, National Sustainable Development Coordination Board Was Established by Presidential Circular No 2022/12 to monitor and coordinate the implementation of the Sustainable Development Goals (SDGs) at the national level (Presidency of Strategy and Budget, 2022).

Furthermore, with Presidential Decree No. 85 published in the Official Gazette on 29 October 2021, the Ministry of Environment and Urbanization was changed to the Ministry of Environment, Urbanization and Climate Change (Official Gazette, 2021c). It emphasises the increasing prominence of climate change in the Turkish bureaucracy.

Lastly, to protect from the adverse effects of CBAM, the Turkish public and business sectors are collaborating closely with the European Bank for Reconstruction and Development to create a domestic carbon market (Kardish, Mäder, Hellmich, & Hall, 2021). Exporting companies may avoid issues if Turkey develops a plan consistent with the EU's system, implements a trustworthy carbon certification system, and convinces the EU to recognise the system's reliability by negotiating a bilateral agreement (Ediboğlu, 2022). In this regard, Turkey is building a national ETS to retain its competitiveness in the EU (Özokcu, 2022, p. 4).

### **2.3. NGO and Business Sector**

Non-governmental organisations and the business communities in Turkey support the EGD and are closely interested in it. Leading non-governmental organisations in Turkey such as The Union of Chambers and Commodity Exchanges of Turkey (TOBB), Economic Development Foundation (İKV), the Foreign Economic Relations Board of Turkey (DEİK), Turkish Industry and Business Association (TÜSİAD), has prepared several reports, conducted several projects and awareness campaigns regarding the effects of EGD on Turkey's economy.

More giant corporations are already working on the possible implications of the CBAM issue by conducting their research and development and even making efforts to create their energy from renewable sources (Ediboğlu, 2022). For instance, a study conducted by 94% of respondents have climate change reporting engagements, 42% have low carbon transition plans, and 42% use internal carbon prices. More specifically, export-oriented firms placed a greater emphasis on environmental issues than domestic-oriented firms, perhaps because they must adhere to sustainability standards required by export destinations, particularly the EU (World Bank , 2022e, p. 27).

On the other hand, some sectors are reluctant to take firmer regulations. For instance, The Cement Industry demands establishing rules that reflect the realities of Turkey, which are not further than the requirements of the EU legislation, and which consider the costs (TURKCIMENTO, Emissions, n.d.). As mentioned before, the EU has a minimal export share in the Turkish cement sector, which may explain their reluctance.

However, small-scale players are unable to implement these green transition measures due to the high adaptation costs (Ediboğlu, 2022). Moreover, lack of financial resources, low awareness, and lack of skilled labour pose a threat for SMEs. For instance, 40% of SMEs in Turkey did not invest in increasing resource efficiency, and 29% allocated less than 5% of their revenue to this area (Karamollaoglu, 2021). In Turkey, 36 % of total export is done by 90.000 SMEs (KOSGEB, 2022). Therefore, their participation in the green transition should be encouraged by incentives.

## VII. CONCLUSION

Climate change and its devastating effects push nations to take more stringent measures to tackle human-related GHG emissions. In this respect, the EU has announced its new growth strategy European Green Deal as a roadmap to achieve the “Net Zero” target by 2050. The EU has announced Carbon Border Adjustment Mechanisms to incentivise its trading partners, which considerably impact carbon-intensive industries.

Thanks to Customs Union, Turkey has a profound and compressive trade integration with the EU. Therefore, CBAM and other trade-related EU significantly affect the Turkish economy. The new CBAM proposal will affect Turkey's competitive advantage and market access, increasing the demand for green transformation in Turkey. As Vogel argued, stringent environmental trade rules of the EU incentivised Turkey to update its policy documents, and regulations, transform its institutional structures and increase the support for green transition among NGOs and the business sector.

This green transformation may benefit the country in several ways. Firstly, the actions Turkey will take to bolster the fight against climate change with tangible measures, both in the public and private sectors, will support the competitive environment shaped by the dynamics of the green economy in international trade. Moreover, it will help Turkey to maintain its market share on a global level (TUSIAD, 2020). In addition, it is anticipated that Turkey's stance on climate change will impact its ability to bargain with the EU in discussions regarding subjects like the upcoming Custom Union Modernization negotiations (Ministry of Environment and Urbanization, 2018a). (Also see (World Bank, 2022b)

On the other hand, to grasp the benefits of this green transition and mitigate the implications of CBAM, it may be beneficial for Turkey to implement several policy recommendations. To begin with, due to the soaring carbon prices, it may be less expensive for a country to adapt to possible outcomes of the EGD than to be regulated by it (Tosun O. , 2022). Therefore, lowering the carbon intensity of Turkey's power system may also be seen as a policy move to protect the country's export-oriented sectors (IASS/IPC/UfU/IET, 2022).

Despite the hydroelectric, solar, wind, and geothermal energy sources making up 54% of the nation's power generating capacity in 2021, the country still lags in energy transformation beyond electricity (Elgendy & Tastan, 2022). Furthermore, Turkey should update its National Climate Change Action Plan and National Climate Change Strategy (IEA, 2021). Lastly, accelerating the present preparations for establishing an emission trading system in Turkey (ideally connected to EU ETS) will reduce economic losses (Acar, Aşıcı, & Yeldan, 2021).

In conclusion, the lure of the EU single market and the competitive pressure in international trade push Turkey to establish better regulations and institutions. The opportunities arise from EGD may be enjoyed if solid policies are initiated.

**THE END**

## VIII. REFERENCES

- Acar, S., Aşıcı, A. A., & Yeldan, A. E. (2021). Potential Effects of the EU's Carbon Border Adjustment Mechanism on the Turkish Economy. Online: Economic Research Forum.
- Acar, S., Aşıcı, A. A., & Yeldan, A. E. (2022). Potential effects of the EU's carbon border adjustment mechanism on the Turkish economy. *Environment, Development and Sustainability*, 24(6), 8162–8194.
- Adamowicz, M. (2022). Green Deal, Green Growth and Green Economy as a Means of Support for Attaining the Sustainable Development Goals. *Sustainability*, 14(5901), pp. 1-32.
- Akça, Y., M. Ö., & Güneş, A. N. (2018). Evaluation of Environment Policies in Turkey's Development Plans . *Journal of management and sustainability*, 8(2), 28-32.
- Arbinolo, R. (2022, March 30). *New Circular Economy Package set to be a game changer*. Retrieved August 25, 2022, from EEB: <https://eeb.org/new-circular-economy-package-set-to-be-a-game-changer/>
- Aşıcı, A. A. (2021, January). *Avrupa Birliğinin Sinirda Karbon Uygulamasi Mekanizmasi ve Turkiye Ekonomisi*. Retrieved May 30, 2022, from <https://ipc.sabanciuniv.edu/Content/Images/CKeditorImages/20210106-00011055.pdf>
- ASO. (2017, September). *Alüminyum Sektörü*. Retrieved August 22, 2022, from <https://www.aso.org.tr/wp-content/uploads/2017/09/17.pdf>
- Aydintasbas, A., & Dennison, S. (2021). *New energies: How the European Green Deal can save the EU's relationship with Turkey*. Retrieved August 21, 2022, from <https://ecfr.eu/publication/new-energies-how-the-european-green-deal-can-save-the-eus-relationship-with-turkey/>
- Aylor, B., Gilbert, M., Lang, N., McAdoo, M., Öberg, J., Pieper, C., . . . Voigt, a. N. (2020). *How an Eu Carbon Border Tax Could Jolt World Trade*. Online: Boston Consulting Group.
- Belardo, T. (2021, July 13). *What you need to know about the European Green Deal - and what comes next*. Retrieved May 29, 2022, from World Economic Forum:

<https://www.weforum.org/agenda/2021/07/what-you-need-to-know-about-the-european-green-deal-and-what-comes-next/>

- Bennett, V. (2021). *Turkish exporters could face steep extra costs under new EU carbon rules*. Retrieved August 24, 2022, from <https://www.ebrd.com/news/2021/turkish-exporters-could-face-steep-extra-costs-under-new-eu-carbon-rules.html>
- Benos, T., Burkert, M., Hüttl-Maack, V., & Petropoulou, E. (2022). When mindful consumption meets short food supply chains: Empirical evidence on how higher-level motivations influence consumers. *Sustainable Production and Consumption*, 33, pp. 520-530.
- Bernauer, T., & Caduff, L. (2004). In Whose Interest? Pressure Group Politics, Economic Competition and Environmental Regulation. *Journal of Public Policy*, 24(1), 99-126. doi:10.1017/S0143814X04000054
- Besley, D., Patroni, K., Dudu, H., Boratynski, J., Maliszewska, M., Farole, T., . . . Wuester, L. (2022). *TURKIYE CDDR Background Note 7*. Online: World Bank Group.
- Blot, E., Oger, A., & Harrison, J. (2022). , *Enhancing sustainability in EU Free Trade Agreements: The case for a holistic approach*. Institute for European Environmental Policy (IEEP).
- Böhringer, C., Fischer, C., Rosendahl, . E., & Rutherford, T. F. (2022). Potential impacts and challenges of border carbon adjustments. *Nature Climate Change*, 12(1), 22-29. doi:10.1038/s41558-021-01250-z
- Bongardt, A., & Torres, F. (2020). The European Green Deal: More than an Exit Strategy to the Pandemic Crisis, a Building Block of a Sustainable European Economic Model. *Journal of common market studies*, 60(1), 170-185.
- Bostanoğlu, M., & Sezgin, M. C. (2022). *Ab Konseyi, Sinirda Karbon Düzenlemesi Mekanizmasi Üzerinde Anlaştı*. Retrieved May 30, 2022, from [https://www.ikv.org.tr/images/files/ab\\_konseyi\\_sinirda\\_karbon\\_duzenlemesi\\_mekanizmasi\\_uzerinde\\_anlasti.pdf](https://www.ikv.org.tr/images/files/ab_konseyi_sinirda_karbon_duzenlemesi_mekanizmasi_uzerinde_anlasti.pdf)
- Bostanoğlu, N. M. (2022). *İklim Nötr Bir Dünya Yolunda Küresel İklim Çabaları*. Istanbul: İktisadi Kalkınma Vakfı.

- Branger, F., & Quirion, P. (2014). Would border carbon adjustments prevent carbon leakage and heavy industry competitiveness losses? Insights from a meta-analysis of recent economic studies. *Ecological Economics*, 99, 29-39.
- Brauch, M. D., Arnold, J., Klonsky, E., & Everard, F. (2021, December). *Event Highlights: Carbon Border Adjustments in the EU, the U.S., and Beyond*. Retrieved from Columbia Center on Sustainable Investment: <https://ccsi.columbia.edu/sites/default/files/content/docs/ccsi-eu-cbam-border-carbon-adjustment-event.pdf>
- Brenton, P., & Chemutai, V. (2021). *The Trade and Climate Change Nexus: The Urgency and Opportunities for Developing Countries*. Washington, DC: World Bank.
- Busch, P.-O., Jörgens, H., & Tews, K. (2005). The Global Diffusion of Regulatory Instruments: The Making of a New International Environmental Regime. *The ANNALS of the American Academy of Political and Social Science*, 598(1), 146-167.
- Capros, P., Kannavou, M., Evangelopoulou, S., Petropoulos, A., Tasios, P. S., Zazias, G., & DeVita, A. (2018). Outlook of the EU energy system up to 2050: The case of scenarios prepared for European Commission's "clean energy for all Europeans" package using the PRIMES model. *Energy Strategy Reviews*, 22, pp. 255-263.
- Carlisle, S., Waldman, B., DeRousseau, M., Miller, L., Ciavola, B., Lewis, M., & Simonen, K. (2022). *Buy Clean California Limits: A Proposed Methodology for Setting Industry-Average GWP Limits for Steel, Mineral Wool, and Flat Glass*. Seattle, WA.: Carbon Leadership Forum, University of Washington.
- Casert, C., & Bas-Defosse, F. (2022, July 1). *Green Deal Barometer: Second edition Summary*. Retrieved June 22, 2022, from Institute European Environmental Policy: <https://ieep.eu/publications/green-deal-barometer-second-edition>
- CDP. (2022). *CDP Climate Change and Water Report 2021*. CDP Worldwide.
- CIB. (2022). *Statistics*. Retrieved August 08, 2022, from <https://www.cib.org.tr/en/statistics.html>

- Çirakoglu, Z. (2022, August 4). *ALÜMİNYUM SEKTÖRÜ TEMMUZ 2022 DEĞERLENDİRMESİ*. Retrieved August 22, 2022, from [https://turkishmetals.org/storage/files/ihracat\\_files/1660312178.pdf](https://turkishmetals.org/storage/files/ihracat_files/1660312178.pdf)
- Climate Change Committee. (2022). *Progress in reducing emissions 2022 Report to Parliament*. Climate Change Committee.
- Climate Council. (2022, February 25). *Komisyon Tavsiye Kararları*. Retrieved August 8, 2022, from <https://iklimsurasi.gov.tr/public/images/sonucbildirgesi.pdf>
- Climate Council. (2022). *The Aim and Goals of the Council*. Retrieved August 8, 2022, from <https://www.iklimsurasi.gov.tr/en/sayfa/the-aim-and-goals-of-the-council>
- Commission, E. (2020). *Turkey 2020 Report*. Brussels: European Commission. Retrieved from [https://neighbourhood-enlargement.ec.europa.eu/system/files/2020-10/turkey\\_report\\_2020.pdf](https://neighbourhood-enlargement.ec.europa.eu/system/files/2020-10/turkey_report_2020.pdf)
- Committee for European Construction Equipment. (2022). *Trade Policy*. Retrieved June 24, 2022, from <https://www.cece.eu/industry-and-market/trade-policy>
- Council of the EU. (2022). *Council agrees on the Carbon Border Adjustment Mechanism (CBAM)*. Retrieved August 18, 2022, from <https://www.consilium.europa.eu/en/press/press-releases/2022/03/15/carbon-border-adjustment-mechanism-cbam-council-agrees-its-negotiating-mandate/>
- CPLC. (2022). *What is Carbon Pricing?* Retrieved August 20, 2022, from <https://www.carbonpricingleadership.org/what>
- Damro, C., Hardie, I., & MacKenzie, D. (2008). The EU and Climate Change Policy: Law, Politics and Prominence at Different Levels. *Journal of Contemporary*, 4(3), 179-192.
- Deloitte. (2018, January). *New EU Conflict minerals regulation: Implications and lessons learnt from the Dodd-Frank Act in the US*. Retrieved August 25, 2022, from Deloitte: <https://www2.deloitte.com/be/en/pages/tax/articles/New-EU-Conflict-minerals-regulation-implications-and-lessons-learnt-from-the-Dodd-Frank-Act-in-the-US.html>
- Deloitte. (2022). *EU Carbon Border Adjustment Mechanism (CBAM)*. Retrieved August 19, 2022, from <https://www2.deloitte.com/nl/nl/pages/tax/articles/eu-carbon-border-adjustment-mechanism-cbam.html>

- Dent, C. M. (2018). Clean Energy Trade Governance: Reconciling Trade Liberalism and Climate Interventionism? *New Political Economy*, 23(6), 728-747. doi:<https://www.tandfonline.com/action/showCitFormats?doi=10.1080/13563467.2018.1384456>
- Department for Business, Energy & Industrial Strategy. (2020). *Participating in the EU Emissions Trading System (EU ETS)*. Retrieved August 20, 2022, from <https://www.gov.uk/guidance/participating-in-the-eu-ets>
- Directorate for EU Affairs. (2019). *Customs Union*. Retrieved May 29, 2022, from [https://www.ab.gov.tr/46234\\_en.html](https://www.ab.gov.tr/46234_en.html)
- Directorate for EU Affairs. (2019). *Customs Union*. Retrieved August 18, 2022, from [https://www.ab.gov.tr/46234\\_en.html](https://www.ab.gov.tr/46234_en.html)
- Dumitru, A., Kölbl, B., & Wijffelaars, M. (2021, July 16). *The Carbon Border Adjustment Mechanism explained*. Retrieved August 8, 2022, from <https://economics.rabobank.com/publications/2021/july/cbam-carbon-border-adjustment-mechanism-eu-explained/>
- Dunya. (2022). *Türkiye, iklim değişikliğiyle mücadelesini güçlendirecek*. Retrieved August 23, 2022, from <https://www.dunya.com/gundem/turkiye-iklim-degisikligiyle-mucadelesini-guclendirecek-haberi-661325>
- Ecer, K., Guner, O., & Çetin, M. (2021). The European Green Deal and Cohesion Policies of Turkish Economy. *İşletme ve İktisat Çalışmaları Dergisi*, 9(2), 125-144.
- Ediboğlu, E. (2022, May). *İklim Değişikliği İle Mücadelede Teknoloji, Türkiye İçin Öneriler II: Türkiye 'de Çevreye Duyarlı Teknoloji Transferi*. Retrieved August 7, 2022, from <https://ipc.sabanciuniv.edu/Content/Images/CKeditorImages/20220617-12061625.pdf>
- Eicke, L., Weko, S., Apergi, M., & Marian, A. (2021). Pulling up the carbon ladder? Decarbonization, dependence, and third-country risks from the European carbon border adjustment mechanism. *Energy research & social science*, 80(102240), 1-11. doi:10.1016/j.erss.2021.102240
- Elgendy, K., & Tastan, K. (2022). *Turkey's climate opportunities and challenges*. Retrieved August 24, 2022, from

- <https://www.chathamhouse.org/2022/05/turkeys-climate-opportunities-and-challenges>
- Emil, D., & Bayülker, A. (2021). *Avrupa Yeşil Mutabakatı Döngüsel Ekonomi Eylem Planı Türk İş Dünyasına Neler Getirecek?* Online: TUSIAD.
- Environment Protection Agency. (2022). *The EU Emissions Trading System*. Retrieved July 22, 2022, from <https://www.epa.ie/our-services/licensing/climate-change/eu-emissions-trading-system/>
- EUR-Lex. (n.d.). *Agreement between the European Coal and Steel Community and the Republic of Turkey on trade in products covered by the Treaty establishing the European Coal and Steel Community - Protocol 1 on rules of origin*. Retrieved August 09, 2022, from [https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:21996A0907\(01\):en:HTML](https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:21996A0907(01):en:HTML)
- EUR-lex. (n.d.). *EU Trade Policy*. Retrieved July 24, 2022, from <https://eur-lex.europa.eu/EN/legal-content/glossary/eu-trade-policy.html>
- European Commission. (2017). *Competitiveness of the European Cement and Lime Sectors*. Brussels: 2017.
- European Commission. (2021, February 18). *Commission sets course for an open, sustainable and assertive EU trade policy*. Retrieved August 02, 2022, from [https://ec.europa.eu/commission/presscorner/api/files/document/print/en/ip\\_21\\_644/IP\\_21\\_644\\_EN.pdf](https://ec.europa.eu/commission/presscorner/api/files/document/print/en/ip_21_644/IP_21_644_EN.pdf)
- European Commission. (2021, February 18). *Commission sets course for an open, sustainable and assertive EU trade policy*. Retrieved August 02, 2022, from [https://trade.ec.europa.eu/doclib/docs/2021/february/tradoc\\_159432.pdf](https://trade.ec.europa.eu/doclib/docs/2021/february/tradoc_159432.pdf)
- European Commission. (2021, July 14). *EXECUTIVE SUMMARY OF THE IMPACT ASSESSMENT REPORT*. Retrieved from EUR-Lex: <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SWD:2021:0644:FIN:EN:PDF>
- European Commission. (2022, June 22). *“Power of Trade Partnerships*. Retrieved August 12, 2022, from <https://circabc.europa.eu/ui/#>
- European Commission. (2022). *EU Emissions Trading System (EU ETS)*. Retrieved July 22, 2022, from [https://ec.europa.eu/clima/eu-action/eu-emissions-trading-system-eu-ets\\_en](https://ec.europa.eu/clima/eu-action/eu-emissions-trading-system-eu-ets_en)

- European Commission. (2022). *EU position in world trade*. Retrieved July 24, 2022, from [https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/eu-position-world-trade\\_en](https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/eu-position-world-trade_en)
- European Commission. (2022). *EU trade relations with Turkey. Facts, figures and latest developments*. Retrieved May 29, 2022, from [https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/turkey\\_en#:~:text=The%20EU%20is%20by%20far,amounted%20to%20%E2%82%AC132.4%20billion.](https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/turkey_en#:~:text=The%20EU%20is%20by%20far,amounted%20to%20%E2%82%AC132.4%20billion.)
- European Commission. (2022). *Towards open and fair world-wide trade*. Retrieved August 18, 2022, from [https://european-union.europa.eu/priorities-and-actions/actions-topic/trade\\_en](https://european-union.europa.eu/priorities-and-actions/actions-topic/trade_en)
- European Commission. (2022). *Turkey*. Retrieved August 18, 2022, from [https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/turkey\\_en#](https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/turkey_en#)
- European Commission a. (2019, December 11). *COM(2019) 640 final*. Retrieved August 19, 2022, from <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52019DC0640&from=EN>
- European Council. (2022). *Council agrees on the Carbon Border Adjustment Mechanism (CBAM)*. Retrieved May 29, 2022, from [https://www.consilium.europa.eu/en/press/press-releases/2022/03/15/carbon-border-adjustment-mechanism-cbam-council-agrees-its-negotiating-mandate/#:~:text=The%20Commission%20presented%20its%20proposal,than%20those%20of%20the%20EU\).](https://www.consilium.europa.eu/en/press/press-releases/2022/03/15/carbon-border-adjustment-mechanism-cbam-council-agrees-its-negotiating-mandate/#:~:text=The%20Commission%20presented%20its%20proposal,than%20those%20of%20the%20EU).)
- European Parliament. (2021). *The European Union and its trade partners*. Retrieved August 8, 2022, from <https://www.europarl.europa.eu/factsheets/en/sheet/160/the-european-union-and-its-trade-partners#:~:text=As%20regards%20trade%20in%20services,trading%20partners%2C%20substantially%20in%202020.>

- European Parliament. (2022). *Revision of the EU Emissions Trading System*. Retrieved August 05, 2022, from [https://www.europarl.europa.eu/doceo/document/TA-9-2022-0246\\_EN.html](https://www.europarl.europa.eu/doceo/document/TA-9-2022-0246_EN.html)
- European Union. (2022). *Towards open and fair world-wide trade*. Retrieved July 24, 2022, from [https://european-union.europa.eu/priorities-and-actions/actions-topic/trade\\_en](https://european-union.europa.eu/priorities-and-actions/actions-topic/trade_en)
- Eurostat. (2022). *Turkey-EU - international trade in goods statistics*. Retrieved May 29, 2022, from [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Turkey-EU\\_-\\_international\\_trade\\_in\\_goods\\_statistics#Recent\\_developments](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Turkey-EU_-_international_trade_in_goods_statistics#Recent_developments)
- Evans, S., Mehling, M. A., Ritza, R. A., & Sammone, P. (2021). Border carbon adjustments and industrial competitiveness in a European Green Deal. *Climate Policy, 21*(3), 307-317. doi:<https://doi.org/10.1080/14693062.2020.1856637>
- EY. (2022). *European Parliament adopts carbon legislation package, final negotiations with EU Member State representatives expected soon*. Retrieved August 2022, 2022, from [https://www.ey.com/en\\_gl/tax-alerts/european-parliament-adopts-carbon-legislation-package-final-negotiations-with-eu-member-state-representatives-expected-soon#:~:text=On%202022%20June%202022%2C%20the,and%20the%20Social%20Climate%20Fund](https://www.ey.com/en_gl/tax-alerts/european-parliament-adopts-carbon-legislation-package-final-negotiations-with-eu-member-state-representatives-expected-soon#:~:text=On%202022%20June%202022%2C%20the,and%20the%20Social%20Climate%20Fund)
- Forest Legality Initiative. (2022, August 25). *EU Timber Regulation*. Retrieved from Forest Legality Initiative: <https://forestlegality.org/policy-law/eu-timber-regulation>
- Fuchs, R., & Rounsevell, C. B. (2020). Europe's Green Deal offshores environmental damage to other nations. *Nature, 586*(7831), 671-673.
- Genschel, P., & Plumper, T. (1997). Regulatory competition and international cooperation. *Journal of European Public Policy, 4*(4), pp. 626-642.
- Gerbeti, A. (2021). Market Mechanisms for Reducing Emissions and the Introduction of a Flexible Consumption Tax. *Global Journal of Flexible Systems Management, 22*, pp. 161-178.
- Gläser, A., Kleimann, D., Panzeri, D., & Vangenechten, D. (2022, March 7). *Summary for decision-makers: Four guiding principles for CBAM design and*

- implementation; Elisabetta Cornago; Harro van Asselt; Ilaria Espa; Iñaki Arto; Isabelle Garzon; Jorge Galindo; Markus Gehring; Oliver Sartor; Pierre Leturcq; Tancrède Voituriez. Retrieved July 22, 2022, from [https://ieep.eu/uploads/articles/attachments/79b2f3a4-2fbf-4f99-9044-2e220cf30c48/GTN%20SDM\\_Four%20Guiding%20Principles%20for%20CBAM%20Design%20and%20Implementation\\_2022.pdf?v=63813865636](https://ieep.eu/uploads/articles/attachments/79b2f3a4-2fbf-4f99-9044-2e220cf30c48/GTN%20SDM_Four%20Guiding%20Principles%20for%20CBAM%20Design%20and%20Implementation_2022.pdf?v=63813865636)
- Goodman, J. a. (1993). The Obsolescence of Capital Control. *World Politics*, 46(1), 50–82.
- Gross, M. (2021). The European Union, The Carbon Border Adjustment Mechanism, And Global Climate Leadership. *Harvard International Review*, 42(4), 11-15.
- Holovko, I. (2021). *Ukraine and the European Green Deal Guiding Principles for Effective Cooperation*. Heinrich Böll Foundation.
- Holtmaat, E. A., Adolph, C., & Prakash, A. 2. (2020). "The global diffusion of environmental clubs: how pressure from importing countries supports the chemical industry's Responsible Care® program. *World Development*, 127(104735), pp. 1-10.
- Holzinger, K., & Sommerer, T. (2011). 'Race to the Bottom' or 'Race to Brussels'? Environmental Competition in Europe. *Journal of common market studies*, 49(2), 315-339.
- House of Commons Environmental Audit Committee. (2022). *Greening imports: a UK carbon border approach: Fifth Report of Session 2021–22*. London: House of Commons .
- Hughes, R. A. (2021). *If California Were A Country*. Retrieved July 31, 2022, from <https://bulloakcapital.com/blog/if-california-were-a-country/>
- IASS/IPC/UfU/IET. (2022). *Increasing industrial competitiveness and hedging against fossil price volatility with renewables in Turkey. Assessing the co-benefits of decarbonising the power sector*. Potsdam/Istanbul: COBENEFITS Executive Report.
- IEA. (2021). *Turkey 2021: Energy Policy Review*. International Energy Agency.
- IFRC. (2020). *World Disasters Report 2020*. Geneva: International Federation of Red Cross and Red Crescent Societies.

- IPCC. (2019, August 21). *Climate change widespread, rapid, and intensifying*. Retrieved August 16, 2022, from IPCC: <https://www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/>
- Istanbul Ferrous and Non-Ferrous Metals Exporters' Association. (2022). *About Aluminium Sector*. Retrieved August 22, 2022, from <https://turkishmetals.org/en/sector-detail/1>
- Jakob, M. (2021, May 21). Why carbon leakage matters and what can be done against it. *One Earth*, 4(5), pp. 609-614.
- Jarosławska-Sobór, S. (2021). Decarbonisation – Origins and Evolution of the Process on the European Level. *Journal of Sustainable Mining*, 20 (4), 250-259. doi:<https://doi.org/10.46873/2300-3960.1323>
- Karamollaoglu, N. (2021). *European Green Deal and SMEs*. Istanbul: TURKONFED.
- Kardish, C., Mäder, M., Hellmich, M., & Hall, a. M. (2021, August 20). *Which countries are most exposed to the EU's proposed carbon tariffs?* Retrieved from [resourcetrade.earth: https://resourcetrade.earth/publications/which-countries-are-most-exposed-to-the-eus-proposed-carbon-tariffs](https://resourcetrade.earth/publications/which-countries-are-most-exposed-to-the-eus-proposed-carbon-tariffs)
- Kaygusuz, Ö. (2020). *COVID-19 Krizi ve AB'nin Yeni Dönüşüm Dinamikleri: Gelecek Nesil AB Mümkün mü?* Online: DPF-TUSIAD.
- Kenanoğlu, M., & Özokcu, S. (2022). *Türk Firmaları Yeşil Dönüşüme Ne Kadar Hazır?* Ankara: TEPAV.
- Keppo, I., Mazza, A., Natalini, D., Pudjianto, D., & Velasco-Fernández, R. (2022). Modelling the implementation of 'A Clean Planet for All' strategy. *Energy Strategy Reviews*, 41(100843), pp. 1-3.
- KOSGEB. (2022). *Toplam İhracatın Yüzde 36 Buçüğunu KOBİ'ler Gerçekleştiriyor*. Retrieved August 24, 2022, from <https://www.kosgeb.gov.tr/site/tr/genel/detay/8244/toplam-ihracatin-yuzde-36-bucugunu-kobiler-gerceklestiriyor>
- Kuşçu, R. A. (2022). Yeşil Ekonomiye Geciste Ticaret Politikaları. In F. H. Sezgin, E. Y. Aci, & R. A. Kuscu (Eds.), *Avrupa Yeşil Mutabakatı Kapsamında Yeşil Ekonomi* (pp. 69-97). Istanbul: Nobel Akademik Yayıncılık.

- Lazer, D. (2005). Regulatory Capitalism as a Networked Order: The International System as an Informational Network. *The ANNALS of the American Academy of Political and Social Science*, 598(1), 52-66.
- Maizland, L. (2021). *Global Climate Agreements: Successes and Failures*. Retrieved July 21, 2022, from <https://www.cfr.org/backgrounder/paris-global-climate-change-agreements>
- Mehling, M., Van Asselt, H., Das, K., Droege, S., & Verkuyl, C. (2019). Designing Border Carbon Adjustments for Enhanced Climate Action. *American Journal of International Law*, 113(3), 433-481.
- Ministry of Environment and Urbanization. (2018). *Assessment of Carbon Leakage Risk for Turkey Under Carbon Pricing Policies*. Ankara: Republic of Turkey Ministry of Environment and Urbanization.
- Ministry of Environment, Urbanisation and Climate Change. (2021). *Paris Anlaşması*. Retrieved August 7, 2022, from <https://iklim.csb.gov.tr/paris-anlasmasi-i-98587>
- Ministry of Environment, Urbanization and Climate Change. (2018). *BMİDÇS ve Türkiye*. Retrieved August 7, 2022, from <https://iklim.csb.gov.tr/bmidcs-ve-turkiye-i-4376>
- Ministry of Industry and Technology. (2022). *Cimento Sektoru Raporu*. Ankara: Ministry of Industry and Technology.
- Ministry of Trade. (2021). *Yesil Mutabakat Eylem Planı*. Online: Republic of Turkey Ministry of Trade.
- Ministry of Trade. (2022). *Turkey and the EU*. Retrieved May 29, 2022, from <https://www.trade.gov.tr/turkiye-and-eu/turkiye-and-the-eu>
- Ministry of Trade. (2022). *Turkiye and the EU*. Retrieved August 18, 2022, from <https://www.trade.gov.tr/turkiye-and-eu/turkiye-and-the-eu>
- Ministry of Treasury and Finance. (2018). *Orta Vadeli Program*. Retrieved August 23, 2022, from <https://www.hmb.gov.tr/bumko-orta-vadeli-program>
- Ministry of Treasury and Finance. (2021). *Yeni Ekonomi Programı*. Retrieved August 05, 2022, from <https://ms.hmb.gov.tr/uploads/2020/09/YEN%C4%B0-EKONOM%C4%B0-PROGRAMI-K%C4%B0TAP%C3%87IK.pdf>

- Muench, S., Stoermer, E., Jensen, K., Asikainen, T., S. M., & Scapolo, F. (2022). *Towards a green & digital future : key requirements for successful twin transitions in the European Union*. Publications Office of the European Union.
- NASA. (2022, August 15). *The Effects of Climate Change*. Retrieved August 16, 2022, from Nasa: <https://climate.nasa.gov/effects/>
- Net Zero Tracker. (2022, June 13). *Net Zero Stocktake 2022*. Retrieved from Net Zero Tracker: <https://zerotracker.net/analysis/net-zero-stocktake-2022>
- Nordhaus, W. (2015). Climate Clubs: Overcoming Free-riding in International Climate Policy. *American Economic Review*, 105(4), 1339–1370.
- Official Gazette. (2021, July 16). *Resmi Gazete*. Retrieved August 05, 2022, from <https://www.resmigazete.gov.tr/eskiler/2021/07/20210716-8.pdf>
- Official Gazette. (2021). *Resmi Gazete*. Retrieved August 7, 2022, from <https://www.resmigazete.gov.tr/eskiler/2021/10/20211007.pdf>
- Official Gazette. (2021). *Resmi Gazete*. Retrieved August 7, 2022, from <https://www.resmigazete.gov.tr/eskiler/2021/10/20211029.pdf>
- Oh, S. (2021). China's Race to the Top: Regional and Global Implications of China's Industrial Policy. *World Trade Review*, 20(2), pp. 169-185.
- Özokcu, S. (2022). Sinirda Karbon Düzenlemesi Mekanizmasi'nda Ne Gibi Değişiklikler Oldu? Online: TEPAV.
- Pauer, S. U. (2018). The Electricity Journal. *The Electricity Journal*, 31(10), 39-45.
- Perkins, R., & Neumayer, E. (2008). Fostering Environment Efficiency through Transnational Linkages? Trajectories of CO2 and SO2, 1980–2000. *Environment and Planning A: Economy and Space*, 40(12), 2970-2989.
- Perkins, R., & Neumayer, E. (2012). Does the 'California effect' operate across borders? Trading- and investing-up in automobile emission standards. *Journal of European Public Policy*, 19(2), pp. 217-237 .
- Porter, G. (1999). Trade Competition and Pollution Standards: "Race to the Bottom" or "Stuck at the Bottom"? *The Journal of Environment & Development*, 8(2), 133-151.
- Prakash, A., & Potoski, M. (2006). Racing to the Bottom? Trade, Environmental Governance, and ISO 14001. *American Journal of Political Science*, 50((2), pp. 350-364.

- Presidency of Strategy and Budget. (2019, July 18). *Eleventh Development Plan (2019-2023)*. Retrieved August 05, 2022, from [https://www.sbb.gov.tr/wp-content/uploads/2022/07/On\\_Birinci\\_Kalkinma\\_Plani-2019-2023.pdf](https://www.sbb.gov.tr/wp-content/uploads/2022/07/On_Birinci_Kalkinma_Plani-2019-2023.pdf)
- Presidency of Strategy and Budget. (2021, September 2021). *Medium Term Programme 2022-2024*. Retrieved August 05, 2022, from [https://www.sbb.gov.tr/wp-content/uploads/2021/10/Medium\\_Term\\_Programme\\_2022-2024.pdf](https://www.sbb.gov.tr/wp-content/uploads/2021/10/Medium_Term_Programme_2022-2024.pdf)
- Presidency of Strategy and Budget. (2022, July 19). *2022/12 Sayılı Cumhurbaşkanlığı Genelgesiyle “Ulusal Sürdürülebilir Kalkınma Koordinasyon Kurulu” Kurulmuştur*. Retrieved August 7, 2022, from <http://www.surdurulebilir-kalkinma.gov.tr/2022-12-sayili-cumhurbaskanligi-genelgesiyle-ulusal-surdurulebilir-kalkinma-koordinasyon-kurulu-kurulmustur/>
- Presidency of the Republic of Turkey Investment Office. (2021, June 21). *Türkiye’s Foreign Direct Investment (FDI) Strategy (2021–2023)*. Retrieved August 05, 2022, from <https://www.invest.gov.tr/en/library/publications/lists/investpublications/turkey-foreign-direct-investment-strategy-2021-2023.pdf>
- Republic of Turkey Ministry of Industry and Technology. (2019, September 18). *2023 Sanayi ve Teknoloji Stratejisi*. Retrieved August 7, 2022, from <https://www.sanayi.gov.tr/assets/pdf/SanayiStratejiBelgesi2023.pdf>
- Ritchie, H. (2020, September 18). *Sector by sector: where do global greenhouse gas emissions come from?* Retrieved from Our World in Data: <https://ourworldindata.org/ghg-emissions-by-sector>
- Şahin, Ü. (2017). Sunuş. In A. A. Aşıcı, & Ü. Şahin (Eds.), *Yeşil Ekonomi* (1 ed., pp. 22-34). İstanbul: Yeni İnsan Yayınevi.
- Şahin, Ü. (2022). *The Climate Council: Groundbreaking Work or Missed Opportunity*. Retrieved August 24, 2022, from <https://www.cambridge.org/core/blog/2022/04/29/the-climate-council-groundbreaking-work-or-missed-opportunity/>
- SEFIA. (2022). *Türkiye Çelik Sektörü Raporu: Üretim, Ticaret ve Karbonsuzlaşma Süreci*. Sürdürülebilir Ekonomi ve Finans Araştırmaları Derneği (SEFiA).

- Selwyn, B. (2021). A green new deal for agriculture: for, within, or against capitalism? *The Journal of Peasant Studies*, 48(4), 778-806.  
doi:<https://doi.org/10.1080/03066150.2020.1854740>
- Siddi, M. (2020). *The European Green Deal: Assessing Its Current State And Future Implementation*. Finnish Institution of International Affairs.
- Singhania, M., & Saini, N. (2021). Demystifying pollution haven hypothesis: Role of FDI. *Journal of Business Research*, 123, 516-528.
- Stadelmann-Steffen, I., Eder, C., Haring, N., Spilker, G., & Katsanidou, A. (2021). A framework for social tipping in climate change mitigation: What we can learn about social tipping dynamics from the chlorofluorocarbons phase-out. *Energy Research & Social Science*, 82(102307), pp. 1-9.
- Suntheim, F., & Vandenbussche, J. (2020, May 29). *Equity Investors Must Pay More Attention to Climate Change Physical Risk*. Retrieved August 16, 2022, from Equity Investors Must Pay More Attention to Climate Change Physical Risk: <https://blogs.imf.org/2020/05/29/equity-investors-must-pay-more-attention-to-climate-change-physical-risk/>
- Swiss Re Institute. (2021). *The economics of climate change: no action not an option*. Online: Swiss Re Institute. Retrieved from <https://www.swissre.com/dam/jcr:e73ee7c3-7f83-4c17-a2b8-8ef23a8d3312/swiss-re-institute-expertise-publication-economics-of-climate-change.pdf>
- Switch2green. (2022). *The EU Green Deal – a roadmap to sustainable economies*. Retrieved July 16, 2022, from <https://www.switchtogreen.eu/the-eu-green-deal-promoting-a-green-notable-circular-economy/>
- TEMA. (2018). *Siyasi partilere çağrı: Türkiye iklim için somut adım atmalı*. Retrieved August 23, 2022, from <https://www.tema.org.tr/basin-odasi/basin-bultenleri/siyasi-partilere-cagri>
- The World Bank. (2022). *State and Trends of Carbon Pricing 2022*. Washington, DC: World Bank,. doi:10.1596/978-1-4648-1895-0
- Tienhaara, K. (2017). Regulatory Chill in a Warming World: The Threat to Climate Policy Posed by Investor-State Dispute Settlement. *Transnational Environmental Law*, 7(2), 229-250.

- Titievskaiia, J., Simões, H. M., & Dobрева, A. (2022, July). *EU carbon border adjustment mechanism Implications for climate and competitiveness*. Retrieved August 20, 2022, from [https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/698889/EPRS\\_BRI\(2022\)698889\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/698889/EPRS_BRI(2022)698889_EN.pdf)
- Tosun, J. (2012). *Risk Regulation in Europe: Assessing the Application of the Precautionary Principle*. New York, NY: Springer.  
doi:<https://doi.org/10.1007/978-1-4614-1984-6>
- Tosun, O. (2022). A New Era In Decarbonization Policies: Carbon Border Adjustment Mechanism: What will the CBAM dictate to Kazakhstan’s economy? *qazaqgreen.kz*, 3(4), 76-83.
- Toygür, I., Tekin, F., Lecha, E. S., & Danforth, N. (2021, February). *Turkey’s foreign policy and its consequences for the EU*. Retrieved August 2022, 2022, from [https://www.europarl.europa.eu/RegData/etudes/IDAN/2022/653662/EXPO\\_IDA\(2022\)653662\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/IDAN/2022/653662/EXPO_IDA(2022)653662_EN.pdf)
- TUBITAK. (2022). *1512 Girişimcilik Destek Programı 2022-2 Bigg Yeşil Büyüme Çağrı Duyurusu*. Retrieved August 8, 2022, from [https://tubitak.gov.tr/sites/default/files/21566/2022-2\\_bigg\\_yesil\\_buyume\\_cagri\\_duyurusu.pdf](https://tubitak.gov.tr/sites/default/files/21566/2022-2_bigg_yesil_buyume_cagri_duyurusu.pdf)
- Tunç, G. İ., Akbostancı, E., & Türüt-Aşık, S. (2022). Ecological unequal exchange between Turkey and the European Union: An assessment from value added perspective. *Ecological Economics*, 192(107269), pp. 1-20.
- TURKCIMENTO. (2022). *Turkish Cement Sector in 2021*. Retrieved August 22, 2022, from [https://www.turkcimento.org.tr/uploads/pdf/2021\\_sektor\\_kitabi.pdf](https://www.turkcimento.org.tr/uploads/pdf/2021_sektor_kitabi.pdf)
- TURKCIMENTO. (n.d.). *Alternative Fuel And Raw Materials*. Retrieved August 23, 2022, from [https://www.turkcimento.org.tr/en/alternative\\_fuel\\_raw\\_materials](https://www.turkcimento.org.tr/en/alternative_fuel_raw_materials)
- TURKCIMENTO. (n.d.). *Emissions*. Retrieved August 23, 2022, from [https://www.turkcimento.org.tr/en/sectorial\\_priorities/emissions](https://www.turkcimento.org.tr/en/sectorial_priorities/emissions)
- TUSIAD. (2020). *Ekonomik Göstergeler Merceğinden Yeni İklim Rejimi*. TUSIAD.
- TUSIAD. (2021). *Yeni Bir Anlayışla Geleceği İnşa: İnsan, Bilim, Kurumlar*. Online: TUSIAD.

- UNCTAD. (2021). *Development in motion*. Retrieved August 9, 2022, from <https://unctad.org/topic/trade-analysis/development-in-motion>
- UNCTAD. (2021). *EU should consider trade impacts of new climate change mechanism*. Retrieved August 8, 2022, from <https://unctad.org/news/eu-should-consider-trade-impacts-new-climate-change-mechanism>
- UNEP. (2009). *Global Green New Deal*. Geneva: UNEP. Retrieved from [https://wedocs.unep.org/bitstream/handle/20.500.11822/7903/A\\_Global\\_Green\\_New\\_Deal\\_Policy\\_Brief.pdf?sequence=3&isAllowed=1](https://wedocs.unep.org/bitstream/handle/20.500.11822/7903/A_Global_Green_New_Deal_Policy_Brief.pdf?sequence=3&isAllowed=1)
- UNFCCC. (2015). Paris Agreement.
- UNFCCC. (2022). *The Paris Agreement*. Retrieved July 21, 2022, from <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>
- United Nations. (2022). *What Is Climate Change?* Retrieved August 16, 2022, from United Nations: <https://www.un.org/en/climatechange/what-is-climate-change>
- Vivid Economics. (2018). *Assessment of Carbon Leakage Risk for Turkey Under Carbon Pricing Policies*. Ankara: Ministry of Environment and Urbanization.
- Vogel, D. (1997). Trading up and governing across: transnational governance and environmental protection. *Journal of European Public Policy*, 4(4), 556-571.
- Vogel, D. (2018). *California greenin' : how the Golden State became an environmental leader*. Princeton University Press.
- Weise, Z. (2021). *EU's looming carbon tax nudged Turkey toward Paris climate accord, envoy says*. Retrieved August 24, 2022, from <https://www.politico.eu/article/eu-carbon-border-adjustment-mechanism-turkey-paris-accord-climate-change/>
- World Bank. (2022). *Carbon Pricing Dashboard*. Retrieved August 19, 2022, from [https://carbonpricingdashboard.worldbank.org/map\\_data](https://carbonpricingdashboard.worldbank.org/map_data)
- World Bank. (2022). *GDP (current US\$) - European Union*. Retrieved May 30, 2022, from <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=EU>
- World Bank. (2022). *State and Trends of Carbon Pricing 2022*. Washington, DC: : World Bank.
- World Bank. (2022). *Turkey Economic Monitor, February 2022: Sailing Against The Tide*. Washington DC : World Bank.

- World Bank Group. (2022). *Country Climate and Development Report: Turkiye*. World Bank Group.
- World Economic Forum. (2022). *The Global Risks Report 2022 17th Edition*. Geneva: World Economic Forum.
- World Resource Institute. (2022). *What is an INDC?* Retrieved August 7, 2022, from <https://www.wri.org/indc-definition>
- WTO. (2022, April 13). *The Role of Trade Policy in Climate Change*. Retrieved from World Trade Organization: [https://www.wto.org/english/res\\_e/reser\\_e/climate\\_change\\_13april22\\_e.htm](https://www.wto.org/english/res_e/reser_e/climate_change_13april22_e.htm)
- WTO. (2022). *Trade and climate change*. Retrieved August 16, 2022, from World Trade Organization: [https://www.wto.org/english/tratop\\_e/envir\\_e/climate\\_intro\\_e.htm](https://www.wto.org/english/tratop_e/envir_e/climate_intro_e.htm)
- Yalcin, E., & Felbernayr, G. (2021, July). *The EU-Turkey Customs Union and trade relations: what options for the future?* Retrieved August 22, 2022, from [https://www.europarl.europa.eu/RegData/etudes/IDAN/2021/653640/EXPO\\_IDA\(2021\)653640\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/IDAN/2021/653640/EXPO_IDA(2021)653640_EN.pdf)