MÜFTÜOĞLU
HUKUK BÜROSU - LAW OFFICE

Türkiye's Green Transition Journey and Effects on Construction Sector

I. Introduction

The effects of climate change and increased amounts of carbon emissions in recent years across the globe made it compulsory for the states to take necessary steps to combat it. Paris Agreement, adopted by 196 Parties in Paris, France on 12 December 2015 and entered into force on 4 November 2016, providing a framework by setting goals and establishing commitments for all signatory nations to cooperate in reducing greenhouse gas ("**GHG**") emissions in order to mitigate the negative effects of climate change and strengthening resilience is a reflection of the United Nation's response to climate change and its adverse effects. Paris Agreement places a milestone on the common commitments for net-zero emissions and achievement of sustainable development goals ("**SDGs**").

In pursuance of such goals, the Paris Agreement required all signatories to prepare and submit a nationally determined contribution ("**NDC**"). The Paris Agreement led the European Union ("**EU**") to adopt the European Green Deal under which EU translated its ambitions into a law under the name of European Climate Law and Fit for 55 Package. Türkiye, being one of the countries highly affected -and to be further affected- by climate change among the signatories of the Paris Agreement, suggests its own plan of action to achieve decarbonization, enhance energy efficiency, and ensure transition from fossil fuels to renewable energy sources. Within the scope of such targets, reforms envisaged in construction sector play a pivotal role considering the intricate relationship between the climate change and the construction sector. Under this article, Türkiye's actions in its journey of green transition are reviewed with a chronological approach with a specific reference to the construction sector. Particularly, the effects of the sector to the climate change are scrutinized together with the changes made in the sector and the effects thereof.

II. Türkiye's Journey of Green Transition

A. Actions in 2021

Türkiye published the "Green Deal Action Plan" ("**Action Plan**") in July 2021 **[1]** with the Presidential Decree no. 2021/15, when Fit for 55 Package was announced to commit the reduction of carbon emissions by 55% at minimum by 2030, under the framework of the European Green Deal. One of the initiatives of EU is the circular economy, which is defined by European Parliament as a model of production and consumption, that involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible to extend the life cycle of products. So as to align with EU's Circular Economy Action Plan and to facilitate the green transition of the economy to a low-carbon, resource-efficient, and circular structure, the Action Plan outlines a wide range of actions to be taken in a variety of areas, including carbon border adjustments, a green and circular economy, green finance, clean, affordable, and secure energy supply, sustainable agriculture, sustainable smart transportation, combating climate change and diplomacy. With the same Presidential Decree, the "European Green Deal Working Group" was established consisting of deputy ministers of 9 ministries.

Türkiye signed the Paris Agreement in 2016 and the Law on the Approval of the Paris Agreement is published in October 2021 **[2]**. Pursuant to Article 4/2 of the Paris Agreement, each signatory state is required to prepare, communicate, and maintain successive nationally determined contribution ("**NDC**") that it intends to achieve in pursuance of the goals set forth. Accordingly, in October 2021, Türkiye submitted its first NDC, in which contribution to reduction of GHG emissions by 21% and increase in its capacity in renewables were confirmed. It is worth mentioning that between 2013 and 2023, the share of renewable energy in electricity generation is increased from 29% to 42% in the country in consequence of the incentives provided by the state through purchase guarantees to support widespread use of renewable energy. Türkiye updated its first NDC in April 2023, and amended its commitment to reduce GHG emissions by 21% to 41% by 2030. However, it is important to note that this reduction will only be initiated after a certain increase in the GHG emissions of Türkiye as will be explained in further detail below.

Apart from reduction of GHG emissions and increasing the utilization of renewable energy, certain structural reforms were also realized to establish convenient platforms to achieve the targets set out under the Paris Agreement. With the Presidential Decree No. 85 published in October 2021 **[3]**, the name of the Ministry of Environment and Urbanization is changed to the Ministry of Environment, Urbanization and Climate Change ("**MoEUCC**"). Through the same Decree, the Directorate of Climate Change is established as an organization affiliated to the MoEUCC to foster and supervise the reforms in green transition.

The reforms were not only limited to the MoEUCC, but other governmental bodies also supported the reforms in various ways. As such, "Sustainable Finance Framework" was published by The Ministry of Treasury and Finance in November 2021 **[4]** to represent the basis for debt instruments such as green bonds and loans in the environmental, social and governance bond market to support green and sustainable projects. In line with the task assigned under the Action Plan, Banking Regulation and Supervision Agency published "Sustainable Banking Strategic Plan (2022-2025)" in December 2021 **[5]** under which the general strategy and policies required to assist the Turkish banking sector in building a sustainable banking infrastructure was set forth.

B. Actions in 2022

From a holistic perspective, reform in the field of energy field is also an indispensable pillar for achievement of the targets under the Paris Agreement. Accordingly, the Ministry of Energy and Natural Resources published the National Energy Plan in 2022 **[6]** and emphasized the need to increase utilization of solar and wind energy to reduce GHG emissions. The Plan also made a reference to Türkiye's commitment to increase the nuclear power capacity and the share of nuclear energy in the overall generation.

Moreover, to increase public awareness and encourage country-wide cooperation, Türkiye's first Climate Council, which represents one of the critical steps taken by the MoEUCC, was gathered on 21-25 February 2022 in Konya with attendance of more than ten thousand participants including scientists, farmers, non-governmental organizations from both public and private sectors and local administrations. In the meeting of the Climate Council, Türkiye's new road map was determined in 7 different areas and 217 new decisions were taken in line

with the 2053 net zero emissions and green development targets within the scope of the fight against the climate change. Climate Compatible Cities, Climate Friendly Agriculture, Drought Action Plan, Environmentally Friendly and Clean Transportation Network, Green Energy, Green Economy, and Climate Education are some of the significant headings among the decisions taken.

As a part of the structural reforms mentioned above, in November 2022, the Clean Energy, Climate Change, and Sustainability Research Institute was established by decision of TÜBİTAK **[7]** in November, 2022, with the vision of planning and coordinating research and developmental studies. The institution aims to support decision-making mechanisms in coping with climate change by taking all stakeholders in the ecosystem into consideration.

During the annual meeting under the name of United Nations Climate Change Conference ("**UNCCC**") that was held between 6-20 November 2022 in Egypt ("**COP27**"), Türkiye declared its climate target as reducing the GHG emissions by 41% by 2030. However, it is deemed essential to emphasize that the reduction of %41 does not refer to a reduction of current amount of GHG emissions. Türkiye stated that its GHG emissions will continue to increase to a certain level and only then realization of its target to reduce such increased amounts will be started to be realized. In line with this perspective, Türkiye announced in COP27 that the peak in the emissions will be reached at the latest by 2038. Despite the above-referred reforms and developments, it should be noted that such an increase corresponds to 30% of the current emissions. This in fact means that Türkiye initially targets to increase the GHG emissions by 30% and then commits to reduce the then current total amounts by 41%.

C. Actions in 2023

"Climate Change Summit 2023: Green Transition" was held in June 2023 by MoEUCC, the United Nations Development Program and Capital and Economist Magazines. In the panels held within the scope of the Summit, efforts to combat and adapt to climate change and green transition financing opportunities were discussed.

During the UNCCC's next year's meeting, held between 30 November-12 December 2023 in United Arab Emirates ("**COP28**"), Türkiye has only signed three initiatives out of ten signed by many countries, according to the COP28 declaration status report.

Notwithstanding the hesitation in participating in COP28 declarations, Türkiye continued to take necessary steps to align with the requirements to combat climate change. The decision of the Public Oversight Accounting and Auditing Standards Authority was published in December, 2023 **[8]**, as "Determination of the Standards of the Turkish Sustainability Reporting" which is to be applied to reporting periods on and after 1 January 2024. Pursuant to the decision, the standards of International Financial Reporting Standards (IFRS) are determined as sustainability reporting standards. Accordingly, IFRS S1 is to be applied with respect to general requirements for disclosure of sustainability, and S2 is applicable with respect to climate-related disclosures.

D. Actions in 2024

At the very beginning of 2024, within the scope of 2053 net zero target, the Ministry of Energy and Natural Resources published a roadmap strategic document and Second National Energy Efficiency Action Plan for 2024-2030 **[9]** which includes the steps and targets to be taken in the field of energy efficiency.

Followingly, the Directorate of Climate Change published its 2024-2028 Strategic Plan in February 2024 **[10]**, which includes three main aims and related targets:

1. First aim is to "*take the steps required for green transformation in line with the 2053 Net Zero Emission Target*". Under such aim, it is envisaged that (i) a national emissions trade system to be established, (ii) climate finance capacity to be increased, (iii) climate change strategies to be prepared under which a monitoring mechanism is to be established and actions are to be monitored, (iv) national reporting and notification obligations within the scope of the Paris Agreement to be fulfilled in due time, (v) GHG stemming from industrial facilities to be monitored, and (vi) import and use of substances that deplete the ozone layer to be phased-out.
2. The second aim is to "*increase the capacity to adapt to climate change at national and local levels*". Several targets are referred under that aim such as establishing an online

monitoring mechanism to monitor the national climate change actions under, preparing local climate change action plans for all provinces so as to combat climate change on a local scale, providing training activities on adaptation to climate change.

3. Third aim is to "*increase institutional capacity and capability*" and the targets are to strengthen strategic management approach, to increase the quality and competence of the personnel and to carry out studies to raise public awareness, prevent information pollution and inform the institutions about activities.

In March 2024, Climate Change Mitigation Strategy and Action Plan 2024-2030 **[11]** was published under which 49 GHG emissions reduction strategies and 260 actions have been determined on a sectoral scale, in the sectors such as buildings, energy, transportation, agriculture. Also, Climate Change Adaptation Strategy and Action Plan 2024-2030 **[11]**, preparations of which was conducted simultaneously, was published in the same month and vulnerability and risk analyzes were conducted on national scale for several sectors and 40 strategies and 129 actions in various matters have been determined.

E. Emissions Trading System and Carbon Border Adjustment Mechanism

Along with such action plan, a memorandum of understanding is signed by and between Enerji Piyasaları İşletme A.Ş. and the European Energy Exchange in February 2024 **[12]** to develop ETS ("**ETS**") in Türkiye. Briefly, ETS, based on cap-and-trade principle, functions as EU's main tool to reduce GHG emissions by placing a cap on carbon emissions. A cap is a restriction placed on the overall quantity of GHGs that the system-covered installations are permitted to emit. In order to ensure that emissions decline over time, the cap is lowered yearly in accordance with the EU's climate target. Under EU legislation, with the revised ETS directive, a separate emissions trading system named ETS 2 was created, and it addresses the GHG emissions from fuel combustion in buildings, road transport and additional sectors. As the construction sector constitutes one of the major sources of carbon emissions, an ETS covering such sector and relevant obligations imposed on stakeholders will thus contribute to the carbon reduction targets as well.

Carbon border adjustment mechanism ("**CBAM**"), on the other hand, is another tool designed to function in parallel with ETS -hence to be adopted and applied by Türkiye- to prevent the

offset of the emissions reduction efforts of the EU by increasing emissions outside EU borders through the relocation of production to non-EU countries. CBAM targets imported goods in carbon-intensive industries such as iron and steel, aluminum, fertilizer, cement, hydrogen, and electricity production sectors, which are mostly related to the construction sector.

III. The Impacts of Construction Sector

The construction sector is one of the major contributors to carbon emissions and resource depletion by being responsible for more than 30 percent of global carbon emissions. In the construction industry, raw materials are extracted from nature, then processed into construction materials and brought together in a way that they do not separate at the construction site. When a re-use approach has not been followed in the construction field, the material is disposed of upon expiration of the material's useful economic life.

Carbon emissions are released starting from the beginning of the journey of a material until the end of the process including demolition stage raise concerns and demonstrate the need for green, re-useable construction materials. According to International Energy Agency data, direct GHG emissions generated from buildings decreased to 3 gigatons ("**Gt**") in 2022, while indirect GHG emissions increased to nearly 6.8 Gt. Moreover, 2.5 Gt GHG in 2022 was associated with construction activities, including the manufacturing and processing of cement, steel, and aluminum for buildings. Without a doubt widespread use of re-used construction materials will contribute to reduction of GHG emissions and needs to be considered in line with the circular economy. Considering that the portion of the construction waste amounts to approximately 35% of the aggregate material used for construction, it can be said that administrative steps fostering the re-use of construction materials are required.

In order to achieve the emission reduction targets at both the global and local levels, the necessary steps for decarbonization in the construction industry need to be materialized. Several innovations in green building materials, energy-efficient technologies, and sustainable construction practices offer pathways to reduce carbon emissions and enhance environmental performance. In addition, the construction industry is starting to adopt the idea of sustainable design, which includes energy efficiency, material conservation, and ecosystem preservation.

In Türkiye, several initiatives were put forward to decarbonize the construction sector and enhance energy efficiency. For instance, with the "Regulation on Amendments to the Energy Performance Regulation in Buildings" published by the MoEUCC in February 2022 **[13]**, new provisions were introduced to increase energy efficiency in buildings and to encourage the use of renewable resources. Additionally, the National Green Certificate System (YeS-TR) certification process, which was developed by the MoEUCC with national resources to evaluate and certify buildings and settlements that are designed with a holistic approach, compatible with nature, evaluated within the framework of the life cycle of the building from land selection to demolition, suitable for climate data and the region, using renewable energy resources, has started to be used.

Recently, the Communiqué of MoEUCC on the Widespread Use of Green Cement with Low Carbon Emissions in Public Procurement Contracts was published in March 2024 **[14]**. The aim of the Communiqué is to encourage the use of green cement with lower clinker ratio, which is an intermediate material in cement manufacturing, and less carbon emissions, as an environmentally friendly product that is advantageous in cost. The Communiqué defines the limits for the cement determined for public works contracts and cement-containing goods procurement tenders.

In addition to the above, as most of the construction materials are subject to CBAM, the mechanism will be applied to companies importing iron and steel, aluminum, cement, and equipment for electricity production facilities. It is worth highlighting that the transition period for CBAM is initiated as of October 2023 and will continue until the end of 2025. During the transition period, necessary data will be collected for proper application of CBAM as of 1 January 2026. Such necessary data consists of the amount of import, codes of the good serving to classification of the goods and EU's common custom tariff, country of origin, company name and address information regarding the facility where the goods are produced, production methods and parameters, steel production facility identity for steel products, direct and indirect embodied emissions related to imported goods and carbon price paid in the country of origin.

Considering Türkiye's green transition targets, the contribution of green buildings to Türkiye's construction sector's carbon reduction is and will further be significant. Moreover, green building practices like waste management, water conservation, and energy efficiency are also

effective at lowering carbon emissions. However, as explained above, Türkiye's carbon reduction targets are mainly based on reduction after increase of the emissions. In fact, this might be somehow sensible as the construction sector is one of the main pillars of Türkiye's economy, and it may not be possible to immediately initiate the reduction of GHG emissions due to ongoing construction projects. Nevertheless, it should be admitted that initially increasing the emissions by %30 might be interpreted as excessive and not in line with the global reduction targets.

IV. Evaluation and Conclusion

Following the Paris Agreement, an accelerated motivation can be observed in the states' plans and actions on green transition and decarbonization. Türkiye, being one of the signatories to the Paris Agreement, published its first NDC in 2021, as amended in 2023 under which it targets to reduce its initially-to-be-increased GHG emissions by 41%. Within the scope of its commitments under its NDC, Türkiye also published its roadmap and plans, made necessary legislative changes, held Climate Council, and reformed its climate related administrative structure insofar as necessary to reach such emission reduction target. It must be emphasized that although all these steps are positive signs in fighting climate change, continuity has the utmost importance both locally and globally. It is noteworthy to mention that while proceeding through green transition enthusiastically, Türkiye was criticized due to its declaration submitted during COP27 mentioning an initial increase of GHG emissions by 30% and then a reduction over the then current total amounts by 41%. Further, it should also be considered that Türkiye demonstrated a hesitant approach to undertake several commitments at the COP28 and just signed three declarations out of ten.

Turning our focus to the field of construction, given more than 30 percent of global carbon emissions are stemming from the construction activities, it can be stated that the stakeholders of the sector should deliberately evaluate taking necessary precautions to reduce GHG emissions with an aim to assist Türkiye in its green transition journey. While doing this, the statistics demonstrating that approximately 35% of the aggregate material used in construction later on becomes waste needs to be considered as well. These facts lead to the interpretation that a holistic approach should be applied by taking the whole process of a construction project from the land development phase to the end-of-life phase into account. Consequently, climate

concerns should manifest themselves in every stage of action, which can be summarized and exemplified as below:

- **Design phase:** The design should be prepared in a manner to minimize the GHG emissions. An example to this aim would be the first carbon pilot project in Sweden in which the fuel consumption with respect to the alignment of the road and pavement design is considered during the early design of the construction.

- **Construction phase:** GHG reduction target should be considered while choosing the materials, such as choosing low carbon concrete which is the most sustainable material among the other alternatives despite them being less resource consuming or re-using the material utilized in another construction work.

- **End-of-life phase:** Rather than resorting to an alternative only for cost reduction purposes, the material utilized in construction works should be reused instead of disposing them of before the end of their useful economic life in a manner to align with the aim of the circular economy and to serve to decarbonization purposes.

Public authorities possessing the key role in application of circular economy in the construction sector should make necessary legislative adjustments to support reusage of construction materials by granting certain incentives. Further, as it may serve to the purpose of decarbonization, coordination between different construction sites in a local district should also be required to seek options in facilitating reusage of construction materials.

Finally, it should be acknowledged by every individual of society that climate change is a common concern having the capacity to impact every stage of lives of millions. In order to create such awareness and motivate collaboration, effective communication among all sectors relevant to carbon emissions including the public and private sectors, non-governmental organizations, academics, and individuals expertized in the fields of agriculture, engineering, law, and science should be encouraged. Accordingly, communication should be maintained on different platforms with the inclusion of different sector stakeholders and individuals.

March 2024

References

[1] The Official Gazette No. 31543 dated 16 July 2021.
[2] The Official Gazette No. 31621 dated 7 October 2021.
[3] Official Gazette No. 31643 dated 29 October 2021.
[4]The press release of Ministry of Treasury and Finance, https://www.hmb.gov.tr/duyuru/surdurulebilir-finansman-cerceve-dokumanina-iliskin-basin-duyurusu, last accessed on 22.03.2024.
[5] Decision of Banking Regulation and Supervision Agency No. 9999 dated 24.12.2021.
[6]National Energy Plan, https://enerji.gov.tr//Media/Dizin/EIGM/tr/Raporlar/TUEP/T%C3%BCrkiye_Ulusal_Enerji_Plan%C4%B1.pdf , last accessed on 22.03.2024.
[7] TÜBİTAK Board of Directors' Decision No. 45 dated November 2022.
[8] Official Gazette No. 32414 dated 29 December 2023.
[9] Energy Efficiency 2030 Strategy and Second National Energy Efficiency Action Plan for 2024-2030, https://enerji.gov.tr/Media/Dizin/BHIM/tr/Duyurular//TürkiyeninEnerjiVerimliliği2030StratejisiveIIUlusalEnerjiVerimliliğiEylemPlanı_202401161407.pdf, last accessed on 22.03.2024.
[10] Directorate of Climate Change 2024-2028 Strategic Plan, https://iklim.gov.tr/db/turkce/icerikler/files/2024-2028%20Stratejik%20Plan.pdf, last accessed on 22.03.2024.
[11] Directorate of Climate Change, Climate Change Mitigation Strategy and Action Plan 2024-2030 and Climate Change Adaptation Strategy and Action Plan 2024-2030, https://iklim.gov.tr/2024-2030-iklim-degisikligi-azaltim-ve-uyum-strateji-ve-eylem-planlari-yayinlandi-haber-4239, last accessed on 25.03.2024.
[12] EPİAŞ press release on 28 February 2024, https://www.epias.com.tr/tum-duyurular/epias-ve-eex-turkiyede-emisyon-ticaret-sistemi-ets-gelistirilmesi-ve-uygulanmasi-icin-mutabakat-belgesi-imzaladi/, last accessed on 25.03.2024.
[13] Official Gazette No. 31755 dated 19 February 2022.
[14] Official Gazette No. 32491 dated 16 March 2024.