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Transliteration Table: Consonants

Arabic	Roman		Arabic	Roman
ب	b		ط	ṭ
ت	t		ظ	ẓ
ث	th		ع	‘
ج	j		غ	gh
ح	ḥ		ف	f
خ	kh		ق	q
د	d		ك	k
ذ	dh		ل	l
ر	r		م	m
ز	z		ن	n
س	s		ه	h
ش	sh		و	w
ص	ṣ		ء	’
ض	ḍ		ي	y

Transliteration Table: Vowels and Diphthongs

Arabic	Roman		Arabic	Roman
◌َ	a		◌ًا، ◌ًى	an
◌ُ	u		◌ٌو	un
◌ِ	i		◌ٍي	in
◌َا، ◌ٰ، ◌َى،	ā		◌َوْ	aw
◌ُو	ū		◌َيْ	ay
◌ِي	ī		◌ُوّ	uww, ū (in final position)
			◌ِيّ	iyy, ī (in final position)

Source: ROTAS Transliteration Kit: http://rotas.iium.edu.my

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Türkiye's Climate Change Policy: An Evaluation of Its Transition to Low Carbon Policies

Burcin Demirbilek*

Abstract: Since the Industrial Revolution, many countries have achieved notable progress in their industries, transportation, economic growth, and technical advancements. Higher concentrations of greenhouse gases (GHG) such as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O) and water vapor (H_2O) in the atmosphere, as well as changes in regional and global climates, were associated with increased production and the consequent need for more energy and intensive use of fossil fuels. Because of intense production and consumption practices that assumed natural resources were limitless, major environmental issues resulted from industrialisation. Türkiye is experiencing the negative consequences of climate change and aim to reach zero emission target. In this context, this article utilises documentary analysis and examine the related reports including 'Intergovernmental Panel on Climate Change' (IPCC) reports, European Union (EU) progress reports and Turkish national reports as well as Türkiye's legislative and institutional structures on low carbon policies.

Keywords: low carbon policy, Türkiye, climate change, zero emission target, the United Nations Framework Convention on Climate Change

Abstrak: Sejak Revolusi Perindustrian, banyak negara telah mencapai kemajuan yang ketara dalam industri, pengangkutan, pertumbuhan ekonomi dan kemajuan teknikal mereka. Kepekatan gas rumah hijau (GHG) yang lebih tinggi seperti karbon dioksida (CO_2), metana (CH_4), nitrus oksida (N_2O) dan wap air (H_2O) di atmosfera, serta perubahan dalam iklim serantau dan global,

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dikaitkan dengan peningkatan pengeluaran dan akibatnya memerlukan lebih banyak tenaga dan penggunaan intensif bahan api fosil. Oleh kerana amalan pengeluaran dan penggunaan yang sengit yang menganggap sumber semula jadi tidak terhad, isu alam sekitar utama yang terhasil daripada Revolusi Perindustrian tidak dapat dielakkan. Türkiye sedang mengalami akibat negatif perubahan iklim dan kini mahu untuk mencapai sasaran pelepasan sifar. Dalam konteks ini, makalah ini menggunakan analisis dokumentari dan meneliti laporan berkaitan termasuk laporan 'Panel Antara Kerajaan Mengenai Perubahan Iklim' (IPCC), laporan kemajuan Kesatuan Eropah (EU) dan laporan kebangsaan Türkiye serta struktur perundangan dan institusi Türkiye mengenai dasar karbon rendah.

Kata kunci: dasar karbon rendah, Türkiye, perubahan iklim, sasaran pelepasan sifar, Konvensyen Rangka Kerja Pertubuhan Bangsa-Bangsa Bersatu mengenai Perubahan Iklim

Introduction

Climate change can generally be defined as long-lasting changes at local and global scales (Şengün & Kalağan, 2022, p. 130). For example, global temperatures are increasing, glaciers are melting, precipitation regimes are changing, frequency of extreme weather events are increasing and sea levels are rising (Şahin, 2014, p. 12). The global temperatures increased by roughly 1.2°C on average in 2020 compared to pre-industrial levels. Average sea water level has risen globally by about 28 cm since 1870 and between 1901 and 2010, the average sea level increased 19 cm worldwide (Demircan, 2022, p. 51). It is estimated that the average temperature will increase by 2°C by the end of the 21st century (2081-2100) (Şensoy, 2022, p. 24).

Declining water levels and droughts are already seriously affecting agricultural production and causing food shortages and climate change will exacerbate the problem of food and water security. The warming and acidification of the oceans have already negatively affected fisheries and shellfish farming, and losses and reductions in food production have negatively affected indigenous people and small-scale food producers (IPCC, 2022b; 2022a, 9). Therefore, if the IPCC›s scenario of average temperature increase reaching 2°C in 2050 is realised, 180 million people are predicted to face hunger and 450 million people are predicted to experience water scarcity (Aydın, 2022, 88).

In addition, the rapidly increasing world population is predicted to grow to 9.6 billion people by 2050 (Şensoy, 2022, p. 25). With the growth of cities, fertile water and land resources are decreasing gradually because of the decrease in forested and agricultural areas and the consumption of fossil fuels (Şen, 2022). Severe weather events which include heat waves, biodiversity decline, access to safe food, dust storms and forest fires, and issues such as epidemics, serious illnesses due to air pollution and access to clean water have started to increase (Birpınar, 2022, p. 23), which can create security issues such as food, water, and energy security (Demirbilek, 2021). In addition, the food and water crises caused by extreme floods and droughts induced internal displacement of more than 20 million people (IPCC, 2022a, p. 48). Besides, in 2018, 17.2 million people had to migrate due to climate change impacts (Demirbaş & Aydın, 2020, p. 168). For example, Tuvalu, which relies on fishing for most of its livelihood and faces the risk of sea level rise, has signed a 30-year migration agreement with New Zealand to take in 75 Tuvaluans a year as part of a climate change adaptation project (Şensoy, 2022, p. 29).

As a result, it is necessary to ensure a healthy environment, energy security and diversity to mitigate the climate change's negative consequences. In this context, the significance of transition from primary energy sources like natural gas and oil to renewable energy is increasing. By 2023, it is estimated that if the use of renewable energy is doubled, emissions can be reduced approximately twice as much (Güner & Turan, 2017, pp. 48-49). By ensuring energy efficiency, air pollution caused by fossil-based energy will decrease and deaths and diseases due to air pollution will also decrease (Duman Altan & Sağbaş, 2020, p. 20). Regarding this, it is critical that climate change is seen as a primary policy by states and that it should be solved globally. This article draws a framework on the consequences of climate change in Türkiye, evaluates how Türkiye shapes its climate and low carbon policies to decrease the greenhouse gases (GHGs) level by analysing national and international documents and legal structures.

Türkiye and Climate Change

Türkiye is a country that has been late in addressing environmental problems due to its dominant economic policies and its focus on economic growth. It became acquainted with the problems and

impacts of climate change during the 1970s. At that time, there were environmental movements and organisations in many states around the world, while this awareness was just developing in Türkiye. During this period, Türkiye was also influenced by these environmental movements and adopted various regulations. For example, the Undersecretariat of Environment under the Prime Ministry in 1978, the General Directorate of Environment in 1984, the Undersecretariat of Environment in 1989, and the Ministry of Environment in 1991 laid the foundations of the institutional structures of this period (Özışık, 2020, p. 71).

It is predicted that Türkiye will experience an increase in ecological degradation due to global warming, deterioration and decrease in water resources, forest fires, severe drought, and desertification (Şen, 2022, p. 14). In Türkiye, temperature increases have occurred since 1993, and the hottest year was observed in 2010, where seasonal average temperatures increased. For example, in 2018-2019, winter temperatures averaged 1.3°C while spring temperatures averaged 0.7°C, whereas the summer season was 1.0°C, and the fall season was 1.9°C above the normal temperatures (ÇED İzin ve Denetim Genel Müdürlüğü, 2020, p. 77). According to climate change projections for Türkiye, the annual average temperature increase in Türkiye is estimated to be between 1.0 °C - 2.0 °C between 2016-2040, between 1.5 °C - 4.0 °C between 2041-2070, and finally between 1.5 °C - 5 °C between 2071-2099. In 2019, there were 935 extreme events recorded, of which 36% were floods and 27% were storms (ÇED İzin ve Denetim Genel Müdürlüğü, 2020, pp. 3, 84). Furthermore, in 2020, the average temperature was 14.9°C and a total of 984 extreme events occurred in Türkiye that year (Şensoy, 2022, p. 34; Demircan, 2022, p. 53). In the Mediterranean and Black Sea regions of Türkiye, floods occur frequently due to heavy rainfall. However, severe droughts are likely to be experienced along with decreasing rainfall intensity in the Central Anatolia region (Şen, 2022, p. 8). According to IPCC reports, a hot and dry climate is expected to prevail in Türkiye by 2030, with an increase in both summer and winter temperatures. Therefore, Türkiye is expected to potentially face serious threats of drought and desertification (Demirbaş & Aydın, 2020, p. 172). Additionally, with increasing population growth, Türkiye's annual per capita water potential is estimated to decrease to 1,120 m^3 (ÇED İzin ve Denetim Genel Müdürlüğü, 2020, p. 4).

Energy security is not guaranteed since Türkiye imports most of its fossil fuels, including natural gas and oil, for industrial use. The country›s energy needs are growing (Tuğaç, 2019). Türkiye's energy demand is met by 27.6% from domestic sources (ÇED İzin ve Denetim Genel Müdürlüğü, 2020, p. 40). Therefore, Türkiye is an energy-dependent country with high energy losses (Duman Altan & Sağbaş, 2020, p. 7). Unlike countries with low energy intensity such as Japan and Germany, Türkiye is one of the energy-intensive states like Canada and the USA (Altan & Sağbaş, 2020, p. 14). In 2019, Türkiye obtains 49.05% of its installed capacity from renewable energy and the rest from other sources (ÇED İzin ve Denetim Genel Müdürlüğü, 2020, p. 2). Türkiye's renewable energy consumption has increased especially in the last 10 years. In 2018, the rate of renewable energy sources – mainly from the hydropower plants – in energy production was around 32%, and in 2019, it was around 44% (Yurddaş, 2022, p. 211). There were 117 wind power plants in 2018, owned by energy companies. The Turkish government in 2016 introduced the 'Renewable Energy Resource Areas' (YEKA) to offer investors suitable zones for wind and solar energy generation (Akçalı et al., 2023, pp. 136-137). Türkiye has made some strides in producing renewable energy, such as building nuclear facilities and providing subsidies. However, it has also invested in coal and natural gas, as seen in the TurkStream pipeline. In addition, Türkiye still does not set any date to leave coal, although it is a requirement for OECD states under the Paris Agreement (Akçalı et al., 2023). Also, Türkiye has attempted to explore oil and gas in the Black Sea to decrease its natural gas dependency on other countries.

Climate Change Policies of Türkiye and its International Interaction

The United Nations Framework Convention on Climate Change (UNFCCC) was the world's first climate convention and was opened for signature at the United Nations Conference on Environment and Development in Rio in 1992. This agreement focused on the issues related to reduction in emissions and cooperation on research and technology (Birpınar, 2022, p. 26). The Rio Conference raised awareness on climate change and its impacts and emphasised that environmental issues can be solved through joint action plans (Karakaya & Sofuoğlu, 2015, p. 4). To guarantee the effective implementation of the Convention, Conference of the Parties (COP) meetings are organised every year. At the COP3,

the Kyoto Protocol was signed to determine how much greenhouse gas emissions each country would emit and how financing requests would be evaluated. The Kyoto Protocol is only related to the emission reductions of developed countries. During the commitment period covering the years 2008-2012, it is aimed to reduce the total emissions of GHGs by at least 5% below 1990 levels (Birpınar, 2022, pp. 27-28).

195 states signed the Paris Climate Agreement in 2015. Emphasis was placed on the concept of climate justice and the need to keep global warming at 2^0C or less by 2100. However, unlike the Kyoto Protocol, it was decided that countries would set their own adaptation and mitigation targets according to their own conditions and aim for carbon neutrality for the period 2051-2100 (Yapraklı & Bayramoğlu, 2017, p. 440). The legally binding Kyoto Protocol focuses on developed and industrialised countries. However, the Paris Agreement, which is not legally binding, focuses on all signatory countries taking responsibility within the framework of their own capabilities and setting the average global temperature (Gökçin Özuyar et al., 2021, p. 35). Moreover, the 'Green Climate Fund' was established for developed countries to lead and support developing countries, and it was aimed to address the financial requirements of developing countries for GHG mitigation and adaptation (Birpınar, 2022, p. 28).

In the beginning, Türkiye's attitude towards the UNFCCC was distant (Köse, 2018, p. 62). Since Türkiye was an Organisation for Economic Cooperation and Development (OECD) member in the UNFCCC, which was opened for signature in 1992, it was included in both Annex I and Annex II lists. From 1995 to 2000, Türkiye made attempts to leave the Annexes of the UNFCCC because of being a developing country, not a developed country, and was not eligible for financial support, but failed to do so (Şahin, 2014, pp. 25-26). It was decided at the 7th Conference of the Parties to the UNFCCC in 2001 that Türkiye would be removed from Annex II and the Parties were invited to acknowledge the unique circumstances that set Türkiye apart from the countries in Annex I (T.C. Çevre ve Şehircilik Bakanlığı, 2010, p. 4; Balaban, 2019, p. 265). At the COP17 meeting, which took place in Durban in 2011, it was agreed that Türkiye, as an Annex I country, would receive support for reducing emissions, technology development, technology transfer and capacity building. At COP18, which took place in Doha in 2012, it was agreed that Türkiye, as an Annex I country, would be supported

by Annex II countries in their climate change strategies at national level and low-emission strategies (Birpınar, 2022, p. 29). Additionally, COP20 restated in the final COP conclusions regarding Türkiye›s stance. Yet, these COP decisions lacked concrete instructions on how Türkiye should use the Green Climate Fund (Arı, 2022, p. 98). In October 2021, the Turkish Parliament approved the Paris Climate Agreement setting a goal of zero emissions by 2053. The target of Türkiye, which was introduced at COP27, is to limit its GHGs emissions to 690m tonnes of CO2 (Avcı et al., 2022, p. 5). Finally, the 97-point Glasgow Climate Pact was established at COP26 in 2021. China and the United States, two of the highest contributors of GHGs, agreed to establish policies on emission reduction and to cooperate on issues such as circular economy and carbon capture. 105 other states made commitments to reduce methane emissions as well as more than 40 states agreed to phase out coal. Besides, more than 130 states pledged to combat deforestation and prevent land degradation by 2030 (Kavak, 2022, pp. 259-262).

Climate-related Development Plans and National Documents in Türkiye

In the Tenth Development Plan (2014-2018), a chapter titled "Climate Change and Environment" was introduced for the first time; and concepts including cleaner production, green growth and eco-efficiency were defined (Şahin, 2014, p. 37). The Eleventh Development Plan (2019–2023) addressed the pressures of rising food consumption, urbanisation, and climate change on agricultural productivity, as well as the need for skilled labour and technology to keep up with demands. Concepts related to sustainable use of water and soil resources and food security were also highlighted. Given that Türkiye is among the nations most impacted by climate change, efforts to restrict the trend of rising emissions and promote green growth have received particular attention. Furthermore, climate change's detrimental effects on water resources and plans to prevent water losses due to evaporation and the creation of groundwater basins and dams were mentioned. The increase in natural disasters due to climate change is also mentioned in the report, and in this context, the sustainable development of cities, the importance of effective disaster management and the importance of integrated urban planning were emphasised (T.C. Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı, 2019).

Several strategic objectives which are highlighted in the Türkiye Climate Change Strategy Report (2010-2023) include limiting the rate of increase in greenhouse gas emissions, increasing access to financial resources within the framework of greenhouse gas adaptation and mitigation to climate change, changing consumption patterns to be climate friendly together with the public sector, private sector, universities, and non-governmental organisations, and finally, increasing public awareness (T.C. Çevre ve Şehircilik Bakanlığı, 2010, pp. 9-12). Furthermore, in the section of the report titled 'Energy,' it is stated that to increase the country's energy supply security, clean energy technologies, especially hydraulic and wind energy, should be increased along with the improvement in energy consumption in public institutions. It was also emphasised that energy-friendly transportation such as bicycles in cities and metro and rail systems in metropolitan areas should be encouraged (T.C. Çevre ve Şehircilik Bakanlığı, 2010, pp. 20-21). In addition, the short, medium, and long-term aims have been set for both agriculture and animal husbandry. In the short term, policies such as the more conscious use of fertilisers, dissemination of modern techniques in agricultural spraying, organic agriculture, and the use of modern pressurised irrigation systems have been adopted. In the medium term, the implementation of crisis management based on drought forecasting, the protection and improvement of soils and lands, and the development of techniques that increase carbon sequestration in the soil were highlighted. Long-term goals include developing urban forestry and preventing the formation of urban heat islands (T.C. Çevre ve Şehircilik Bakanlığı, 2010, pp. 27-30).

The Republic of Türkiye Climate Change Action Plan (2011-2023), released in 2012, set several targets which include increasing renewable energy capacity and improving technology, reducing losses and leakages in electricity distribution, reducing annual energy consumption in public institutions by 20% until 2023, and increasing energy efficiency in buildings. The plan also aimed to create new technologies to limit greenhouse gas emissions in the industrial sector (T.C. Çevre ve Şehircilik Bakanlığı, 2012, pp. 9-10). Within land use and forestry sectors, the aim was to raise the quantity of carbon sequestered in forest areas by 15% in 2020 (T.C. Çevre ve Şehircilik Bakanlığı, 2012, p. 13).

The National Energy Efficiency Action Plan (2017-2023) mentions several projects related to energy efficiency. These include

the establishment of energy management systems in public buildings, organised industrial zones, commercial buildings, and industrial enterprises; and the establishment of a National Energy Efficiency Financing Mechanism to support energy efficiency investments (T.C. Enerji ve Tabii Kaynaklar Bakanlığı, 2017, pp. 14-15). Moreover, it aimed to establish a database and reporting systems for energy efficiency activities to determine energy efficiency indicators and report them on a sectoral basis. It is also aimed to carry out activities for strengthening the administrative and institutional structure of energy related institutions on renewable energy and energy efficiency related issues. There are projects such as certifying and encouraging sustainable green buildings and encouraging the use of sustainable energy sources in new buildings (T.C. Enerji ve Tabii Kaynaklar Bakanlığı, 2017, pp. 27).

Additionally, the EU negotiation process has been one of the driving forces impacting climate policies in Türkiye (Şahin, 2014, p. 39). The EU progress report stated that Türkiye is 'moderately prepared' in adjusting the climate *acquis.* However, in terms of implementation, especially on waste management and industrial pollution there still needs to be progress (EC, 2015, p. 76). In terms of air quality, adjusting to the EU air quality directive was necessary (EC, 2016, p. 87). According to the EU reports, air pollution remained high and no progress had been made in terms of adjusting to EU air quality directives (EC, 2021, p. 106; EC, 2022, p. 115). However, Türkiye adopted EU waste management legislation and focused on the strategies increasing recycling and reuse, zero waste management approach and banning free plastic bags (EC, 2020, p. 91). According to the EU Türkiye 2023 report, Türkiye increased its installed power capacity by 54% to include renewable energy by 2022. Growth in renewable energy installations was driven by private investment as well as the feed-in tariff was maintained by 2030. Furthermore, the National Energy Plan (2023–2035), created in accordance with Türkiye's 2053 Net Zero Emission Target, seeks to further raise the percentages of renewable energy and nuclear sources in installed capacity and primary energy consumption. Besides, regarding hydrocarbons, Türkiye has evolved in its adherence to the EU *acquis*. Still, there is not enough compliance with the offshore oil and gas operations safety directive including in the transportation of hydrocarbons. Türkiye has stepped up efforts to generate gas domestically from its newly found Sakarya field in the Black Sea (EC, 2023, p. 112).

Nonetheless, despite energy saving initiatives, there is still a significant reliance on imported gas and oil, especially natural gas from Russia, while the need for energy is rising quickly. The cost-effective decarbonisation of the economy still depends on the creation of a national emissions trading system (ETS) which is in line with the EU ETS and sufficiently ambitious, particularly regarding the total cap on allowances (EC, 2023, p. 69). Additionally, Türkiye still does not adhere to EU emissions regulations for new light-and heavy-duty vehicles, nor does it completely apply the Fuel Quality Directive (98/70/EC). Türkiye needs to develop an alignment strategy for the Carbon Capture and Storage Directive (2009/31/EC) and the relevant regulations within the *Fit for 55* package that were approved during the reporting year (EC, 2023, p. 117). Also, one of the most important requirements for raising readiness is having more strategic planning, which includes defined goals and milestones, significant funding, and improved administrative capabilities. Currently, there is a lack of compliance with the regulations for air quality, nature preservation, water and waste pollution, and industrial pollution. To achieve full compliance with the EU *acquis* for climate action, including but not limited to emission trading, Türkiye must complete the outstanding commitments mandated by the Paris Climate Agreement; and ensure the complete application of the Environmental Impact Assessment Directive and other horizontal environmental regulations necessary to meet environmental standards (EC, 2023, pp. 114–115). Therefore, even though Türkiye has some progress regarding renewable energy and waste management while adjusting the EU *acquis*, there remain significant efforts needed to decrease carbon emissions.

Legal Structure

There are various legal arrangements have been made to combat climate change in Türkiye. The amendment to the Environmental Law (Article 3/h) mentions incentives to be given for combating climate change, such as promoting zero waste, reuse of wastewater for the implementation of circular economy principles, recovery of waste, and reducing the use of single-use packaging and plastics (Official Gazette, 2018, no. 30621). Thus, Türkiye joined the Kyoto Protocol to the UNFCCC in 2009 (Official Gazette, 2009, no. 27227), and the Ratification of our Accession to the United Nations Framework Convention on Climate Change was adopted by the Parliament on October 16, 2003 (Official

Gazette, 2003, no. 25266) as well as the Vienna Convention for the Protection of the Ozone Layer in 1991, the Montreal Protocol on Substances that Deplete the Ozone Layer in 1991, the United Nations Convention to Combat Desertification in 1998 and the UN Convention on Biological Diversity in 1996 (DSİ, 2023, p. 48).

In addition, the Regulation on Greenhouse Gases Emission Monitoring (Official Gazette, 2014, no. 29003) was enacted based on the Kyoto Protocol to the United Nations Framework Convention on Climate Change and the Environmental Law's Article 3 (Official Gazette, 1983, no. 18132). This regulation sets out the rules for the determination of reporting, monitoring and verification of GHGs emissions and also determines the liabilities of organisations and enterprises based on the activities which are listed Annex I of the regulation (2014, no. 29003, Article 1;2), which include the production of cellulose from wood or other fibrous materials; paper, cardboard or cardboard with a daily production capacity of 20 tons or more, factories with a total rated thermal power of 20 megawatt and above incineration of fuels (hazardous or household waste except incineration). Under this regulation, the Communiqué on Monitoring and Reporting GHG Emissions (Official Gazette, 2014, no. 29068) which set out the principles and procedures for reporting and monitoring GHG emissions and related activity data (Article 1) as well as the Communiqué on Verification of GHG Emission and Verifiers (Official Gazette, 2017, no. 30258) that determine the guidelines and standards for verifying these GHG reports as well as the qualifications and accreditation requirements of the verification organisations that will perform these procedures. Additionally, the Ministry also enforced the Voluntary Carbon Market Project Registration Communiqué (Official Gazette, 2013, no. 28790), which seeks to govern the guidelines for the registration of projects designed to obtain carbon certificates and that reduce greenhouse gas emission.

Other regulations related to climate change include the Law on the Use of Renewable Energy Resources for Electricity Generation (Official Gazette, 2005, no. 25819) and the Energy Efficiency Law (Official Gazette, 2007, no. 26510), which aimed to increase energy efficiency and the use of renewable energy in the production, consumption, and distribution of energy in sectors such as transportation. Regulation on Substances that Deplete the Ozone Layer which was adjusted from the EC/1005/2009 Regulation on Substances that Deplete the Ozone Layer was also regulated (Çevre Yönetimi Genel Müdürlüğü, 2017).

In addition, local governments are important actors and have many responsibilities in this regard. According to the Environmental Law (Official Gazette, 1983, no. 2872), municipalities are obliged to establish or operate municipal solid waste disposal systems (Art. 13) and the principles for the protection of biodiversity shall be determined by taking the opinions of local administrations, universities, and other relevant organisations (Art. 9/a). According to the Law on Municipalities (Official Gazette, 2005, no. 25874), municipalities must perform or have performed services such as zoning, water and sewerage, transportation, cleaning and solid waste management and afforestation (Art. 14). Also, they have responsibilities for the collection, sorting, and recycling of solid waste (Art. 14/g) and the construction, maintenance and repair of bicycle and pedestrian paths (Art. 14/ş). Law on Special Provincial Administration also contains some important regulations. Accordingly, the Special Provincial Administration is responsible for afforestation, parks, and gardens, supporting forest villages, emergency aid and rescue (Art. 6/b), planning, maintenance and repair of bicycle roads and lanes, bicycle and electric scooter parking and charging stations (Art. 6/c) (Official Gazette, 2005, no. 25745). Law on Metropolitan Municipalities also contains important regulations. In parallel with the sustainable development principles, municipalities have duties of ensuring the protection of water basins, making the metropolitan solid waste management plan, collecting, and treating the waste of marine vessels (Art. 6/i). They also have the duty to provide support to disaster areas and to make plans for natural disasters on a metropolitan scale (Art. 6/u) (Official Gazette, 23.07.2004, no. 25531).

Moreover, Türkiye accelerated legal arrangements in the field of environment by undergoing the harmonisation process with the EU's environmental *acquis* by gaining the candidate status in 1999 (Özışık, 2020, p. 71). For example, there has been a significant harmonisation with the EU *acquis* including developing the River Basin Management Plans for 25 river basins in Türkiye, completing the Sectoral Water Allocation Plans for 25 basins by 2023, the Flood Management Plans for 23 basins and the Drought Management Plans for 13 basins. In addition to these, there are various practices for soil pollution. The Regulation on the Control of Soil Pollution and Point Source Contaminated Sites (2010/No. 27605) includes detection and cleanup of point pollution that may occur in case of leakage or accidents during the transportation,

storage, disposal, or recovery of hazardous wastes (ÇED İzin ve Denetim Genel Müdürlüğü, 2020, pp. 141-143). The Regulation on the Protection of Waters against Nitrate Pollution from Agricultural Sources (2016/29779) was put into force in line with the EU Nitrate Directive (91/676/EEC) to prevent pollution of soil from agricultural activities and initiated the process of preparing for the Nitrate Action Plans for 25 basins (ÇED İzin ve Denetim Genel Müdürlüğü, 2020, pp. 146-147).

Low Carbon Policies of Türkiye and Recommendations

The investments on renewables and electric cars that reduce methane emissions are necessary for reaching the net zero target by 2050 (IEA, 2023, pp. 13, 16). Energy crises because of the Covid-19 pandemic and Russia's invasion of Ukraine have intensified investments in clean energy. Disruptions in supply chain have prompted countries to take rapid actions in developing technologies for domestic supply as well as making regulations, for example Net Zero Industry Act of EU (IEA, 2023, p. 48).

Türkiye made its most ambitious carbon neutrality aim when it declared its 2053 target to the UN General Assembly in September 2021. However, Türkiye insisted on not adopting any legally binding, absolute emissions mitigation objectives. Yet, this long-term goal toward decarbonisation signifies a shift in Türkiye's climate policy. Türkiye's Ministry of Environment and Urbanisation was reorganised and renamed the Ministry of Environment, Urbanisation and Climate Change as part of its ambitious strategy. Furthermore, a Directorate of Climate Change was also established (Arı, 2022, p. 102). Considering Türkiye's climate change adaptation efforts, the Directorate is responsible for determining national and international policies, and actions (including those pertaining to carbon pricing and ETS), conducting negotiation processes, and guaranteeing coordination with pertinent institutions and organisations (ICAP, 2023, p. 71). Türkiye has made some progress, such as organising the first National Climate Council meeting in 2022, organised by Climate Change Directorate with other stakeholders, including NGOs and private sector. At the meeting, it was proposed that the ETS's auction proceeds be allocated in accordance with goals for low-carbon, green development, as well as the need for just transition initiatives to assist the most disadvantaged members of society. The Council suggests that at least half of this money should go

toward helping the reel sectors reduce their greenhouse gas emissions (ICAP, 2023, p. 9). The outcomes of the meeting included starting a pilot ETC in 2024 in accordance with the Türkiye's 2053 net zero target and establishing a national ETC (ICAP, 2023, p. 70), which may profit from the carbon market strategies outlined in the Paris Agreement and could be connected to the EU Carbon Border Adjustment Mechanism (CBAM) (Arı, 2022, p. 102).

In addition, Türkiye has prepared a draft Climate Change Law that seeks to establish institutional and legal structure for organising and instrumenting measures to decrease GHGs emissions and adopt to climate change. This includes the legal basis of carbon pricing tools and the ETS (ICAP, 2023). This law intends to regulate emissions reduction, adaptation to the changing climate, and planning and implementation instruments related to these concerns in accordance with the net zero emissions (NZE) target and green development vision. This law provides the planning and implementation instruments for the realisation of these activities, as well as the procedures and guiding principles of the institutional and legal framework for reducing emissions and adapting to climate change (Article 1; 2). Contributions towards the 2053 NZE objective can also come from reducing industrial carbon generation; for example, by implementing business models under the Turkish Environmental Label system and setting up the framework for the green industrial zones certification. This green infrastructure with labelling programme could serve as a catalyst for changes in the building, energy, transportation, and other sectors towards achieving the 2053 NZE target (Arı, 2022, p. 104). The Environmental Labelling System in Türkiye was established by the Environmental Labelling Regulation (2018), which came into effect in accordance with the EU Ecolabel Regulation (No. 66/2010/EC) (Birpınar et al., 2023, p. 63). This system aims to implement the circular economy, increase energy efficiency, minimise waste and provide opportunities to open additional markets. In this context, it also aims to raise awareness of enterprises, especially small and medium-sized enterprises, about environmental labelling and waste management (T. C. Ticaret Bakanlığı, 2021, p. 18).

Policy makers develop a variety of policy instruments to deal with climate change. There are different types of instruments in the theory; regulatory, market-based, voluntary, and informational instruments. Emissions trading schemes and eco-taxes are market-based instruments;

informational instruments aim to change the behaviour of social actors by applying eco-label schemes and eco-management schemes. However, they are different in practice and in theory in the countries (Jordan et al., 2012, p. 540). Economic instruments are important tools to address the effects of climate change. The importance of economic instruments has been growing from 1970s. Besides, the sorts of the instruments have been increased as well. Therefore, OECD (2023a, p. 9) addresses the instruments which include taxes and fees, subsidies and payments for biodiversity, deposit-refund schemes and tradable permits and offsets. Taxation policies should focus on creating green employment and decreasing carbon emissions. Government should make policy on environmental taxes, targeting the pollutants as well as allocating tax revenues for green jobs (Kolsuz & Yeldan, 2017, p. 1249).

To address the effects of climate change and increase resilience, especially for creating more climate resilient urban cities, Türkiye's government should allocate resources via fiscal instruments including taxes, subsidies, incentives, and grants, and creating funds with this revenue (for example, *climate fund*) (Balaban, 2019, p. 276). The taxes should include energy products, transport services, pollution emissions and resources management for soil, land, biodiversity, and forests (OECD, 2023a, p. 4). Then, regarding the creation of climate policies, the most important questions that need to be answered are what tools Türkiye will use to attain the 2°C objective and what sort of macroeconomic effects these tools will have. Three primary policy instruments can be identified, which are carbon tax; using the money raised from the carbon tax to fund investments in renewable energy sources to generate power; and autonomous efficiency increases (that is, contingent upon market conditions and technical advancements) (Yeldan & Voyvoda, 2015, p. 8). One of the most important taxes aimed at reducing GHG emissions is the *carbon tax*. It is a tax levied in proportion to the carbon content of fuels. First introduced in 1990 in Finland, the carbon tax has been implemented in countries such as the Netherlands, the UK, Sweden, and Australia (Sapmaz, 2022, p. 2). It is especially important for countries such as Türkiye, where coal consumption is still high to implement this tax.

Although Türkiye is late for setting a carbon market, it is eager for this. In addition, the carbon market, diffused by the EU is not a neutral process and failed to meet the targets on investing form decarbonised

power generations. Therefore, should Türkiye, as a developing country, follow the failed policy instruments? For Türkiye to adopt the international carbon market, it has attempted to make legislative amendments for EU Emission Trading System (EU ETC) (Ethemcan & Gündoğan, 2019, p. 517-518). Therefore, Türkiye had been trying to adopt to the carbon market which is diffused by the EU and World Bank. As a part of the EU accession process, in 2024, Türkiye intends to start an Instrument for Pre-Accession Assistance (IPA III) project for the transposition of the EU ETC legislation into secondary legislation that specifies the technical features of national ETS (ICAP, 2023, p. 70; Kutlu, 2021, p. 162). The important points at this level are setting precise emission reduction targets and providing "fair distributions of emissions allowances," however, even if Türkiye adopts to the EU policy, for example EU ETS Directive 2019, it is still criticised by the EU for its limited progress (Ethemcan & Gündoğan, 2019, p. 519). Also, a difficult problem is changing the current tax structure to replace implicit or indirect taxes with carbon pricing (carbon trade and tax), in addition to the ETS (Arı, 2022, p. 102).

There are some difficulties to low-carbon systems which are technical, social, institutional, environmental, and economic in nature. The social pillar means public participation in the transition to low carbon energy. Public awareness should be increased to prevent resistance to change and social transition. Economic challenges from the fact that making the switch to a low carbon economy requires significant investment as it involves changes in consumer behaviours and technologies. Hence, governments should provide subsidies. Additionally, there are some institutional barriers that can exist, including short-term policies and low fossil-fuel prices (Kamali Saraji & Streimikiene, 2023, p. 8). Carbon pricing is necessary to reduce the emissions and create revenue for investing green energy. However, for carbon pricing policy to be successful, political feasibility and public support are needed (Uyduranoglu & Ozturk, 2020, p. 1176).

Financial support to deploy low-emission and less energy-intensive innovations in the national economy and residential sectors can pave the way for a green economic transition. The expanding population and escalating economic activity in Türkiye are leading to a rise in emissions and a corresponding rise in mitigation expenses. Due to Türkiye's limited financial resources and the growing impact of climate change,

the country has been unable to cover these expenses by relying solely on its own national resources without obtaining a grant. Moreover, the work required for carbon pricing necessitates data and expertise, compounded by the growth of the emission-intensive cement sector, which increases in emissions – these are important challenges (Arı, 2022; Uyduranoglu & Ozturk, 2020). While Türkiye's institutional classification under the UNFCCC is a major contributing factor to this issue, Türkiye prefers to address this challenge by differentiating itself as a developing country under the Paris Agreement in accordance with the rights granted by the Vienna Convention on the Law of Treaties (Arı, 2022, p. 106-107). In addition, even if the use of renewable energy has increased recently, fossil fuels still account for much of the primary energy supply in the world. The demand for energy, particularly in the transportation, housing, industrial, and electrical production sectors, is driving up imports of natural gas and oil (Arı, 2022, p. 100). As Türkiye's population grows, so does the increase in energy use. However, if Türkiye increases the use of coal, it cannot reach the target of zero-carbon in 2053 (Kayakuş et al., 2023; Şahin, 2014, p. 4). Therefore, increasing the use of renewable energies, including hydropower, geothermal, wind power, solar energy and bioenergy as well as using low carbon technologies like EVs and carbon capture and storage (CCS) is required. Even if there has been research on CCS, there is no progress in practice (Yousefi-Sahzabi et al., 2017, p. 601).

Therefore, for the transition to low-carbon system, the coal-based energy production should be a priority as most of the emissions come from coal. Türkiye should develop a gradual plan to phase out coal and should collaborate with the private sector, unions and vocational training institutes. Particularly in the coal regions, creating employment opportunities for the local people who work in the coal sector, and identifying the new employment opportunities, ascertaining the skills needed and providing necessary vocational training for the locals, are important. Additionally, in the regions where coal mining and coal-fired electricity generation activities take place, regular monitoring of environmental impacts, identifying hazardous substances and wastes, and their storage are essential (Avcı et al., 2022, pp. 7-8). By phasing out fossil fuels, transitioning to renewable energy, energy efficiency, electrification in associated industries, and focusing on achieving net zero by the early 2050s, the Turkish economy could be substantially

decarbonised within 30 years. To achieve this, it is recommended that coal be completely phased out of power generation by 2035, that coal use in buildings should be phased out as soon as possible, and that installed capacity of electricity from renewable sources should be increased to 50% by 2030, alongside solar and wind power plants be increased by 2030 (Şahin, 2014, pp. 9-10).

Conclusion

This article discusses how Türkiye has been affected by climate change, its position, and activities in the international arena in the fight against climate change; the multi-layered actors and their roles and the legal arrangements in line with combating the negative impacts of climate change. Although Türkiye has taken important institutional and legislative steps, especially in the last decade, it is still intensively reliant on fossil fuels and still imports large quantities of them. Therefore, to accommodate the growing energy demand in industry and other sectors in Türkiye, it is important to ensure energy efficiency through new technologies and to reduce external dependency by using domestic resources. In this context, Türkiye needs institutes and university departments that address climate change in an integrated manner. Additionally, incentives such as tax reductions should be introduced for private sector activities as part of combating climate change.

Fundamentally, cities must be built to withstand climate change and generate a greater proportion of their energy from renewable sources. At the local level, it is very important to encourage public transportation, support local governments' projects related to the use of renewable energy, and for local governments to make climate plans in an environmentally sensitive manner, and to raise awareness at the local level. On the route to the green transition, lowering reliance on imports of foreign fossil fuel resources is a side benefit of emission mitigation. Furthermore, Türkiye should follow the EU's climate strategy and policies as a candidate for membership in the EU. For instance, the European Green Deal and its supplementary measures, for example Carbon Border Adjustment Mechanisms, seek to lower greenhouse gas emissions through domestic initiatives as well as partnerships with trading partners. Finally, green industrial policies are important to offset the effects of carbon pricing (such as unemployment) as industries are dependent on taxes and environmental legal structures. This could form the basis of a significant future research agenda.

References

Akçalı, E., Görmüş, E., & Özel, S. (2023). Turkey's Green Imagination: The Spatiality of the Low-Carbon Energy Transition within the EU Green Deal. *Uluslararasi Iliskiler*, *20*(77), 127-146. doi: 10.33458/uidergisi.1233968

Aydın, A. (2022). Küresel İklim Krizinin Tarım, Gıda Sektörü ile Su Kaynaklarına Etkisi ve Avrupa Yeşil Mutabakat Sürecinde Tarım Sektörü. In A. Bektaş (Ed.), *Küresel İklim Değişikliği ve Sosyo-Ekonomik Etkileri* (pp. 85-116). Ankara: Türk Akademisi Siyasi Sosyal Stratejik Araştırmalar Vakfı (TASAV).

Akyol, H. (2022). İklim Değişikliği Türkiye'de Ekonomik Büyüme İçin Bir Risk Oluşturur mu?. *Afet ve Risk Dergisi*, *5*(1), 179-195. https://doi.org/10.35341/afet.996986.

Arı, İ. (2022). Türkiye's Climate Policy. *Insight Turkey*, *24*(2), 89-112. doi:10.25253/99.2022242.6

Avcı, D., Acar, S., Adaman, F., & Uncu, B. A. (2022). Net Sıfıra Giden Yolda Adil Dönüşüm İçin Yol Haritası. WWF-Türkiye & S360, Printworld Matbaa San. ve Tic. A.Ş.

Birpınar, M. E. (2022). Küresel Sorun İklim Değişikliği: Gelişimi, Uluslararası Müzakereler ve Türkiye. Çevre, Şehir ve İklim Dergisi, *1*(1), 20-36.

Birpınar, M. E., Atay S., & Yetiş Ü. (2023). Sürdürülebilir Üretim ve Tüketimde Eko-Etiketlerin Önemi: Türkiye Çevre Etiket Sistemi. Çevre, Şehir ve İklim Dergisi, *2*(3), 60-81. https://dergipark.org.tr/tr/pub/csid/issue.

Çevre Yönetimi Genel Müdürlüğü (2017). *Ozon Tabakasını İncelten Maddelere İlişkin Yönetmelik Yayınlandı*. https://cygm.csb.gov.tr.

Çevresel Etki Değerlendirmesi (ÇED) İzin ve Denetim Genel Müdürlüğü, (2020). Türkiye 6. Çevre Durum Raporu. Ankara: T. C. Çevre ve Şehircilik Bakanlığı. https://webdosya.csb.gov.tr.

Demirbaş, M. & Aydın, D. (2020). 21. Yüzyılın En Büyük Tehdidi: Küresel İklim Değişikliği. *Ecolojical Life Sciences*, *15*(4), 163-179. https://dergipark.org.tr/en/pub/nwsaecolife/issue.

Demirbilek, B. (Ed.). (2021). *Güvenlik Sorunları Bağlamında Yeni Yaklaşımlar.* Ankara: ORION Kitabevi.

Demircan, M. (2022). İklim, İklim Değişikliği ve Su İlişkisi. In A. Bektaş (Ed.), *Küresel İklim Değişikliği ve Sosyo-Ekonomik Etkileri* (pp. 47-84). Ankara: Türk Akademisi Siyasi Sosyal Stratejik Araştırmalar Vakfı (TASAV).

Draft Climate Change Law. https://www.baib.gov.tr

Duman Altan, A., & Sağbaş, A. (2020). Türkiye'nin Enerji Verimliliği ve İklim Değişikliği Performansı: Mevcut Durum ve Gelecek Projeksiyonu.

Verimlilik Dergisi, *2020*(1), 7-26. https://dergipark.org.tr/tr/pub/verimlilik/issue/51826/463094.

Devlet Su İşleri Genel Müdürlüğü (DSİ) (2023). Türkiye Su Döngüselliği ve Verimin Artırılması Projesi. https://cdniys.tarimorman.gov.tr. Turhan, E., & Gündoğan, A. C. (2019). Price and prejudice: the politics of carbon market establishment in Turkey. *Turkish Studies*, *20*(4), 512-540.https://www.tandfonline.com/doi/full/10.1080/14683849.2018.1533821

European Commission (EC), (2015). *Turkey 2015 Report*. https://www.avrupa.info.tr.

European Commission (EC), (2016). *Turkey 2016 Report.* https://www.avrupa.info.tr.

European Commission (EC), (2020). *Turkey 2020 Report*. https://www.avrupa.info.tr.

European Commission (EC), (2021). *Turkey 2021 Report*. https://www.avrupa.info.tr.

European Commission (EC), (2022). *Turkey 2022 Report*. https://www.avrupa.info.tr.

European Commission (EC) (2023). *Türkiye 2023 Report.* https://www.avrupa.info.tr.

Gökçin Özuyar, P., Gürcan, E. C., & Bayhantopçu, E. (2021). Türkiye'nin Güncel İklim Değişikliği Stratejisinin Ana Yönelimi. *Kuşak ve Yol Girişimi Dergisi*, 2(3), 31-46. https://briqjournal.com.

Güner, E. D., & Turan, E. S. (2017). Yenilenebilir Enerji Kaynaklarının Küresel İklim Değişikliği Üzerine Etkisi. *Artvin Çoruh Üniversitesi Doğal Afetler Uygulama ve Araştırma Merkezi*, *3*(1), 48-55. https://doi.org/10.21324/dacd.285523.

International Carbon Action Partnership (ICAP), (2023). *Emissions Trading Worldwide: Status Report 2023*. Berlin: ICAP. https://icapcarbonaction.com.

Intergovernmental Panel on Climate Change (IPCC), (2022a). *Climate Change 2022: Impacts, Adaptation and Vulnerability.* https://www.ipcc.ch/report/ar6/wg2/

Intergovernmental Panel on Climate Change (IPCC), (2022b). *Climate Change 2022 Mitigation of Climate Change. Summary for Policymakers*. https://www.ipcc.ch/report/ar6/wg3.

International Energy Agency (IEA). (2023). *Net Zero Roadmap: A Global Pathway to Keep the 1.50C Goal in Reach: 2023 Update*. www.iea.org.

Kamali Saraji, M., & Streimikiene, D. (2023). Challenges to the low carbon energy transition: A systematic literature review and research

agenda. *Energy Strategy Reviews*, *49*, 101163. https://doi.org/10.1016/j.esr.2023.101163.

Karakaya, E., & Sofuoğlu, E. (2015, May 28-30). İklim Değişikliği Müzakerelerine Bir Bakış: 2015 Paris İklim Zirvesi. International Symposium on Eurasia Energy Issues, Türkiye.

Kavak, K. (2022). İklim Değişikliği Finansmanı ve Sürdürülebilir Finans Adımları. In A. Bektaş (Ed.), *Küresel İklim Değişikliği ve Sosyo-Ekonomik Etkileri* (pp. 257-282). Türk Akademisi Siyasi Sosyal Stratejik Araştırmalar Vakfı (TASAV).

Kayakuş, M., Terzioğlu, M., Erdoğan, D., Zetter, S.A., Kabas, O., & Moiceanu, G. (2023). European Union 2030 Carbon Emission Target: The Case of Turkey. *Sustainability*, *15*, 13025. https://doi.org/10.3390/su151713025.

Kolsuz, G., & Yeldan, A. E. (2017). Economics of climate change and green employment: A general equilibrium investigation for Turkey. *Renewable and Sustainable Energy*, *70*, 1240-1250. https://ideas.repec.org.

Köse, İ. (2018). İklim Değişikliği Müzakereleri: Türkiye'nin Paris Anlaşması'nı İmzalama Süreci. *Ege Stratejik Araştırmalar Dergisi*, *9*(1), 55-81. https://doi.org/10.18354/esam.329348.

Kutlu, K. (2021). Turkey. *Yearbook of International Environmental Law*, *32*(1), 161-169. https://doi.org/10.1093/yiel/yvac053.

Organisation for Economic Cooperation and Development (OECD). (2023a). *Policy Instruments for the Environment Database 2023*. https://www.oecd.org/en/data/datasets.

Özışık, F. U. (2020). Türkiye'de Bir Kamu Politikası Olarak İklim Değişikliği: Tarihsel Gelişim, Uluslararası Müzakereler, Yapısal ve İdari Sorunlar Çerçevesinde Bir Değerlendirme. *Marmara Üniversitesi Siyasal Bilimler Dergisi*, *8*(1), 66-96.

Sapmaz, H. (2022). Karbon Vergisinin Türkiye'de Uygulanabilirliği. *Uluslararası Ekonomik Araştırmalar Dergisi*, *8*(3), 1-10. https://dergipark.org.tr/tr/pub/ead.

Şahin, Ü. (2014). *Türkiye'nin iklim Politikalarında Aktör Haritası*. İstanbul Politikalar Merkezi.

Şen, Z. (2022). İklim Değişikliği ve Türkiye. Çevre, Şehir ve İklim Dergisi, *1*(1), 1-19. https://dergipark.org.tr/tr/pub/csid/issue/69388/1102202.

Şengün, E., & Kalağan, G. (2022). Yerel Yönetimlerin İklim Değişikliği Mücadele Sürecinde Karbon Ayak İzinin Düşürülmesi: Denizli Büyükşehir Belediyesi Örneği. *Uluslararası Yönetim Akademisi Dergisi*, *5*(1), 129-149. https://doi.org/10.33712/mana.1065718.

Şensoy, S. (2022). 21. Yüzyılın En Büyük Tehdidi: Küresel İklim Değişikliği. In A. Bektaş (Ed.), *Küresel İklim Değişikliği ve Sosyo-Ekonomik Etkileri*

(pp. 19-46). Ankara: Türk Akademisi Siyasi Sosyal Stratejik Araştırmalar Vakfı (TASAV).

T. C. Ticaret Bakanlığı, (2021). *Yeşil Mutabakat Eylem Planı 2021*. https://ticaret.gov.tr.

T.C. Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı, (2019). *On Birinci Kalkınma Planı (2019-2023)*. https://www.sbb.gov.tr.

T.C. Çevre ve Şehircilik Bakanlığı, (2010). *Türkiye İklim Değişikliği Stratejisi (2010-2023)*. https://iklim.gov.tr/strateji-belgeleri.

T.C. Çevre ve Şehircilik Bakanlığı, (2012). *Türkiye Cumhuriyeti İklim Değişikliği Eylem Planı (2011-2023)*. https://webdosya.csb.gov.tr.

T.C. Enerji ve Tabii Kaynaklar Bakanlığı, (2017). *Ulusal Enerji Verimliliği Eylem Planı (2017-2023)*. http://www.eyoder.org.tr/UlusalEVEP.pdf.

Tatar, V., & Özer, M. B. (2018). Sera Gazı Emisyonlarının İklim Değişikliği Üzerindeki Etkileri: Türkiye'de Mevcut Durum Analizi. *Journal of Social and Humanities Sciences Research*, *5*(30), 3993-3999.

Tuğaç, Ç. (2019). Türkiye'de Kentsel İklim Değişikliği için Eko-Kompakt Kentler. Ankara Üniversitesi Siyasal Bilgiler Fakültesi Yayınları: 619, Ernst Reuter İskan ve Şehircilik Uygulama ve Araştırma Merkezi Yayınları: 23.

Uyduranoglu, A., & Ozturk, S. S. (2020) Public support for carbon taxation in Turkey: Drivers and barriers. *Climate Policy*, *20*(9), 1175-1191. doi:10.1080/14693062.2020.1816887.

Yapraklı, S., & Bayramoğlu, T. (2017). Türkiye'de Enerji Kullanımı ve İklim Değişikliği: 1990-2030 Dönemine İlişkin Tanımsal Bir Uygulama. *Gazi Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, *19*(2), 430-453.

Yeldan, E., & Voyvoda, E. (2015). *Low Carbon Development Pathways and Priorities for Turkey*. WWF-Turkey and Istanbul Policy Center: Bion Matbaa.

Yousefi-Sahzabi, A., Unlu-Yucesoy, E., Sasaki, K., Yuosefi, H., Widiatmojo, A., & Sugai, Y. (2017). Turkish challenges for low-carbon society: Current status, government policies and social acceptance. *Renewable and Sustainable Energy Reviews*, *68*, 596-608.

Yurddaş, A. (2022). İklim Değişikliğiyle Mücadelede Bir Araç Olarak Yenilenebilir Enerji ve Enerji Verimliliği. In A. Bektaş (Ed.), *Küresel İklim Değişikliği ve Sosyo-Ekonomik Etkileri* (pp. 173-216). Ankara: Türk Akademisi Siyasi Sosyal Stratejik Araştırmalar Vakfı (TASAV).

Official Gazette (18.05.2005 / No. 25819). Use of Renewable Energy Resources for Electricity. https://www.mevzuat.gov.tr/mevzuat.

Official Gazette (02.05.2007 / No. 26510). Energy Efficiency Law. https://www.mevzuat.gov.tr/mevzuatmetin/1.5.5627.pdf

Official Gazette (04.03.2005 / No. 25745). Special Provincial Administration https://www.resmigazete.gov.tr.

Official Gazette (23.07.2004 / No. 25531). Metropolitan Municipality Law. https://www.mevzuat.gov.tr.

Official Gazette (13.07.2005 / No. 25874). Municipality Law. https://www.mevzuat.gov.tr/mevzuatmetin.

Official Gazette (10/12/2018 / No. 30621). https://www.resmigazete.gov.tr.

Official Gazette (13.05.2009 / No. 27227). https://www.resmigazete.gov.tr.

Official Gazette (21.10.2003 / No. 25266). https://www5.tbmm.gov.tr

Official Gazette (11.08.1983 / No. 18132). Environmental Law. https://www.mevzuat.gov.tr/mevzuat.

Official Gazette (17.05.2014 / No. 29003). Regulation on Greenhouse Gases Emission Monitoring. https://carbon-turkey.org.

Official Gazette (22.07.2014 / No. 29068). Communiqué on Monitoring and Reporting GHG Emissions. https://www.resmigazete.gov.tr.

Official Gazette (02.12.2017 / No. 30258). Communiqué on Verification of GHG Emission and Verifiers. https://www.resmigazete.gov.tr.

Official Gazette (9.10.2013 / No: 28790). Voluntary Carbon Market Project Registration Communiqué. https://cygm.csb.gov.tr/tebligler.

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Journal Article
In-text:
Chapra (2002)

Reference:
Chapra, M. U. (2002). Islam and the international debt problem. *Journal of Islamic Studies, 10*, 214-232.

The Qur'ān
In-text:
(i) direct quotation, write as 30:36
(ii) indirect quotation, write as Qur'ān, 30:36

Reference:
The glorious Qur'ān. Translation and commentary by A. Yusuf Ali (1977). US: American Trust Publications.

Ḥadīth
In-text:
(i) Al-Bukhārī, 88:204 (where 88 is the book number, 204 is the ḥadīth number)
(ii) Ibn Hanbal, vol. 1, p. 1

Reference:
(i) Al-Bukhārī, M. (1981). *Ṣaḥīḥ al-Bukhārī*. Beirut: Dār al-Fikr.
(ii) Ibn Ḥanbal, A. (1982). *Musnad Aḥmad Ibn Ḥanbal*. Istanbul: Cagri Yayinlari.

The Bible
In-text:
Matthew 12:31-32

Reference:
The new Oxford annonated Bible. (2007). Oxford: Oxford University Press.

Transliteration of Arabic words should follow the style indicated in ROTAS Transliteration Kit as detailed on its website (http://rotas.iium.edu.my/?Table_of_Transliteration), which is a slight modification of ALA-LC (Library of Congress and the American Library Association) transliteration scheme. Transliteration of Persian, Urdu, Turkish and other scripts should follow ALA-LC scheme.

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