RESEARCH ARTICLE

ANALYSIS OF CLIMATE POLICIES THROUGH 'X' POSTS OF MAYORAL CANDIDATES IN THE 2024 TURKIYE LOCAL ELECTIONS

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This study complies with research and publication ethics.

Abstract

Climate change, with impacts ranging from species extinction to extreme weather, migration, and food scarcity, demands urgent action due to its biological, ecological, and societal effects. Institutions, particularly municipalities, play a crucial role in addressing this challenge. Countries like Türkiye, vulnerable to climate change effects due to geography and current policies, require feasible and sustainable solutions. This study examines the climate policies of mayoral candidates from major Turkish cities – Adana, Ankara, Antalya, Bursa, Gaziantep, İstanbul, İzmir, and Konya – through their posts on the social media platform *X* during the March 2024 election campaign. The goal is to assess candidates' climate awareness and the extent to which they communicate these policies publicly. A content analysis of 6,048 posts reveals that while candidates highlighted urban planning, disaster management, waste management, and stray animals in their environmental posts, climate policies received minimal attention. This situation indicates that policies to combat climate change are not being prioritized as a key issue at the local government level in Türkiye.

Keywords: municipality, climate policy, 2024 local elections, *X* platform, social media.

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ARAŞTIRMA MAKALESİ

2024 TÜRKİYE YEREL SEÇİMLERİNDE BELEDİYE BAŞKAN ADAYLARININ 'X' PAYLAŞIMLARI ÜZERİNDEN İKLİM POLİTİKALARININ ANALİZİ

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Bu çalışma araştırma ve yayın etiğine uygun olarak gerçekleştirilmiştir.

Öz

Türlerin yok olmasından aşırı hava olaylarına, göçlere ve gıda kıtlığına kadar uzanan etkileri olan iklim değişikliği, biyolojik, ekolojik ve toplumsal etkileri nedeniyle acil eylem gerektirmektedir. Kurumlar, özellikle belediyeler, bu zorluğun üstesinden gelmede önemli bir rol oynamaktadır. Coğrafya ve güncel politikalar nedeniyle iklim değişikliğinin etkilerine karşı savunmasız olan Türkiye gibi ülkeler, uygulanabilir ve sürdürülebilir çözümlere ihtiyaç duymaktadır. Bu çalışma, Mart 2024 seçim kampanyası sırasında Adana, Ankara, Antalya, Bursa, Gaziantep, İstanbul, İzmir ve Konya olmak üzere büyük Türkiye şehirlerinden belediye başkan adaylarının sosyal medya platformu *X*'teki paylaşımları aracılığıyla iklim politikalarını incelemektedir. Amaç, adayların iklim farkındalıklarını ve bu politikaları kamuoyuna ne ölçüde ilettiklerini değerlendirmektir. 6.048 gönderinin içerik analizi, adayların çevre paylaşımlarında şehir planlama, afet yönetimi, atık yönetimi ve sahipsiz hayvanları vurgulamasına rağmen iklim politikalarının çok az ilgi gördüğünü ortaya koymaktadır. Bu durum, Türkiye'de iklim değişikliğiyle mücadeleye yönelik politikaların yerel yönetimler düzeyinde öncelikli bir mesele olarak ele alınmadığını göstermektedir.

Anahtar Kelimeler: belediye, iklim politikası, 2024 yerel seçimleri, *X* platformu, sosyal medya.

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Introduction

Climate change, one of the most significant environmental challenges of our time and directly linked to rising greenhouse gas levels in the atmosphere, has profound effects across every corner of the planet. The impacts of climate change are diverse and multifaceted: melting glaciers in polar regions and rising sea levels pose serious threats to millions of people (NASA, n.d.); meanwhile, events such as droughts, extreme heat, and escalating wildfires have become more widespread and intense globally (NOAA, 2024). Climate change also severely affects the agricultural sector, as shifting precipitation patterns and rising temperatures reduce productivity and threaten food security (World Bank, 2018). Human activities such as fossil fuel combustion, deforestation, and industrial operations release large amounts of carbon dioxide and other greenhouse gases into the atmosphere, intensifying the severity of climate change (IPCC, 2014, p. v). Therefore, it is essential to establish an action plan to combat the increasingly adverse effects of climate change, which are exacerbated by human activities. In this context, various policies and strategies have been developed on a global scale to address climate change. One of the most significant international efforts in this area is the Paris Agreement, adopted in 2015. This agreement aims to keep global temperature rise well below 2°C while pursuing efforts to limit it to 1.5°C (UNFCCC, 2015). Countries have committed to reducing greenhouse gas emissions and transitioning to renewable energy sources to achieve these targets. At this point, conducting a comprehensive effort at the level of local governments and institutions becomes essential to ensure the effective implementation of these established goals.

Local governments and public institutions' active participation plays a critical role in the development and implementation of sustainable environmental policies (Bulkeley & Betsill, 2003, p. 59). Indeed, local governments and public institutions are developing and implementing various strategies and policies to combat climate change. Increasing green spaces, promoting sustainable transportation options, and constructing energy-efficient buildings are among the strategies that municipalities can apply (Rosenzweig et al., 2011, p. 3). Such policies help institutions reduce their carbon footprints and take significant steps toward a more sustainable future. Furthermore, local governments can provide rapid and effective solutions in areas that directly affect communities. For instance, urban planning and infrastructure projects are essential in combating climate change.

Türkiye provides a compelling case study for our research due to the applicability of environmental policies at the local government level and the increasing emphasis on environmental concerns in local election campaigns. In recent years, particularly in metropolitan areas, themes such as environmental issues, sustainable urbanization, and the preservation of green spaces have been observed to occupy a more prominent place in political discourse and election promises (Demirtaş, 2016; Batuhan, 2022). Türkiye's rapidly increas-

ing urbanization rate and strategies for addressing environmental challenges present a significant opportunity to understand both voter behavior and the environmental sensitivities of local governments in this context (Akçakaya, 2016, p. 48). Within this framework, Türkiye is deemed a meaningful case for examining the influence of environmental policies on voter tendencies.

In recent years, the emphasis on environmental issues in local elections has gained significant importance within the context of international sustainable development goals and efforts to combat climate change. Considering that cities accommodate a large portion of the world's population and are responsible for a significant share of global carbon emissions, the role of local governments in environmental policies has become critical (UNFCCC, 2015). According to Bulkeley & Betsill, local elections are thought to play a transforming role in this process by offering a forum for the adoption and implementation of creative sustainability strategies as well as the shaping of environmental policies (2003, p. 44). This procedure can offer a model that could be used as a template for other countries in developing nations like Türkiye when paired with the ideas of environmental justice and participatory democracy. Furthermore, the impact of locally adopted environmental policies on global environmental challenges is of considerable importance in terms of international cooperation and policy transfer (Kern, 2019, p. 126).

Although climate change generates adverse effects globally, the extent to which continents, countries, and even cities contribute to and are affected by these impacts varies significantly. In this context, it is vital to prioritize the development of various policies to combat climate change in regions with high urban populations, deforestation, urbanization, and industrialization, as these factors intensify climate change in these areas.

In this context, studies on Türkiye's position (Spano et al., 2021; Turan et al., 2016) indicate that the destructive effects of climate change have already begun to manifest. Without urgent action, Türkiye is projected to experience a 37% increase in the frequency of agricultural droughts by 2050, with heatwaves lasting 4242% longer. Temperatures could rise by as much as 2.7°C by 2050, while surface sea temperatures during summer months may reach 28-29°C, posing a threat to various species. In their study, Kelebek, Batıbeniz, and Önol (2021, p. 19) developed a climate extremes index and calculated ten different climate change indices for the EURO-MED (Europe-Mediterranean) region for the period from 1979 to 2016, considering temperature extremes, heavy precipitation, excess humidity, and drought. According to these indices, Turkish cities such as İzmir, Ankara, Gaziantep, İstanbul, Konya, Antalya, Adana, and Bursa, which experience high levels of urban concentration, are among those most impacted by climate extremes. Accordingly, it is essential to establish policies and set future targets specifically aimed at reducing the adverse effects of climate change in these cities.

Municipalities play a significant role in shaping local climate policies for cities, and elections emerge as critical periods in determining these policies. The policies implemented by an incumbent mayor may shift or evolve in response to the platforms of competing candidates during election periods. Besides, public demands from mayoral candidates during these times play a decisive role. Therefore, identifying mayoral candidates' policies on environmental and climate change issues during election periods is crucial.

This study aims to determine whether the mayoral candidates from the three highest-voting parties in Türkiye's 2024 elections have developed climate change policies, specifically in the eight cities most affected by climate extremes according to the study by Kelebek, Batıbeniz, and Önol (2021, p. 19). The study will examine the candidates' posts on the social media platform *X* to assess whether they have developed climate policies and, if so, to identify the focus of these policies. In this context, the study will first address climate change and policies aimed at mitigating it, then analyze Türkiye's vulnerability to climate change. Finally, a content analysis of the candidates' posts on *X* will be conducted to examine the types of climate policies they have proposed.

Policies to Mitigate Climate Change

Climate change is a significant environmental issue arising from the increase in temperatures worldwide as a result of greenhouse gases released into the atmosphere by human activities. These changes have significant impacts on ecosystems, agriculture, water resources, and human health. Ecosystems are particularly affected by climate change, as many plant and animal species like coral reefs, struggle to adapt to shifting climatic conditions, leading to a decline in biodiversity (Hoegh-Guldberg et al., 2007, p. 1737).

Climate change also generates social and economic impacts, with communities in developing countries being particularly vulnerable to its adverse effects. Decreased agricultural productivity, diminishing water resources, and the rise in natural disasters contribute to increasing poverty and food insecurity in these regions (World Bank, 2018). Additionally, climate-induced forced migration negatively affects social and economic structures, potentially leading to social conflicts and instability. Rising temperatures and changing precipitation patterns negatively impact agricultural productivity, raising concerns over food security. The reduction of water resources and increasing drought make it difficult to cultivate crops, threatening the livelihoods of farmers (FAO, 2023). This issue is especially problematic in regions where water demand is high during the summer months, as water scarcity poses a significant threat to both human health and ecosystems (EEA, 2019, p. 19). Moreover, increasing temperatures intensify the frequency and severity of heatwaves, creating serious health risks for elderly individuals and those with chronic illnesses. Climate change also contributes to worsening air quality, leading to a rise in respiratory diseases (EEA, 2024).

The effects of climate change are intensifying globally, with continents being impacted according to their geographical characteristics. In this context, Africa, despite having a limited contribution to global warming, is the most affected continent, with 17 of the 20 countries most at risk being located in Africa (UNECA, 2023). Similarly, Antarctica has warmed by 3°C (5.4°F) since 1950, warming five times faster than the global average. In Europe, rising temperatures, changing precipitation patterns, and increasing extreme weather events are placing significant pressure on both environmental and socioeconomic systems. Southern Europe, in particular, is facing climate change-induced disasters such as extreme heatwaves, droughts, and wildfires (Giorgi & Lionella, 2008, p. 90). Northern Europe is grappling with different challenges, including increased rainfall and rising sea levels. The rising sea level exacerbates coastal erosion and flood risks, threatening infrastructure and settlements in coastal areas. This situation is of particular concern in regions below sea level, such as the Netherlands, where agriculture and flooding are major sources of anxiety (Delta Programme, 2020, p. 9).

Climate change is emerging as an important environmental and social problem in Türkiye. This situation has important consequences in various fields such as agriculture, water resources, energy, health, and ecosystems. Türkiye is in a highly vulnerable region to climate change due to its location in the Mediterranean climate zone. The Mediterranean basin is one of the regions that feel the effects of global warming most severely (Giorgi, 2006, p. 3). Rising temperatures, decreasing precipitation, and increasing evaporation increase the risk of water scarcity in Türkiye, with Southeast Anatolia and Central Anatolia standing out as critical regions in this context (Şen, 2022, p. 6). The agricultural sector holds significant importance for Türkiye's economy and is directly impacted by climate change. Increasing temperatures and changing precipitation patterns negatively affect the productivity of crops. Particularly, drought could lead to significant losses in Türkiye's agricultural production (Çaltı & Somuncu, 2019, p. 892). This situation poses a major threat to both food security and economic stability.

In this context, various policies are being developed globally to mitigate climate change. The Intergovernmental Panel on Climate Change (IPCC), established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP), provides governments with scientific information that can be used to develop climate policies (IPCC, 2014, p. v). Moreover, scientists are presenting information on the factors contributing to climate change, its ecological, biological, economic, social, cultural, and societal impacts, and proposing various policies for governments, local institutions, communities, and individuals to implement. In this framework, policies include the transition to clean energy, increasing the use of technologies and practices aimed at reducing greenhouse gas emissions (Haines et al., 2007, p. 1264); gradually reducing emissions across sectors such as electricity generation, passenger vehicles, freight transportation, forestry, indus-

try, buildings, agriculture, and oil and gas production (Fekete et al., 2021, p. 1); developing policies considering inequalities between societies and raising awareness about the effects of climate change among individuals (Botzen et al., 2021, p. 1); developing early warning systems for heat and health, urban planning that takes into account green spaces and heat-prone areas; preparing housing standards with consideration for extreme temperatures, creating educational programs to mitigate health risks from extreme heat, and establishing climate-resilient healthcare facilities (Tong & Ebi, 2019, p. 12).

Türkiye's policies on climate change mitigation and adaptation are shaped within the framework of national strategies and international agreements. Although Türkiye is a party to the United Nations Framework Convention on Climate Change (UNFCCC), it ratified the Paris Agreement later than expected and announced its commitments belatedly. This creates some uncertainty about the feasibility and effectiveness of climate policies. However, recent regulations and investments indicate that Türkiye has begun to take a more proactive role in addressing climate change. The Ministry of Environment and Urbanization is taking important steps in the fight against climate change. The Ministry has prepared various strategic documents and action plans to increase Türkiye's capacity to adapt to climate change and reduce greenhouse gas emissions. These documents include "Turkey Climate Change Strategy (2010-2023)" and "Turkey Climate Change Action Plan (2011-2023)". These strategies include priority targets such as increasing energy efficiency, promoting renewable energy sources, sustainable management of water resources, and creating cities resilient to natural disasters (Ministry of Environment, 2019). Climate change also has significant impacts on Türkiye's energy sector. As in many countries around the world, Türkiye meets most of its energy needs from fossil fuels, which leads to an increase in greenhouse gas emissions. However, investments in renewable energy sources are considered an important step in combating climate change (Şen, 2022, p. 11).

In these respects, climate change is a multidimensional problem that requires global cooperation and effective policies at the local level. Scientific research and innovative technologies are important tools in combating climate change. If both governments and individuals fulfill their responsibilities for a sustainable future, it will be possible to reduce the negative impacts of climate change. To achieve this, the willingness, speed, and effectiveness of local institutions and organizations to take action are of great importance.

The Role of Institutions and Municipalities in the Climate Change Process

In the fight against climate change, institutions and municipalities emerge as key actors in the implementation of sustainable environmental policies due to their capacity to generate locally applicable and effective solutions. For institutions and municipalities to succeed in combating climate change, they need to collaborate at both national and international levels, particularly in areas

such as financing, information sharing, and technology transfer. By enhancing the capacities of local governments and institutions, these collaborations enable more effective outcomes. Moreover, such partnerships contribute to the spread of successful local initiatives to other regions, thereby amplifying their impact on a broader scale (C40 Cities, 2016). Institutions and municipalities also play a crucial role in raising awareness and organizing educational activities on climate change. Increasing public awareness about climate change encourages behavior changes at both individual and societal levels. In this context, local governments and institutions enhance social consciousness by organizing climate change education programs, information campaigns, and community events (ICLEI, 2015).

In Europe, environmental policies have gained significant prominence in election campaigns due to growing concerns about climate change and the need for environmental sustainability in recent years. Many European countries have made environmental policies central to their election campaigns to gain voter support. Interest in environmental issues, particularly in the European Parliament elections, has been steadily increasing. Environmental parties, such as the Greens/European Free Alliance (Greens/EFA), base their campaigns largely on issues like climate change, renewable energy, sustainable agriculture, and nature conservation (European Greens, 2018).

In Türkiye, municipalities are carrying out various projects and initiatives to combat climate change. Major metropolitan municipalities such as İstanbul, İzmir, and Ankara are engaged in significant efforts in areas like sustainable transportation projects, renewable energy investments, and increasing green spaces. Specifically, the İstanbul Metropolitan Municipality has made substantial investments in energy efficiency and renewable energy projects in recent years, creating bicycle lanes and green spaces throughout the city (İstanbul Büyükşehir Belediyesi, 2023). However, there is currently insufficient research on the climate policies that municipalities in Türkiye are developing and implementing. Therefore, identifying climate policies in cities that are negatively impacted by climate change and creating action plans to operationalize these policies would be a crucial step forward.

Methodology

This study aims to determine the extent to which mayoral candidates in Türkiye's 2024 local elections prioritize environmental and climate change policies and the depth of the policies they develop on these issues, by conducting a content analysis of their posts on the *X* platform. *X* was chosen as the platform of analysis due to its function as a medium where politicians directly communicate with voters, shape public opinion, and set political agendas. As noted by Yıldırım and Şimşek (2013, pp. 259-260), content analysis involves the conceptualization, organization, and identification of themes within the data collected on the subject matter. This process includes the steps of coding

the data, identifying themes, organizing the codes and themes, and then defining and interpreting the findings.

To gain a more comprehensive understanding of candidates' actual commitments to environmental and climate change policies, additional sources such as election manifestos, press releases, and local governance strategy documents should also be considered. According to *Speedmedia*'s 2024 data, only 24% of Türkiye's population uses the *X* platform. This percentage is significantly lower compared to other social media platforms such as *Facebook*, *Instagram*, *YouTube*, and *TikTok*. This presents a notable limitation of the study, as the analyzed data reflect engagement with a relatively narrow segment of the country's population. Therefore, to fully assess the impact of candidates' climate policy discourse on broader audiences, it is essential to examine their communication strategies across different platforms.

In this context, between March 1, 2024, and March 31, 2024, which corresponds to the period just before the elections, 6048 posts shared by the mayoral candidates of the three parties that received the most votes in the eight cities most affected by climate extremes in Türkiye, as identified by Kelebek, Batıbeniz, and Önol (2021), were analyzed. The cities and candidates are listed in the following table:

Table 1. Mayor candidates from the three most voted parties by cities

City	1. Candidate	2. Candidate	3. Candidate
Adana	Zeydan Karalar - Cumhuriyet Halk Partisi (CHP)	Fatih Mehmet Kocaispir - Adalet ve Kalkınma Partisi (AKP)	Mahfuz Güleryüz / Şehriban Defişet - Halkların Eşitlik ve Demokrasi Partisi (DEM)
Ankara	Mansur Yavaş (CHP)	Turgut Altınok (AKP)	Suat Kılıç - Yeniden Refah Partisi (YRP)
Antalya	Muhittin Böcek (CHP)	Hakan Tütüncü (AKP)	Kemal Bülbül / Nesibe Bahadır (DEM)
Bursa	Mustafa Bozbey (CHP)	Alinur Aktaş (AKP)	Sedat Yalçın (YRP)
Gaziantep	Fatma Şahin (AKP)	Muzaffer Ertürk (CHP)	Şükrü Yılmaz (YRP)
İstanbul	Ekrem İmamoğlu (CHP)	Murat Kurum (AKP)	Mehmet Altınöz (YRP)

İzmir	Cemil Tugay (CHP)	Hamza Dağ (AKP)	Akın Birdal / Türkan Aslan Ağaç (DEM)
Konya	Uğur İbrahim Altay (AKP)	Mehmet Köseoğlu (YRP)	İsmail Sonkaya (CHP)

All candidates, except for CHP candidate İsmail Sonkaya, have accounts on the *X* platform. Thus, the *X*-shares of 26 candidates were included in the study except for İsmail Sonkaya. During the specified time frame in the study, the candidates' posts on *X* were examined and archived. The *tweet*s were then read individually to create general categories, and subsequently, the *tweet*s were classified according to these categories. The main motivation for analyzing and categorizing all the *tweet*s was to determine how much space mayoral candidates allocated to environmental policies within their general political agendas. The 19 categories created based on the *tweet*s posted during the one month are as follows: information and promotion, science and technology, environment, support (scholarships and free services provided by municipalities), disadvantaged groups (individuals with disabilities, women, and groups disadvantaged in society due to their ethnic background), other, education, economy, food/agriculture and livestock, security, culture and arts, important dates, politics (discourse directed at other parties and/or their own party's ideological stance), health, civil society, sports, tourism, transportation, and death.

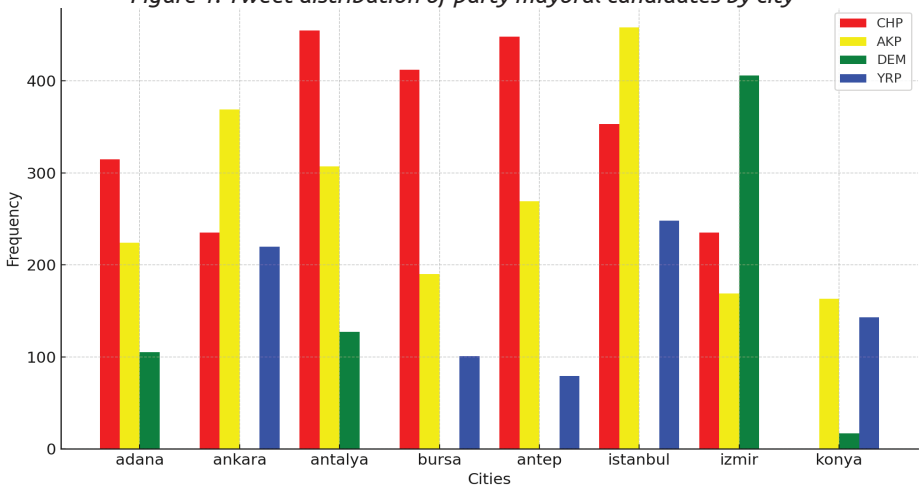
These categories were created by two researchers, and the coding of 6348 *tweet*s was carried out by one researcher. In this context, the "information and promotion" category, which includes the candidates' schedules, such as where and when they will be during the election, and their daily program details, was excluded, as it made up the majority of the *tweet*s examined. To test the validity and reliability of the coding, 100 randomly selected *tweet*s from the remaining 2224 *tweet*s were coded by the second researcher using the *Simpliers* site, and the differences between the two coders were tested. According to the results of the Kappa test applied using the *SPSS* program, the Kappa coefficient between the two researchers was found to be 0,945, indicating a very good level of agreement (Landis & Koch, 1977, p. 165).

After the general coding, all *tweet*s categorized under the environment category were examined together by the two researchers, and subcategories for the environment were created. These 9 subcategories are as follows: climate change, urban planning, environmental protection and awareness, street animals, renewable energy, disaster management, waste management, fossil fuel usage, and ecological management policies. After the subcategories for the environment were created, all *tweet*s related to the environment were coded together by the two researchers and then processed into the *SPSS* program.

Findings

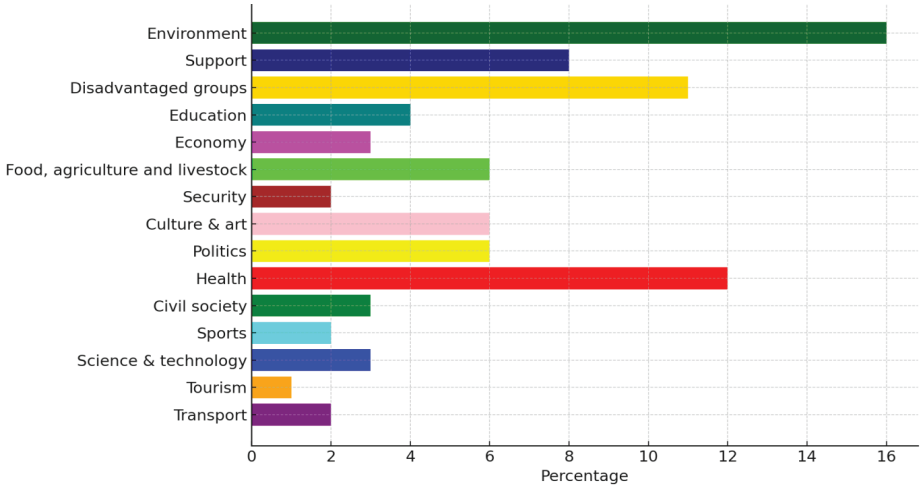
As in *Figure 1*, between March 1 and March 31, 2024, the candidate who posted the most *tweet*s was Murat Kurum, the AKP candidate for İstanbul Metropolitan Municipality, with 458 *tweet*s. The party with the most *tweet*s was the CHP, with a rate of 40.5%. Accordingly, it can be said that, as a party, the CHP, and as a candidate, Murat Kurum from the AKP, actively used the *X* platform during the month leading up to the 2024 local elections.

Figure 1. Tweet distribution of party mayoral candidates by city



When examining the general categories of the *tweet*s posted by the candidates, it is observed that the "information/promotion" category stands out with a rate of 63.2%. In this category, candidates share their daily updates and visit schedules. Excluding this category, as well as the "important days" (3%) and "death" (0.8%) categories, *Figure 2* shows that the "environment" category (16%) was given the most attention, followed by "economy" (14%), "transportation" (12%), and "disadvantaged groups" (11%). In this context, it can be seen that the environment holds a significant place in the election policies of the parties and candidates, the economy, transportation, and disadvantaged groups are the most frequently addressed and content-generated topics.

Figure 2. Distribution of categories in candidate mayors' tweets



Furthermore, when excluding the categories of information, important days, and death, and conducting a cross-tabulation analysis between candidates and categories, the distribution of the top three categories with the most *tweet*s by candidates across parties is as follows:

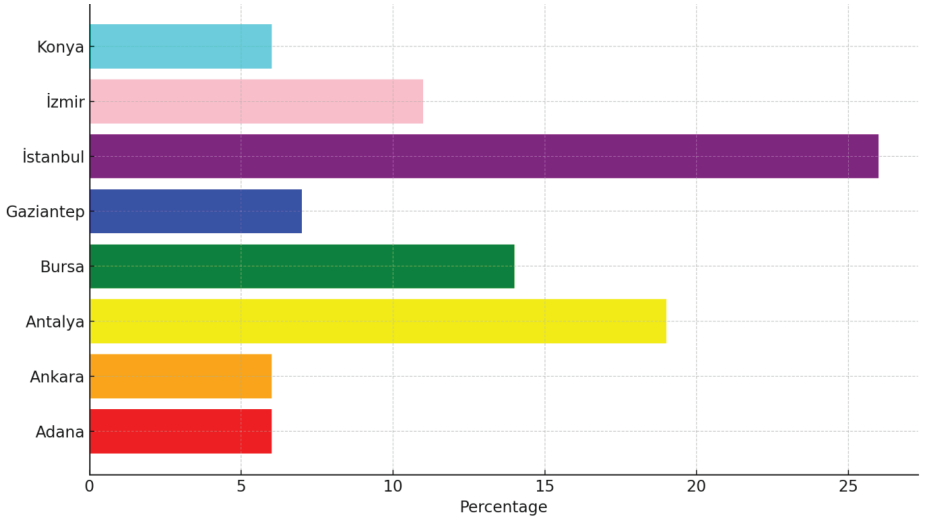
Table 2. Top 3 categories highlighted by parties in tweets

Party	1. Row	2. Row	3. Row
AKP	Transport (146 *tweet*)	Environment (97 *tweet*)	Culture & Art (57 *tweet*)
CHP	Environment (154 *tweet*)	Economy (132 *tweet*)	Transport (79 *tweet*)
DEM	Disadvantaged groups (67 *tweet*)	Environment (18 *tweet*)	Security (16 *tweet*)
YRP	Economy (46 *tweet*)	Politics (37 *tweet*)	Environment (31 *tweet*)

According to these results, among the cities examined, CHP's party policy emphasizes the environment category the most. When analyzed by city, as shown in *Figure 3*, the mayoral candidates in İstanbul and Antalya have shared more *tweet*s in the environment category. On the other hand, the low number of *tweet*s regarding the environment category by the mayoral candidates in Konya and Adana stands out. This difference can be partially explained by the political positioning of the parties; as the main opposition party with a center-left ideology, CHP tends to approach environmental issues from a rights-based perspective, which leads to a greater emphasis on environmen-

tal problems during the election period. In contrast, as the ruling party, AKP's candidates often shape their campaign promises in alignment with the government's existing policies, frequently emphasizing economic and political issues over environmental concerns. Consequently, while CHP candidates are more likely to highlight environmental challenges as part of their electoral discourse, AKP candidates prioritize promoting the government's achievements rather than framing environmental issues as urgent problems requiring new policy initiatives.

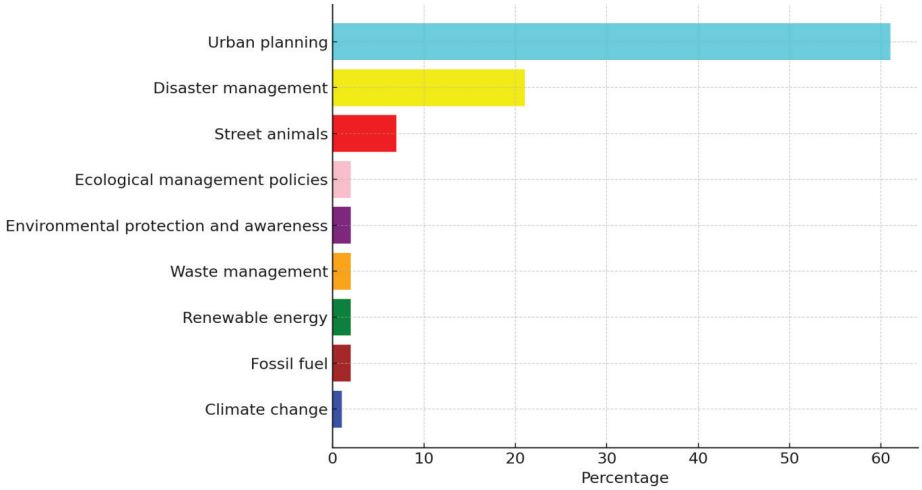
Figure 3. The importance of the candidates' environmental policy by city



Since 56% of the world's population lives in cities (World Bank Group, 2023), cities, that have high human and economic activity densities, contribute to excessive energy consumption and increasing greenhouse gas emissions (Gedikli & Balaban, 2017, p. 1). In this context, municipalities, which are responsible for the management of cities, have various and important roles to play. These roles include increasing the quantity and quality of green spaces in cities, adopting sustainable policies, promoting the use of renewable energy, and raising public awareness about the impacts of climate change.

When examining the environmental categories, as shown in *Figure 4*, a distribution emerges where the theme of urban planning is most prominently highlighted:

Figure 4. Distribution of environmental categories



Within the environmental category, it is observed that candidates primarily focus on urban planning themes, such as green space planning, urban transformation, and street design, accounting for 60% of their *tweet*s. Increasing the number of green spaces in cities plays a crucial role in mitigating climate change and especially in adapting to its effects. By doing so, urban temperatures can be kept at more moderate levels, and rainwater can be utilized effectively. However, to achieve these objectives, important policies must address which plants can be grown in specific geographical areas and how rainwater can be harvested after creating green spaces (Fryd et al., 2011, p.1). In this context, candidates tend to highlight examples of parks, gardens they have completed, and green spaces they plan to increase if elected. However, the content of the *tweet*s mainly focuses on the creation or planned increase of green spaces and does not elaborate on the environmental policies to be implemented through these green spaces. This suggests that environmental policies are addressed in a rather superficial manner and that candidates prioritize visible projects over adopting a long-term, comprehensive approach to environmental sustainability.

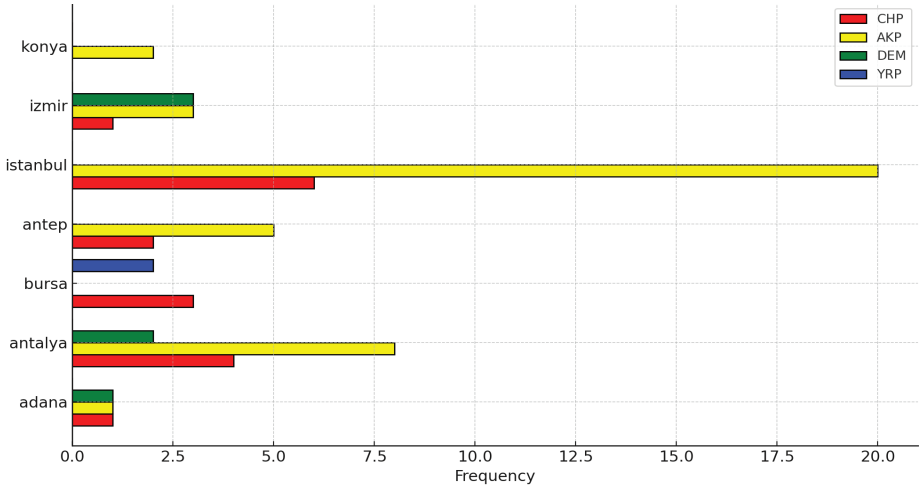
Another key issue that stands out within this category is urban transformation. As a result of economic growth and urban expansion, the growth of cities leads to a process that drives large populations to migrate. These migrations result in uncontrolled settlement within cities, and large amounts of agricultural land are converted into paved roads and housing. The consequence of this climate change is the rise in urban temperatures (Tian et al., 2012, p. 1364). Therefore, it can be said that the candidates' policies related to urban transformation are of great importance in terms of climate change. However, the content regarding urban transformation does not establish a connection with climate change. Candidates communicate their planned ur-

ban transformation projects for areas experiencing higher levels of migration to the public. An important point to mention is that urban transformation is sometimes framed under the themes of urban planning and other times under disaster management. This topic is often viewed as a step towards achieving orderly cities where social and economic conditions are more fairly distributed. Furthermore, in areas undergoing urban transformation, the construction of buildings that are more resistant to earthquakes is considered under the theme of disaster management.

Under the theme of urban planning, the topic of city infrastructure regulation also emerges. Similar to urban transformation, this topic is sometimes categorized under urban planning and other times under disaster management. The reason for this is that candidates often present this topic as a step toward improving the city's organization. *Tweet*s related to regulating city infrastructure to prevent possible flooding are generally addressed in conjunction with other disaster-related issues, such as earthquakes. Therefore, some of the content on infrastructure has been categorized under the theme of disaster management.

The second most emphasized category in environmental issues is disaster management (21%). Following the earthquakes of 7.8 and 7.5 magnitude centered in Kahramanmaraş on February 6, 2023, which caused the loss of 53,537 lives and significant destruction across 11 provinces in Türkiye, disaster management has become a frequently discussed topic in the 2024 local elections. Examining candidates' *tweet*s, it is evident that they focus on making cities more resilient and strengthening buildings against potential disasters. Particularly, the *tweet*s of Murat Kurum, the AKP candidate for İstanbul Metropolitan Municipality, stand out in this context. Kurum's approach can be explained by the fact that in the event of a potential earthquake in İstanbul, the destruction faced by a population of 15,655,924 would be much more significant compared to other cities, making earthquake preparedness an urgent matter for İstanbul. Furthermore, when examining the distribution of candidates' *tweet*s in the disaster management category (*Figure 5*), it is observed that AKP candidates posted the most *tweet*s. Another possible explanation for this trend is the emphasis the AKP placed on disaster management policies following the February 6, 2023 earthquake.

Figure 5. Distribution of candidates' disaster management category by number of uses



Another key issue emphasized by candidates regarding earthquakes is accelerating urban transformation efforts to ensure citizens live in safe buildings. At this point, DEM Party candidates stand out with a more advanced policy compared to other parties, emphasizing that urban transformation projects should be resilient to natural disasters and aligned with the climate and identity of each city.

Candidates also emphasize the issue of stray animals (7%) in the 2024 local elections. In Türkiye, the inability of animal shelters to provide a safe environment, shelter, and food for stray animals, along with incidents of stray dogs attacking citizens – occasionally resulting in fatalities – has sparked various public debates, some of which have called for rounding up and euthanizing stray dogs. Although party candidates agree on the importance of addressing this issue, their approaches differ. For example, CHP and AKP candidates argue that improving shelters would be a more effective solution to the stray animal problem. In contrast, the DEM Party candidate emphasizes the need to develop policies for cohabitation, as streets are also free habitats for animals. Meanwhile, the YRP candidate has suggested rounding up stray animals without specifying a clear solution.

In addition to these topics, categories such as environmental protection and awareness, renewable energy, fossil fuels, waste management, and ecological governance policies collectively represent only 2% of the content, while climate change is the least addressed topic at 1%. The fact that climate change receives very limited attention among environmental issues in candidates' election policies suggests that the urgent risks posed by the climate crisis are still not adequately recognized as political priorities. This indicates a preference for short-term, visible projects over long-term sustainable policies. One of the underlying reasons for this may be Türkiye's ever-changing

and highly dynamic political agenda, as well as voters' perception of priorities. Instead of focusing on climate change, which is often seen as an abstract and long-term threat, the public may place greater emphasis on tangible and immediate issues such as increasing green spaces and improving parks and gardens, which directly impact their daily lives. In the environmental protection and awareness category, candidates primarily focus on content aimed at preventing harm to nature. Municipalities must incorporate public awareness efforts within their climate change policies, as individuals can also contribute to combating climate change on a personal level. Daily practices such as energy conservation, reducing meat consumption, recycling, and using public transportation can effectively reduce one's carbon footprint. Furthermore, it is important for individuals to develop environmental awareness and to advocate for policies that support environmental sustainability (Dietz et al., 2009, p. 18452).

Humanity's energy production is a primary contributor to greenhouse gas emissions, with fossil fuel combustion being the main driving factor behind rising emissions. About 80% of the world's primary energy is derived from fossil fuels: 32.8% from oil, 27.2% from coal, and 20.9% from natural gas (IEA, 2011, p. 6). Candidates display differing policy stances on the fossil fuel category. While the DEM Party and CHP candidates oppose the use of thermal power plants reliant on fossil fuels, the AKP candidate promoted the installation of natural gas in place of coal-heated homes with the hashtag "Green Antep," creating an impression as if renewable energy were being used. Although natural gas has a relatively lower environmental impact compared to coal, it is not a renewable energy source and poses negative effects on the environment, society, and human health (Kuhns & Shaw, 2018, p. 65).

Renewable energy is of great importance, especially considering the impact of urban populations on climate change, and this issue must be addressed within municipal policies. Given the unsustainable nature of fossil fuels, which are the primary contributors in the energy sector, and their serious environmental and health impacts, greenhouse gas emissions are projected to lead to issues such as climate shifts, health problems, rising sea levels, and ecosystem changes. Consequently, to mitigate these effects, governments have begun to implement policies aimed at transitioning partly or fully to renewable energy sources, recognized as the most promising alternative for moving away from fossil fuels in the short term (Olabi & Abdelkareem, 2022). The candidates' *tweet*s sometimes offer a general view and other times a detailed explanation of how renewable energy production would be approached. Solar energy is the most commonly highlighted renewable energy source among the candidates, with energy production from solid waste also receiving attention.

Another issue we face with environmental policies is waste management. The density of urban population, the accumulation of industry in cities, and the excess of waste produced depending on this density are crucial in prevent-

ing environmental damage and climate change. Although waste management is actually local, waste problems are globally recognized (Singh et al., 2014, p. 800). However, some of the candidates' contributions to platform *X* do not go beyond stating that they have opened waste facilities in specific areas rather than seeing a sophisticated waste management plan. Some of the candidates shared content on how to generate energy from solid waste plants and the importance of waste management.

A further category worth highlighting within environmental policies is ecological governance. This category was developed specifically because candidates from the DEM Party have incorporated ecological management into their party policies. Thus, all *tweet*s within this category belong to DEM Party candidates, fundamentally emphasizing the importance of ecology within their platform. They envision an urban and social life where people are not alienated from nature or their labor and advocate for a management approach that opposes profit-driven urban development policies.

The category that candidates have addressed the least within the environmental field is climate change. While issues indirectly related to climate change, such as the expansion of green spaces and the reduction of fossil fuel use with an increase in renewable energy adoption, are more frequently discussed, only two *tweet*s specifically related to climate change have been posted. These *tweet*s, shared by candidates from CHP and the DEM Party, include one in which the candidate outlines the measures the municipality will take against climate change, and another in which the candidate announces their support for the Youth Climate Movement's "Climate-Friendly Cities" petition. The "Climate-Friendly Municipality Pledge" includes commitments to reach net-zero emissions by 2040, involve youth in decision-making processes, make fundamental changes in the transportation sector, increase green spaces, and improve energy efficiency. This agreement, which emerged as a significant movement on climate change during the 2024 local elections, highlights the importance of how candidates approach this issue. However, the overall scarcity of *tweet*s directly addressing climate change by party candidates across eight cities represents a gap in raising awareness among followers.

Conclusion

The global phenomenon of climate change has prompted leaders worldwide to present various measures in their election campaigns. In particular, the growing importance of social media in election campaigns has made it essential for candidates and political parties at the local level to strategically use these platforms. In this context, candidates' awareness and level of consciousness regarding social media usage directly influence the depth and impact of their connection with voters. The intensive use of social media by candidates strengthens their ability to communicate instantly and directly with voters, enabling them to closely follow candidates' promises and policies. However, it

is important to note that this strategic usage should not only be quantitative but also qualitative; the content of the *tweet*s should be achievable objectives that create a lasting impact on voters, addressing issues that are important to them. Furthermore, in global matters such as the environment and climate change, candidates need to adopt a more proactive and conscious stance. The limited number of *tweet*s on climate change before the 2024 local elections highlights the need for broader awareness in this area. Bringing these critical issues to the forefront in election campaigns will be crucial for local governments to develop long-term environmental and sustainability policies. In this context, it is of great importance for candidates to present more concrete and detailed promises regarding environmental policies and sustainable development goals, both to fulfill their environmental responsibilities and to respond to voters' demands on these issues.

This study, based on posts shared on the *X* platform, has shown that social media platforms play a crucial role as a tool for candidates and political parties to reach voters and convey their messages ahead of the 2024 local elections. In particular, the emphasis placed by the CHP on environmental policies and the AKP's focus on disaster management has emerged as key strategies in this election campaign. However, it has been concluded that there is a lack of more holistic and comprehensive approaches to critical issues such as the environment and climate change, with a particular need for greater efforts to raise awareness about climate change. These findings highlight the importance of local governments placing more emphasis on environmental and sustainability policies in the future, ensuring the sustainable use of Türkiye's natural resources, increasing investments in renewable energy, and strengthening international collaborations. Furthermore, it has been understood that parties must use their social media strategies more consciously and effectively on such issues, as this is critical for gaining voter support.

The categories identified in the research framework – climate change, urban planning, environmental awareness and protection, street animals, renewable energy, disaster management, waste management, fossil fuel use, and ecological governance policies – do not seem to receive adequate attention in the platform posts by candidates. Candidates need to focus more on issues like the environment and climate change in their election campaigns. However, it is not only important to raise these topics but also to offer concrete and actionable policies. For example, providing clear and detailed plans on issues such as increasing green spaces, promoting renewable energy sources, and improving waste management could enhance voters' trust in these candidates. Voters, particularly those in large cities, may be more sensitive to such issues, and the development of environmentally conscious policies by candidates could be decisive in gaining their support. Additionally, in an era where social media is used so effectively, candidates should aim to address not only their local electorate but also the national and international public with messages that could strengthen their political profile. In this context, de-

veloping policies that propose local solutions to global environmental problems could be effective both locally and in a broader context. The ability of social media to transcend boundaries allows candidates' messages to reach a wider audience beyond local voters, which could contribute positively to their long-term political careers.

To ensure that environmental and climate policies gain greater prominence in future election campaigns, policymakers and candidates should integrate specific strategies into their platforms. First, municipal candidates should develop long-term climate action plans that include measurable and verifiable objectives. These plans should outline clear commitments regarding carbon neutrality goals, climate adaptation measures, and urban resilience strategies. Second, local governments should establish participatory mechanisms to involve citizens in climate-related decision-making processes, fostering public engagement through digital platforms and town hall meetings. Third, political parties should prioritize climate policies within their broader governance strategies, ensuring that environmental commitments are not merely campaign rhetoric but are integrated into long-term urban planning initiatives. Finally, candidates should leverage social media not only for campaign visibility but also as an educational tool to increase public awareness about climate change, sustainability, and ecological governance.

Overall, it is clear that the strategic use of social media before the 2024 local elections, along with the development of more in-depth and detailed approaches to issues such as the environment and sustainability, enabled candidates to establish a stronger connection with voters. In this context, focusing their social media strategies and policies on these critical issues in future elections will increase their chances of success.

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