

Chapter 13

Challenges to Turkey's Transition to a Low-Carbon Urban Development: A Roadmap for an Effective Climate Change Policy



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Abstract Turkey is an emerging economy with a growing gross domestic product, which brings with it a rapid increase in energy consumption. Turkey's per capita GHG emissions increased from 3.88 tons of CO_{2eq} in 1990 to 6.07 tons of CO_{2eq} in 2015. Furthermore, due to being located in the Mediterranean Basin, Turkey is highly vulnerable to such impacts of climate change as temperature rises, flooding and water shortage. Since the early 2000s, there have been several efforts in developing a climate policy in Turkey. The EU accession negotiations have played a catalyst role in pushing the environmental agenda and climate policy forward. However, the current state of climate policy in Turkey is far from being a sound policy framework. Despite the introduction of several policy documents and institutional reforms, GHGs and climatic vulnerabilities of Turkish cities are increasing. This chapter investigates the current state of climate policy in Turkey so as to underline its shortcoming and weaknesses. Following the discussion on the existing situation, a roadmap is proposed to sidestep the existing shortcomings and develop a sound and internationally valid climate policy. The proposed roadmap is believed to facilitate the transition to a low-carbon urban development in Turkish cities.

Keywords Climate change · Climate governance · Environmental policy
Low carbon · Resilience

13.1 Introduction

Turkey needs a climate policy. One might say, does not Turkey have a national climate change policy? Well, the answer is both yes and no. Since the early 2000s, there have been several efforts and even some achievements in developing a climate policy in Turkey. The European Union (EU) accession negotiations and other international organizations such as the United Nations Development Programme (UNDP) and

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the Regional Environmental Center for Central and Eastern Europe (REC Turkey) have played a catalyst role in pushing Turkey's environmental and climate policy forward (Balaban and Şenol-Balaban 2015). However, what we have at hand cannot be considered a sound policy framework. Although several non-obligatory policy documents and a few institutional reforms have been introduced, there has been slow and limited progress in addressing climate change in Turkey. The greenhouse gas emissions (GHGs) and the climatic vulnerabilities of Turkish cities are increasing substantially.

Turkey's total GHGs reached 475.1 million tons (Mt) of CO_{2eq} in 2015, corresponding to an increase of 122% compared to the 1990 level (TurkStat 2017). Likewise, per capita GHGs increased from 3.88 tons of CO_{2eq} in 1990 to 6.07 tons of CO_{2eq} in 2015, 56% higher than the 1990 level (TurkStat 2017). Among all Annex I parties to the United Nations Framework Convention on Climate Change (UNFCCC),¹ Turkey has the highest degree of emission rate increase, with 110.4% increase in total GHG emissions between 1990 and 2013 (Turhan et al. 2016). The major emitter of GHGs in Turkey is the energy sector. The GHG emissions from the energy sector increased from 132.8 million to 308.6 million tons of CO_{2eq} between 1990 and 2012, mainly because of fossil fuel combustion (TurkStat 2013).

On the other hand, Turkey is located in the Mediterranean Basin, which is one of the most vulnerable regions on Earth to climate change. The Intergovernmental Panel on Climate Change (IPCC 2007) reported the main likely impacts of climate change in the Mediterranean region as reduction in precipitation levels and increase in drought risk. Therefore, Turkey is expected to be highly affected by certain impacts of climate change such as an increase in temperature and a fall in precipitation levels, droughts and water stress. However, precise and updated scientific data on the potential impacts of climate change in Turkey are quite limited. In most policy documents, broad estimations, which are based on regional and global scenarios and expectations, are provided (Balaban and Şenol-Balaban 2015). Şahin (2016, 119) summarizes the observed and projected impacts of climate change in Turkey as "increased temperature and reduced precipitation, increases in the intensity and duration of droughts and hot spells, as well as the retreat of mountain glaciers and reduced river flows, expansion of the regions suffering from water stress, and a decline in crop yields". As a country surrounded by sea from three sides, sea level rise may

¹The United Nations Framework Convention on Climate Change (UNFCCC) is the international treaty adopted in 1992 during the Earth Summit in Rio de Janeiro in order to achieve the goal of "stabilizing greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". The treaty entered into force on 21 March 1994 following the ratification of the convention by a sufficient number of countries. The UNFCCC lists the countries in its annexes according to their economic development levels and sets non-binding limits on GHG emissions for the industrialized (developed) countries and "economies in transition" countries that are included in Annex I. The Annex II is a subset of the Annex I determined in such a way to include the members of the Organization for Economic Cooperation and Development (OECD). The convention requires the Annex II parties to provide developing countries with financial and technical support to assist them in reducing their GHG emissions. For further details, please visit the following website: <https://unfccc.int/>.

also affect coastal regions of Turkey, where significant proportion of populations and some important economic activities are located.

Despite the fact that Turkey is characterized by a rapid increase in its GHG emissions and being prone to several impacts of climate change, it still lacks an effective climate change policy and governance. Nonetheless, there is no uniform pattern of climate policy development worldwide. Some countries have already made remarkable achievements in addressing climate change, while climate policymaking in others is still at its infancy. Previous research has clearly demonstrated the levels of and reasons for differences among countries in their approach to climate policy. Bättig and Bernauer (2009) have shown that there is a positive correlation between democracy and political commitment to addressing the climate problem. Based on an empirical study that covers data of 185 countries from 1990 to 2004, the authors state that democracy motivates and encourages national governments to develop policies to reduce GHG emissions. However, “the democracy effects on policy outcomes, measured in terms of emission levels and trends, are ambiguous” (Bättig and Bernauer 2009, 303). In another research, Blicharska et al. (2017) highlight a north–south divide in climate change policy and practice due to a large extent, in the current level of climate change research in these two particular contexts. The notable north–south divide in climate change research (Pasgaard and Strange 2013) has led the northern countries dominate not only the practice of climate change policy but also the international negotiations for the international climate change regime (Blicharska et al. 2017).

Regional alliances proved to be a crucial motivation for countries to strengthen their commitment to climate policy. A remarkable example of this is the EU, which has gained a leading position in international negotiations for climate change over the past several decades. The EU's ambitious climate targets and goals have led its member states to strengthen their approaches to climate change policy at international, national and local levels. The EU accession negotiations positively influenced the climate policy in Turkey, paving the way for introduction of some policy documents and institutional reforms. However, the other way round is also likely, as in the case of UK after the Brexit Referendum. Hepburn and Teytelboym (2017) argue that Brexit may have significant impacts on national climate policy in the UK as well as in the EU. While the loss of the UK would mean the loss of a leading advocate for ambitious climate action for the EU, leaving the union may reduce the economic activity in the UK, which would eventually raise concerns over domestic targets and policies to cut emissions (Hepburn and Teytelboym 2017).

Public perceptions of climate change are another factor that shape or influence countries' approaches to climate change policy. This statement is also valid for environmental policy in general. Germany, for instance, is one of the leading countries in the world in environmental and climate change policy, recently pushing forward a policy shift towards the use of renewables in a range of economic and urban sectors. As widely known, the current state of environmental policy in Germany is an outcome of the deep-rooted public engagement with environmental issues. The high level of environmental awareness among German citizens has strongly shaped German politics by strengthening the Green Party and giving it a direct voice in the

German Parliament as well as the governing coalitions since 1983 (Schreurs 2003). A recent research (Steentjes et al. 2017) that was conducted in France, Germany, Norway and the UK in 2016 reveals the strong correlation between public perceptions of climate change and the attitudes towards policy responses to address the issue. The research also highlighted that some urgent social and economic issues such as immigration, unemployment and the worsening of economic conditions can influence public perceptions of climate change negatively (Steentjes et al. 2017).

The recent international achievements and agreements in international climate governance require national and local governments in the global north and south to be more decisive, proactive and coordinated. In other words, the new architecture of the international climate regime forces governments to leave behind their indecisive and tenuous positions based on the much-debated developing and developed world categories and to take action on mitigation and adaptation fronts (Turhan et al. 2016). The Paris Agreement, for instance, invites both developing and developed countries to define their GHG reduction targets in a realistic manner and in line with the 2 °C target of the agreement. In addition, the new agreement urges national governments to include measures and policies for adaptation in their “Intended Nationally Determined Contribution” (INDC).

Furthermore, the Sustainable Development Goals (SDGs), which replaced the Millennium Development Goals (MDGs) for the period of 2015–2030, is another international dynamic that necessitates a sound environmental and climate policy in national contexts. SDGs include 17 specific targets that would be pursued by national governments in partnership with local governments, private and non-governmental actors and the citizens in order to end poverty, protect the environment and ensure peace and prosperity for all. Each country is expected to ensure the inclusion and mainstreaming of SDGs into their national policies, plans and strategies by taking into account their national circumstances. Although the 13th goal directly targets climate change, several other goals are one way or the other related to different aspects of the climate problem such as resilience, energy, consumption, sustainable cities and water. Therefore, it is quite obvious that national governments are now in a position to develop an effective and a comprehensive climate change policy for the successful implementation of the Paris Agreement and the SDGs.

In light of this background, this chapter sets out to investigate the current state of climate policy and governance in Turkey with the aim of understanding its strengths and weaknesses. First, the second and third sections of the chapter discuss the shortcomings of Turkey’s climate policy and underline the main issues and aspects of a policy shift. Then in section four, a roadmap is proposed to sidestep the shortcomings and develop a sound and internationally valid climate policy. The proposed roadmap is highly crucial for Turkey to develop a better climate policy that would facilitate the transition to a low-carbon urban development in Turkish cities.

13.2 Turkey's Position in International Climate Negotiations

13.2.1 *A Developing Country in Both Annexes of the Convention*

Turkey is an emerging economy. The country's total population as well as its national income is in an increasing trend. As of 2016, 79.5 million people in Turkey generate a total GDP of 863.7 billion US dollars.² Population increase and economic growth are the two major sources of energy demand in Turkey, where domestic resources are limited and energy dependency is increasing. In 2015, 75.2% of the total energy consumed in the country came from imported sources (IEA 2016). Growing energy demand and use have resulted in a rapid increase in GHG emissions.

Although Turkey is an emerging economy, or in other words, a developing country, it is an Annex I party to UNFCCC. When the framework convention was accepted in 1992, Turkey, as a member of the Organisation for Economic Cooperation and Development (OECD), was included in both Annex I and Annex II. The listing of Turkey in both of the annexes meant the Turkish national government would be responsible for reducing the country's GHGs and providing financial assistance to other developing countries. This diplomatic mistake was partially corrected over time. Turkey insistently requested to be removed from both of the annexes of the UNFCCC right after its endorsement. Although Turkey's request to be removed from both annexes remained unapproved for a long time, its special circumstances were recognized in the 7th Conference of the Parties (COP) Meeting in 2001 in Marrakech (Türkeş 2017). Thereafter, Turkey was removed from Annex II but still remains in Annex I.

Turkey's official position in climate negotiations has largely been shaped by the argument concerning the country's "special circumstances", which, in fact, criticizes the classification of the country as an Annex I party to the framework convention. In line with this, the national government is still loyal to the typical developing country argument, which underlines the nation's lower historical responsibility for global warming as a reason for not acting more decisively to address the climate problem. However, as per UNFCCC reports, Turkey's share of global emissions has reached to 1.24% (higher than the figures used by Turkish authorities), underlining the fact that Turkey is not a top-emitter but not at the bottom of the list either (Turhan 2017).

²Data are obtained from The World Bank via the following link: <https://data.worldbank.org/country/turkey>.

13.2.2 Turkey's Contribution to International Efforts

Turkey has not yet ratified the Paris Agreement. It is among the 27 countries that have signed but not ratified the agreement. As of April 2018, Turkey is the third largest emitter of GHGs among the non-ratifying countries with a share of 1.24% after Russia (7.53%) and Iran (1.30%).³ The reason for not ratifying the Paris Agreement is again that the national government's request for recognition of Turkey's "special circumstances" remained unapproved during the negotiations of the Paris Agreement. As an Annex I party to the UNFCCC, Turkey is not eligible for climate change mitigation funding, especially the Green Climate Fund. However, the Turkish national government argues that the country deserves access to climate finance due to its special economic and developmental circumstances. At present, there are no signs of approval of Turkey's request for climate funding and thereby of a change in the government's policy to ratify the Paris Agreement.

Non-ratification of the Paris Agreement, in a way, is a manifestation of the Turkish national government's reluctance to address climate problem in decisive and serious manners. Turkey's weak INDC is also an indication of the reluctance to address climate change. The INDC that Turkey submitted promises a 21% reduction from a rapidly increasing business-as-usual (BAU) level by 2030 (Fig. 13.1). Not all developing countries have weak INDCs like Turkey. Brazil, for instance, promised to reduce GHGs by 37% below 2005 levels by 2025. Turkey's INDC has received serious criticisms based on its unrealistic nature. Some experts and observers state that Turkey's INDC would not bring about a real reduction as "the BAU level was unrealistically higher than possible under the five per cent generic growth rate" (Şahin 2016).

Last but not least, some recent (contradictory) policy preferences of the national government should also be noted here as indication of the low priority given to climate change when formulating sectorial policies. For instance, substantial incentives and subsidies have been provided to coal industry in the last decades and coal-fired power plants are being built throughout the country in increasing numbers. When the 70 coal-fired power plants in the pipeline are in place, the total installed coal-fired power plant capacity in Turkey will increase from 15 gigawatts (GW) to 81.5 GW (Şahin 2016). In a similar vein, the large-scale infrastructure investments and urban projects that have been developed in recent years pose serious threats to the natural environment, especially in terms of increasing the total GHGs and climatic vulnerabilities of urban areas. The third bridge over Bosphorus and the third airport project in Istanbul are remarkable examples of such infrastructure investments (Fig. 13.2). The two projects have been built over the remaining forest lands and wetlands in Northern Istanbul that are providing the city with various ecosystem services. These two projects have the potential to stimulate further urban development over Istanbul's vital ecosystems, which would eventually increase the GHGs and deepen the climatic vulnerabilities of the city.

³See the link: <http://climateanalytics.org/briefings/ratification-tracker.html>.

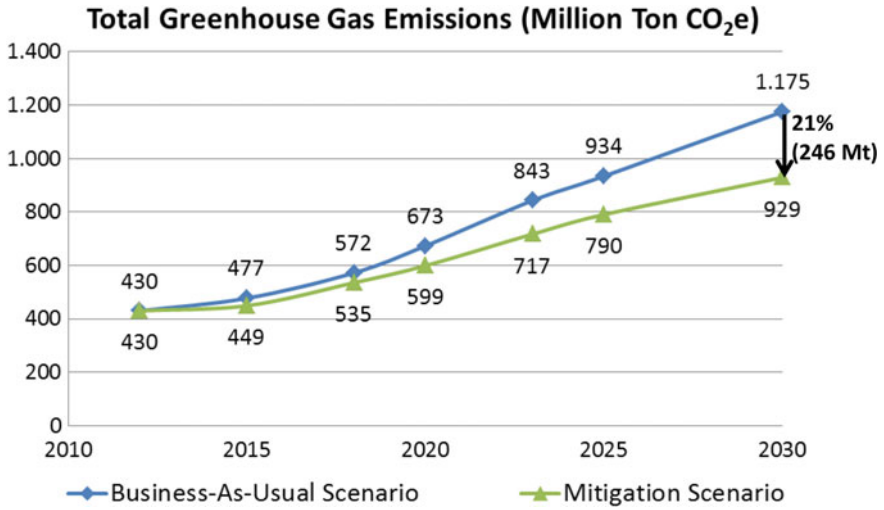


Fig. 13.1 Turkey's INDC target (Republic of Turkey 2015)



Fig. 13.2 Large-scale projects in İstanbul (prepared by the author on the aerial photograph provided by Google Earth)

13.3 Current Progress in Climate Policy in Turkey: The National and Local Levels

Turkey's reluctant and indecisive position in international climate negotiations does not mean that nothing happens on the ground in Turkey. The EU accession process, which was officially launched in 2005 with the start of negotiations, has been a motivation and a driver for environmental and climate policy. Along with some institutional reorganization efforts, several policy frameworks and action plans concerning climate change have been introduced at the national level during the second half of the 2000s.

In 2001, Turkey established the “Coordination Board on Climate Change” with the aim of coordinating the public sector's activities on climate change mitigation and adaptation. The board was restructured a number of times after Turkey became a party to the UNFCCC in 2004 and the Kyoto Protocol⁴ in 2009 (MEU 2010). The restructuring actions widened the participant structure of the board by including new representatives from public and private sectors (Balaban and Şenol-Balaban 2015). In 2009, a separate division, namely the Directorate of Climate Change, has been set to deal with the climate policy at the Ministry of Environment and Urbanization (MEU), which took over the leadership of the Turkish delegation in climate change negotiations from the Ministry of Foreign Affairs (MFA) in 2014.

The main national climate change policy document in Turkey is the National Climate Change Strategy Document (NCCSD), published in 2010, for the period of 2010–2023. The Strategy Document puts forth some guidelines for climate change mitigation and adaptation, emission reduction strategies and financing and technology policies (MEU 2013). Based on the recommendation made by the strategy document, the National Climate Change Action Plan (NCCAP) was prepared and published under the coordination of the MEU in July 2011 (Balaban and Şenol-Balaban 2015). Last but not least, another important policy document, namely the National Climate Change Adaptation Strategy and Action Plan, was introduced in 2012 by the MEU as part of the UN Joint Program on Enhancing the Capacity of Turkey to Adapt to Climate Change.

Although there has been some progress in the development of a national climate policy in Turkey, the actions taken at the national government level so far are limited to

1. Introduction of some non-obligatory plans and policy frameworks,
2. Efforts to ensure a coordinated policy- and decision-making among national agencies,

⁴The Kyoto Protocol is the legally binding document of the UNFCCC. The protocol was adopted in Kyoto (Japan) in 1997 during the third Conference of the Parties Meeting of the UNFCCC and entered into force on 16 February 2005. The Kyoto Protocol sets emissions targets for developed countries (Annex I parties) which are binding under international law. The second commitment period the protocol will finish in 2020 after which the Paris Agreement will enter into force to replace the protocol. For further details, please visit the following website: <https://unfccc.int/>.

3. Provide the local governments with “soft” guidance rather than structured and substantial support.

Albeit in a quite slow pace, cities have been engaging with climate policy in Turkey. There are a number of cities that have already got involved in climate change policy in one way or another, but these policies and actions show a great variety in terms of scope and scale (Balaban 2017). The frontrunner cities in local climate policymaking have developed their local climate change actions plans, mainly due to being members of some transnational municipal networks. These cities are also known for their efforts to raise public awareness by means of some self-governing and enabling-type activities. Among the frontrunner cities are Gaziantep and Bursa. The Gaziantep Metropolitan Municipality was the first city administration that developed a climate change action plan in Turkey, which was then followed by Bursa Metropolitan Municipality. In Bursa, the city administration hosted an international project that aimed to develop a guideline and a roadmap to help cities prepare their city-level adaptation plans. The first implementation of the guideline and the roadmap was conducted by Bursa City. Nevertheless, the achievements at the local level are as yet limited to climate change mitigation, comprising mostly small-scale experiments on transition to renewable energy and solid waste management projects that include waste-to-energy initiatives (Gedikli and Balaban 2018). Adaptation is still not a concern for most Turkish cities, despite being located in the Mediterranean Basin, where some climate change impacts have started to be faced (Balaban and Şenol-Balaban 2015).

Perhaps, the most obvious achievement in local climate policymaking in Turkey is the renewable energy initiatives that were launched in several cities in the last decade. The support provided and the regulations introduced by the central government have been the main driver behind these policy initiatives. For instance, the Ministry of Energy and Natural Resources introduced a financial support mechanism for renewable energy generation, namely the YEKDEM,⁵ in 2005. The support mechanism consists of feed-in tariffs given to projects for generation of energy (electricity in particular) from specific renewable sources including landfill gas and biomass along with hydropower, wind, solar and geothermal. YEKDEM encouraged cities to develop landfill rehabilitation and integrated solid waste management projects in partnership with private firms. As of 2017, there are 32 waste-to-energy (landfill gas) plants licensed under YEKDEM and 75% of these plants have been put in place after 2012.

Despite the progress mentioned above, the current state of local climate policymaking in Turkey is still behind many of its counterparts. For instance, only seven of the 30 metropolitan municipalities have already developed their GHG inventories, and explicit GHG emissions reduction targets are mentioned in only four of them (Sayman and Odabaş 2017). Figure 13.3 presents the geographical distribution of the metropolitan cities that developed their GHG inventories. In general, Turkish cities do not consider climate change as a major municipal duty. As per a research

⁵YEKDEM is the abbreviation for “Yenilenebilir Enerji Kaynakları Destekleme Mekanizması”, which is the phrase for “Support Mechanism for Renewable Energy Sources” in Turkish.

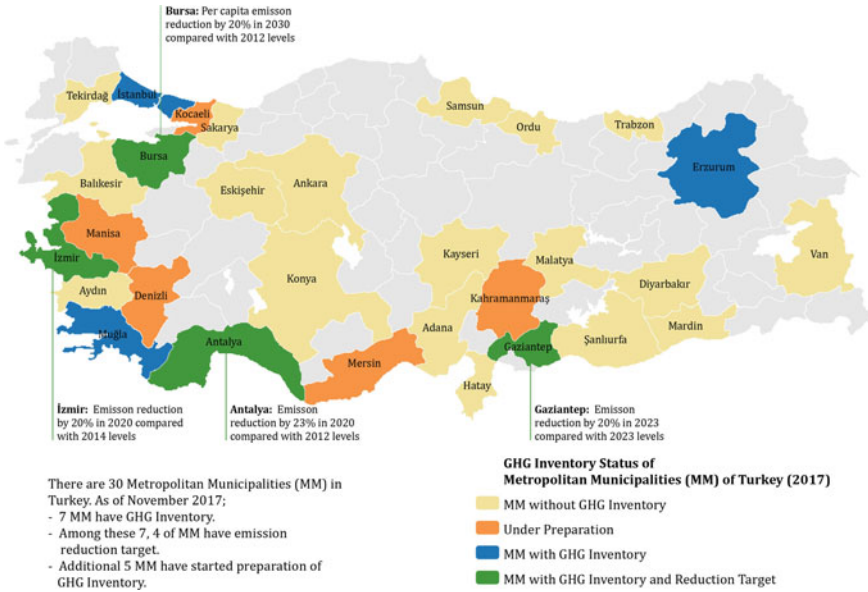


Fig. 13.3 GHG inventories of metropolitan municipalities in Turkey (Sayman and Odabaş 2017)

conducted by REC Turkey, 65% of the Turkish municipalities tend to avoid being responsible for addressing climate change (Sayman and Odabaş 2017). Among the major factors that limit urban climate governance in Turkey are the institutional and financial weaknesses of local governments, which is deepened by the lack of policy pressures from upper levels of governance as well as the community (Balaban 2017, Gedikli and Balaban 2018).

The public administration system in Turkey is greatly centralized, making municipalities dependent on the centre in both administrative and financial terms. The Turkish Constitution defines municipalities as local administrations in charge of delivering urban and public services at the local level. However, the related legislation allocates the authorities for provision of local services on a selective basis in a restrictive manner. Furthermore, the constitution provides the central government with the power of administrative tutelage over local units, which weakens the political and administrative power and autonomy of local governments. While basic revenues of local governments are distributed by the central government, cities collect a few taxes and charges at the local level but cannot develop additional revenue-raising means apart from those set by law (Gedikli and Balaban 2018). In most cases, municipal revenues are barely adequate for service delivery functions determined by legislation.

In the context of climate policy, cities are not provided with either clear guidance or strong support from the central administration. As mentioned earlier, national climate change policy documents either suggest broad or non-binding goals or simply provide local authorities with very basic instructions. More to that as municipal budgets are

barely enough to deal with traditional municipal duties, most cities lack the finance to be spent in short term on policy fields like climate change to acquire benefits mostly in mid and long terms. There is also no significant push or demand from the society for an effective climate policy. Local communities are not well aware of the climate problem, and thus, they do not make pressure over political authorities to address the problem.

As there is almost no push is forthcoming from either the central government or society, cities are mostly left on their own to develop their position on climate governance (Balaban 2017). Under such conditions, progressive efforts regarding climate policy in Turkish cities are, on the one hand, related to international connections and, on the other, shaped by proactive or motivated individuals at the local level. There is mostly, if not always, a dedicated mayor or municipal staff in local contexts where climate change has become an important policy concern for the municipality.

13.4 Roadmap for an Effective Climate Policy in Turkey

Turkey has various reasons to take part in global efforts to address climate change. The country's energy demand and use has been rapidly increasing, so as its dependency on external energy sources. So, a significant improvement in energy efficiency and an increase in the generation of renewable energy would deliver substantial co-benefits, including GHG reduction, energy security, cost savings. On the other hand, Turkey is located in one of the climate change hotspots, where climate change has already proved to be a serious threat. Turkey's historical responsibility for global emissions may be low, but at the same time its vulnerabilities to climate change impacts are quite high, and thus deserve policy intervention. Consequently, climate change adaptation is an urgent need for Turkey, especially for its cities.

Nevertheless, Turkey has failed to develop a sound climate policy that would help achieve mitigation and adaptation goals as well as make Turkey one of the proactive nations in international policymaking for climate change. In the wake of the Paris Agreement, the Turkish national government should commit itself to develop a sound and an internationally valid climate change policy. In what follows, there is a discussion on some important actions that have to be undertaken or at least considered in the course of such policy development.

13.4.1 Political Will

Maybe the first step to be taken for developing a sound climate policy in Turkey is to create the necessary political will at the national and local levels of governance. As Şahin (2016) rightfully states "a better climate policy needs political will". What is meant with the political will here is the continuous and sincere intention by political authorities to address climate change. In the contexts like Turkey where political

authorities are highly influential on other societal actors including public institutions, private sector and even NGOs, motivation and willingness of political actors act as a stimulus. Politicians in Turkey should carefully take into account the climate change threats that the country may face and scrutinize the potential win-win situations that may be created by addressing climate change.

If the necessary political will could be created, it should first be reflected in Turkey's INDC. A new INDC target, which is in line with Turkey's historical responsibility and current vulnerabilities, should be set. Considering the climate change impacts that Turkish cities will face, the renewed INDC has to include adaptation goals and strategies to be pursued at the local level. Based on the new INDC targets, realistic objectives in sectors and fields that are directly and indirectly related to the climate policy should be set by the national authorities. Then, the necessary measures have to be taken to ensure the diffusion and embracement of the targets and objectives of the national climate policy by lower levels of governance. As cities constitute the major implementation focus of the climate policy, the political will should be translated into clear messages and directions for local governments.

13.4.2 Institutional Reforms

Current institutional setup of climate policy and governance in Turkey is not appropriate and sufficient. A series of reorganizational attempts need to be made to overcome the existing institutional shortcomings and strengthen the institutional capacity.

13.4.2.1 National Coordination Committee on Climate Change

As mentioned earlier, Turkey has a national coordination committee for climate change since 2001. With the recent amendment in 2013, the committee is named as the "Coordination Committee for Climate Change and Air Management". The committee is intended to bring together the major stakeholders of climate policy so as to coordinate their actions with the aim of avoiding policy conflicts and duplicated actions. It is in fact important to have such a coordination committee within the national climate governance in Turkey. However, there are important problems in membership composition of the committee. At present, the committee has 20 members, 14 of which are the representatives of national ministries such as environment and urbanization, foreign affairs, internal affairs, economics, energy, agriculture and forestry. Three of the remaining six members are also public institutions like Turkish Statistical Institute, Undersecretariat of Treasury, and Disaster and Emergency Management Presidency. The last three members are business sector representatives, particularly the three major business organizations of leading entrepreneurs and executives of the business community of Turkey.

As seen, the committee lacks participation from academic and research communities as well as the civil society. It seems there is an urgent need for Turkey to change

the organizational structure of the coordination committee in a way to include representatives from NGOs and academic institutions as well as independent experts. More to that, global climate governance has been reframed in recent years, providing more room to cities and sub-national governments in climate talks and actions (Bulkeley 2015). National governments are no longer the only players in the game, as city governments have gained a central position among the major actors of the climate governance (Balaban 2017). The coordination committee of Turkey, surprisingly, lacks the participation of cities and local governments. Mayors of the biggest cities as well as (former) mayors, who are known to be pro-climate politicians, and representatives of the Union of Turkish Municipalities should be included in the committee.

13.4.2.2 Research–Policy Dialogue in Climate Governance

Sound and effective policies could be built on updated and robust scientific knowledge. This is highly valid for climate policy and often underlined in international climate policy documents. One important shortcoming of the Turkish climate policy and governance is the absence of properly developed academic work and scientific research on climate change in direct relation to the Turkish context. This is further deepened by lack or insufficiency of updated and reliable data which is accessible and available for scientists and researchers. As Turhan (2017, 154) truly states “in the absence of properly peer-reviewed scholarly works, climate change knowledge is left in the hands of a wave of civil society assessments, often supported by unchecked claims or reports prepared for internal use by state institutions”.

Therefore, an important step in developing an effective climate policy and governance in Turkey is to bring scientific research and researchers into policymaking for climate change. This can be done by providing various sorts of support (especially funding) to climate change science and research. In addition, scientists and researchers should be provided with opportunities to take part in decision-making and policy formulation processes at the national level. One idea here can be to set up a national scientific committee on climate change like in the example of the national coordination committee. Renowned scientists, researchers and experts working on a range of issues concerning the climate policy should take part in the scientific committee. The IPCC could be taken as an example to set up this committee. Thus, the main mission of the national scientific committee could be to evaluate the already existing scientific data and information in a way to produce an updated and robust knowledge base to support policy and decision-making processes.

Both the coordination and scientific committees should consult each other on a regular basis to address the gaps in research and policy domains. The scientific committee, for instance, could assist the coordination committee in determining an internationally recognized INDC target by means of a transparent and a valid scientific methodology considering Turkey's share in the global carbon budget. Likewise, Turkey's national communication reports are usually criticized for being inconsistent with reporting guidelines and for not being transparent regarding the assumptions

behind emissions trajectories and economy-wide scenarios (Cerit-Mazlum 2017). The scientific committee can also help overcome this problem by giving a better shape to such policy documents. The coordination committee, on the other hand, could learn from the scientific committee about the major data and funding requirements of the academic community for conducting climate change research, assessments and monitoring. Furthermore, Turkish delegation in international climate change negotiations is often criticized for not including “real” experts and for not being “capable of receiving and synthesizing scientific contributions and delivering science-based opinions on Turkey’s behalf” (Türkeş 2017). Establishment of a national scientific committee would help address this particular issue as well in the sense that a group of the scientific committee members could be the permanent members of the Turkish delegation.

13.4.2.3 Local Governments and Urban Planning

As argued earlier, city governments have gained a central position among the major actors of the climate governance in the recent decades. This is mainly because of the critical links between urbanization and climate change. On the one hand, cities are where a significant part of the global GHGs are emitted, and on the other, urban areas are where climate change mitigation and adaptation policies are to be implemented at the end of the day. A recent research by Bai et al. (2018) highlights the fact that building and upgrading the necessary infrastructure to accommodate the future urban population in the developing world by 2050 would release four times the carbon dioxide (CO₂) used to build existing developed world infrastructure (Fig. 13.4). This stunning fact is one of the reasons for the decision of the IPCC to release a Special Report on Climate Change and Cities in the 7th Assessment Report Cycle.

Cities will have a central role in global climate governance in future. However, in many contexts, city governments are weak in economic and political terms and thus prevented from undertaking systematic actions to address the climate problem. This statement is highly applicable to the Turkish context. There is poor progress in urban climate governance in Turkey due, in large part, to the institutional and financial weaknesses of local governments, and the lack of policy pressures from upper levels of governance as well as the community. Therefore, the success of climate policy and governance in Turkey relies on decentralization of governance systems and empowerment of local governments. Local governments should be provided with relevant authorities to address climate change and also with the required financial and administrative capacity to fulfil these authorities.

Urban planning deserves a particular attention in this respect. Transition to a low-carbon and climate-resilient urbanization requires the mainstreaming climate change issue into current urban planning legislations and practices. This is an important weakness of the climate policy as well as the urban policy in Turkey. A few cities in Turkey have developed their climate change action plans, some of which include ambitious emission reduction targets. To date, 11 municipalities including Antalya, Bursa and İzmir metropolitan municipalities have signed the Covenant of

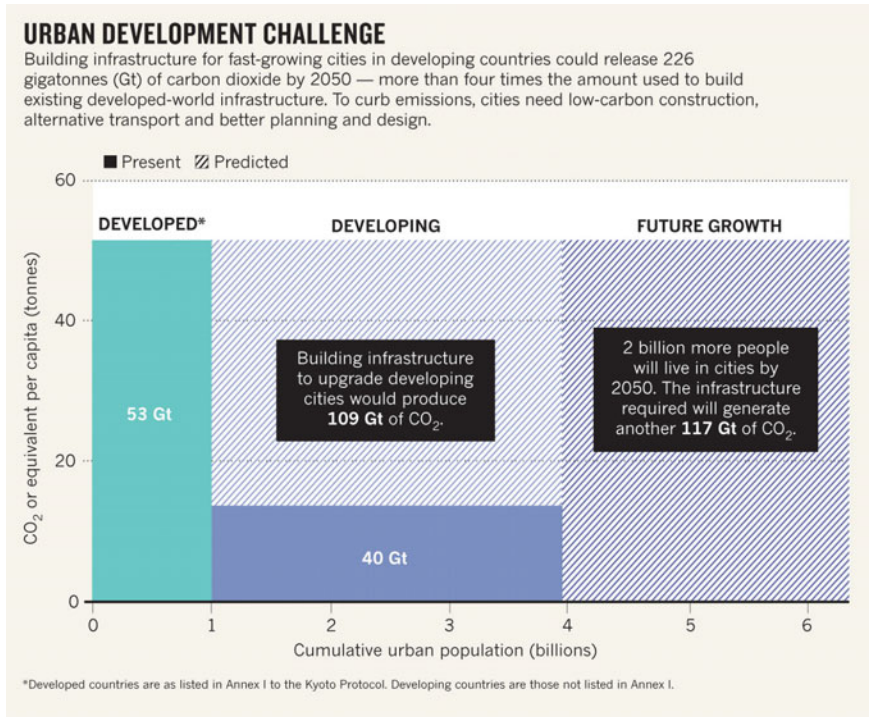


Fig. 13.4 Carbon budget of future urban development (Bai et al. 2018)

Mayors⁶ and developed memberships to the network. All of these cities already had their climate (energy) action plans approved. The emission reduction targets until 2020 in these plans range from 20 to 40%, with Bursa Metropolitan Municipality recording the highest target. However, these action plans are of voluntary nature and not legally binding, and even they have no explicit place in the hierarchy of urban spatial plans in Turkey. Therefore, the influence of local climate action plans over actual urban development remains quite low. Furthermore, the coordination between climate action plans and other urban development plans is usually not very strong and this weak coordination limits the synergies between climate change mitigation and adaptation strategies and urban planning decisions. Gedikli (2018) highlights the structural reason behind this issue as the absence of guidance on consideration of climate change in urban planning and design in the Turkish planning legislation. Therefore, mainstreaming of climate change into urban planning legislation and prac-

⁶The Covenant of Mayors is an EU-based city network launched in 2008. The network aims to bring together thousands of local governments voluntarily committed to implementing the climate- and energy-related objectives set by the EU. In particular, signatory cities pledge action to support the implementation of the EU 40% GHG reduction target by 2030 and the adoption of a joint approach to tackling mitigation and adaptation to climate change. For further details, please visit the following website: <https://www.covenantofmayors.eu/en/>.

tices has to be an integral part or one of the main components of a decentralization agenda or a reform on local governments in the Turkish context.

13.4.3 The Challenge of Finance

Finance is an important requirement of climate policy and governance. Mitigation and adaptation actions, benefits of which may come in the long term, require short-term finance. Especially in the developing world, where financial resources are limited, developmental targets are given priority over environmental ones in allocation of the already limited governmental finance. Financial shortcomings increase the burden on local governments that are responsible for dealing with such climate change impacts as flooding, water shortage and heat waves. This general situation is highly applicable to Turkey where national government is not very enthusiastic to allocate resources generously to climate policy and where local governments' budgets are quite tight and barely sufficient to deal with the traditional municipal duties. Therefore, one important question is where will the money for climate policy come from?

One possible answer to this question is given by an economist, Erinç Yeldan, in a couple of studies on economics of climate change in Turkey. Yeldan (2017) suggests imposing a "carbon tax" in Turkey based on the famous "polluter pays principle" in order to change the environmental behaviour of economic actors by making carbon dioxide emissions of firms and premises expensive. In another related study (Kolsuz and Yeldan 2017), the authors have calculated that the carbon tax would correspond to around 3.5% of Turkey's gross national income (GNI), which, in relation to Turkey's emissions, would make the price of emitting carbon dioxide approximately 30 US dollars per ton equivalent of CO₂. This policy suggestion could be taken one or two steps further to create a, for instance, "urban climate fund". Turkish cities are in need of finance for low-carbon and climate-resilient urban transitions. Another important component of decentralization and empowerment of local governments should include a fiscal dimension, principally in terms of providing financial support to local administrative units based on their GHG levels and climate vulnerabilities. The suggested "carbon tax" revenues could be collected in a special fund, like "urban climate fund", to be allocated to city governments on policy or project base. Cities that are found to spend their share of the "climate fund" in appropriate ways to generate substantial achievements or co-benefits can be rewarded by budget increase or additional grants. In a nutshell, Turkey should seriously consider using fiscal instruments like taxes, grants, incentives not only to facilitate behavioural change in various sectors of climate policy but also to encourage and support local governments in low-carbon and climate-resilient urban transitions.

13.5 Conclusion

Turkey, despite being a developing country with low historical responsibility for global GHGs, has to take serious steps and actions for a low-carbon and climate-resilient future, not only for aligning with proactive actors of international climate governance but also because climate change is a serious socio-economic and spatial threat to the country. Political will is the basic requirement for developing a sound and internationally valid climate policy in Turkey. Without the continuous and sincere intention by political authorities to address climate change, achievements on the ground will continue to be very limited.

The current institutional setup of climate policy and governance in Turkey has several shortcomings. A series of reorganizational attempts may strengthen the institutional capacity. First of all, the organizational structure of the National Coordination Committee for Climate Change and Air Management should be changed in a way to include representatives from local governments, academic institutions, NGOs and independent experts. Second, a national scientific committee formed by renowned scientists, researchers and experts working on a range of issues concerning climate change should be established so as to evaluate the already existing scientific data and information and produce a robust knowledge base to support policymaking processes. Third, Turkish cities lack the necessary administrative and financial capacity to address climate change. An important step in developing an effective climate policy and governance in Turkey is the decentralization of governance systems and empowerment of local governments. More specifically, cities have to be provided with relevant responsibilities including climate-sensitive urban planning practices as well as with the financial and administrative capacity to fulfil these responsibilities. Finally, emitting carbon should be made expansive by means of a climate change tax and revenues from this tax should constitute a climate change fund to be allocated to local governments.

The Paris Agreement has opened up a new path for the world's nations to make the future of our planet cleaner and safer. Turkey is hesitant to work along this path, which in fact provides a window of opportunity to obtain developmental and environmental co-benefits including energy security, resilient future, international recognition, green economy and jobs, etc. Turkey should read correctly the new direction to the world's future and develop an effective climate change policy and governance at home.

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