

Turkey's Post-Kyoto Climate Change Policy

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Abstract: Turkey is a rapidly growing country. This rapid economic growth has been associated with a fast growth of greenhouse gas (GHG) emissions, which represents a 119 percent carbon dioxide emissions increase between 1990 and 2007. Since 24 May 2004 Turkey has been party to the United Nations Framework Convention on Climate Change, but had not ratified the Kyoto Protocol until 5 February 2009. It has the obligation to implement measures and policies to mitigate greenhouse gas emissions, but will not be required to meet a specific GHG emissions target till 2013. With increasing energy demand while facing climate change problems, Turkish policy makers feel the heat. In response to political pressure coming from domestic environmental and interest groups as well as from the European Union, they have initiated the climate change action plan and implementation of environmental regulations in order to take the growth of GHG emissions under control. On the other hand, they argue that accepting a binding emissions target in the post-Kyoto era before the completion of big-scale energy investments will lead to serious economic and social problems in Turkey.

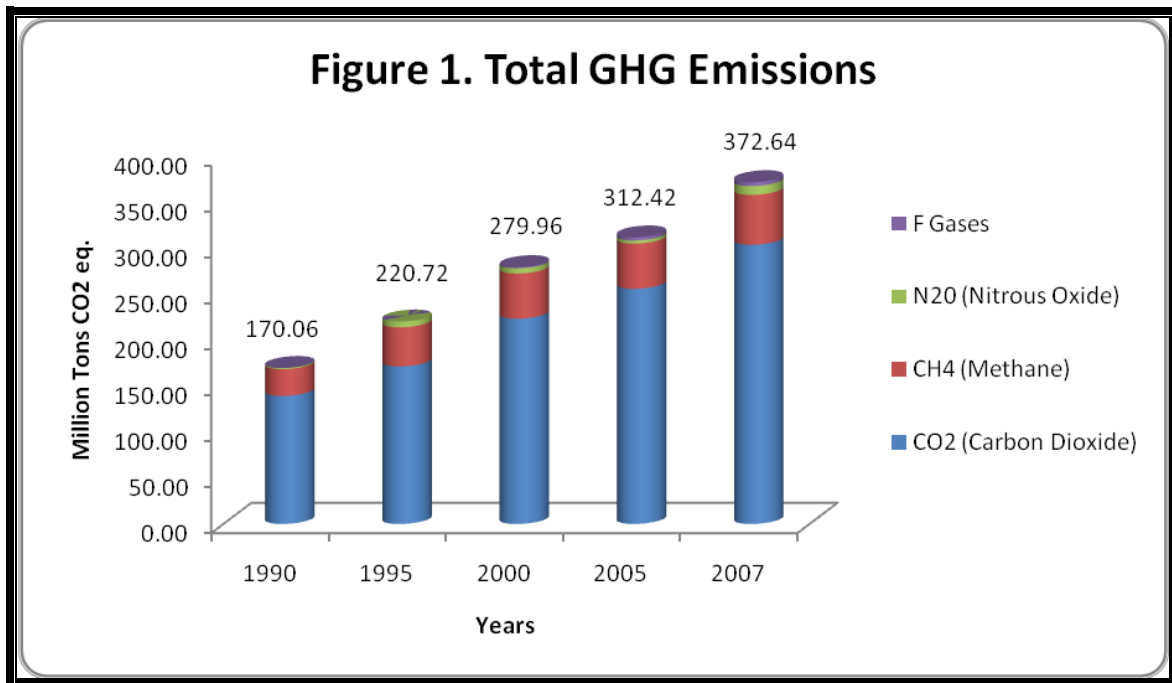
Key Words: Turkey, climate change, GHG emissions, energy policy

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Introduction

Turkey is a rapidly growing country whose income level is moving towards that of the rest of the affluent club of the Organization for Economic Cooperation and Development (OECD). This rapid economic growth has been associated with a fast growth of total greenhouse gas (GHG) emissions, which represents a 119 percent increase between 1990 and 2007, from 170.06 million tons to 372.64 million tons carbon dioxide equivalent (TURKSTAT 2009, p.2, Apak and Ubay 2007, p.5) (see Figure 1).

As a member of OECD, Turkey had originally been included in the lists of Annex I and Annex II Parties to the UN Framework Convention on Climate Change (UNFCCC).¹ Upon its formal request based on its status of economic development and the fact that it would be committed to assisting developing countries, some of which would actually be richer than Turkey, it was removed from the list of Annex II at the seventh session of the Conference of the Parties (COP7) to the UNFCCC in Marrakech on 9 November 2001 (Decision 26/CP.7). The Conference of Parties also recognized the 'special circumstances ... which place Turkey ... in a situation different from that of other Parties included in Annex I' (UNFCCC 2009, p.3). After being satisfied with this outcome, Turkey became party to the UNFCCC on 24 May 2004. In response to domestic and international pressures, the Turkish Grand National Assembly (TBMM) approved a bill on Turkey's adoption of a participation in the Kyoto Protocol on 5 February 2009. The law on Turkey's participation in the Kyoto Protocol came into effect on 17 February 2009. Turkey became Annex I Party without a binding emissions reduction target, unlike Annex B Parties to the Protocol, till 2013 (Depledge 2009, p.284). Turkey would like to have a special status under the Protocol, that may allow it to participate in emissions trading mechanism of the Protocol without having a binding target.



Source: (TURKSTAT 2009).

This paper will delve into Turkey’s climate change policy in post-Kyoto era after 2012. In the next section of the paper, the negative impacts of climate change in Turkey will be highlighted. In the second section, the domestic and international pressure on Turkish Government to curb its GHG emissions will be analyzed. In the last section, the Turkish Government’s climate change policy will be examined in detail in order to assess if Turkish policymakers will adopt a solid emissions target in the post-Kyoto era.

Negative impacts of climate change in Turkey

According to Turkish State Meteorological Service, the average temperature in the country may increase up to 4 degrees Celsius in this century due to global warming (Türkeş 2001, p.179). This assessment is in parallel to 2007 Nobel Peace Prize winner and the United Nations panel of scientists, the Intergovernmental Panel on Climate Change (IPCC)’s estimates for Southern Europe, presented in its Synthesis Report which warns that climate change is projected to worsen conditions —high temperatures and drought— in a region already vulnerable to climate variability; and to reduce water availability, hydropower potential, summer tourism, agricultural productivity; and to

cause extensive species losses. In addition, climate change is projected to increase the health risks due to heat waves, and the frequency of wildfires. Mountainous areas will face glacier retreat and reduced snow cover which means Spring floods and Summer droughts, and contraction in winter tourism (IPCC 2007).

In 2000, the Turkish State Planning Organization (DPT) listed those likely negative ecologic and socio-economic impacts of climate change on the country as part of Turkey's Eighth Five-Year Development Plan (DPT 2000, p.8). The main impacts and vulnerabilities identified by government officials include: an increased risk of drought, with Turkey being one of the most vulnerable countries in this regard; decreased per capita water availability (concurrent with increased demand for water); an increase in the frequency and intensity of floods associated with extreme rainfall events; an increased risk of desertification, particularly in Southeast Anatolia and the continental interior, and; loss of biodiversity in several ecosystems (UNFCCC 2009, p.16).

Similar projections can be found in the recent studies on negative impacts of climate change in Turkey (Önol and Semazzi 2009, Karaca and Nicholls 2008, Tecer and Cerit 2009, Evans, 2009, Kadioğlu 2009, Özkul 2009). Significant warming in southern and southeastern parts of the country along with significant decreases of precipitation amounts in the western parts of the country, such as Aegean and Trachea regions are the results of the spatial analysis made by Mete Tayanç and his colleagues (2009, p.483). According to Marianne Fay and her colleagues (2010), authors of the World Bank's report, 'Adapting to Climate Change in Europe and and Central Asia,' changes in sea level rise would negatively affect the Black Sea and Mediterranean coasts of Turkey. Storm surge and saltwater intrusion into aquifers threaten parts of the Turkish coasts, leading to a reduction in fresh water availability (ibid). Surveys released by Önol and his colleagues (2009a) indicate 34 percent decrease in precipitation over Turkey's Mediterranean region and about 20 percent decrease over the Aegean and Southeastern regions. Their analyses underscore that combined effect of precipitation decrease and evapotranspiration increase related to temperature increase could play major role to reduce water resources over Turkey and especially, there could be significant reduction water availability in the Euphrates-Tigris River Basin (ibid, p.170).

Political pressure on the Turkish Government

2007 was one of the hottest years in record in Turkey, that brought killing heat-waves; severe drought which dramatically hit major cities such as Istanbul, Ankara, and Izmir, and forest fires in the Mediterranean and Aegean regions. 2007 was also marked as a climax point of public awareness to climate change in Turkey through intensive media coverage, non-governmental organizations' (NGOs) research projects and meetings, special events organized by environmental groups, political parties' bills on mitigating and adapting harmful effects of climate change, parliamentary inquiries, press releases of national and local governmental agencies on the issue.

A report released by Open Society Institute-Turkey warned that rapid growth of GHG emissions would add the country to the list of top emitters in the world. The country's GHG emissions intensity of energy consumption is one of the worst ones in Europe because of polluting coal-fired power plants (Kumbaroğlu *et al.* 2008, p.9) (see Table 1). The proportion of energy derived from carbon-intensive coal and lignite is one of the highest in the OECD area, reflecting ample reserves of lignite. Most GHG emissions in Turkey come from electricity generation sector that has been a largely state-owned industry operating under non-commercial criteria (OECD 2004)² (see Figure 2). Energy-related carbon emissions have been growing much faster than the economy at an annual rate of 6 percent per year since 1990 (Kaygusuz 2004, p.564).

Table 1- Environmental Performances of Selected Countries

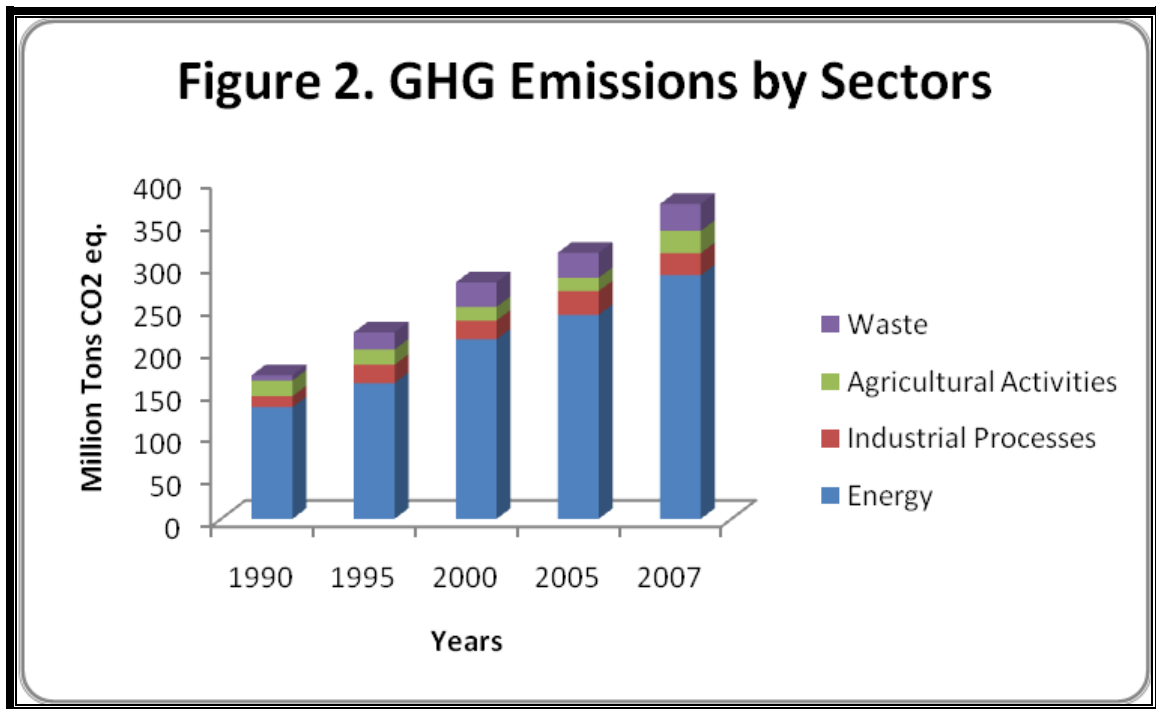
	Environmental Performance Index Rank	Environmental Performance Index Score	Score for CO2 ¹ Emissions per Person	Score for CO2 Emissions Intensity of Industrial Sector ²	Score for CO2 Emissions Intensity of Energy Sector ³
France	10	87.8	86.7	88.2	98.2
Canada	12	86.6	59.7	69.7	78.5
Germany	13	86.3	89.8	85.5	62.4
UK	14	86.3	83.1	91.6	49
Japan	21	84.5	83.1	74.6	53.8
Italy	24	84.2	84.9	82.3	56.3
Malaysia	27	84	73.7	72	48
Russia	28	83	74.5	58.7	63.6
Brazil	34	82.7	88.9	78	98.9
US	39	81	56.3	73.7	38.2
Mexico	47	79.8	91.1	78.9	44.5
Turkey	72	75.9	95.7	58.4	53.3
South Africa	97	69	86.4	59.1	8.6
Indonesia	102	66.2	98.5	72.1	16.9
China	104	65.1	93.3	49.7	15
India	120	60.3	188	73.8	8

¹CO2: Carbon Dioxide.

²The industrial sector carbon dioxide emissions per gross domestic product of the industrial sector: Industrial GHG Emissions, 2005 (Metric Tons Carbon Dioxide) / Industrial GDP, Purchasing Power Parity, 2005 (Current International Dollar).

³GHG emissions per unit of electricity and heat output: Greenhouse Gas Emissions, 2005 (Metric Tons CO2-equivalent) / Electricity and Heat Output (kWh).

Source: (Esty *et al.* 2008)



Source: (TURKSTAT 2009)

Environmental protection groups want the government to invest in renewable energy rather than spending tax money for polluting fossil fuels or long-planned nuclear energy to meet the increasing energy demand. According to Greenpeace Mediterranean Climate Campaign Coordinator Hilal Atıcı, the government uses each opportunity to scare people and promote nuclear energy. Atıcı argues: ‘The idea that claims nuclear energy will solve Turkey's energy problems is unacceptable. The source of the problem derives from Turkey's not investing in renewable energy supplies’ (*Turkish Daily News*, 6 August 2007). When Minister of Energy and Natural Resources Taner Yıldız visited the Greenpeace office in Istanbul on 1 December 2009, Greenpeace Mediterranean General Director Dr. Uygur Özesmi tried to convince the Minister that nuclear energy would not provide a solution to Turkey’s energy problem (*Milliyet*, 2 December 2009).

Related to droughts and its consequence, shortage of fresh water resources, environmental organizations urge that the time has already come for Turkey to create a comprehensive and coherent blueprint for water management. Dr. Filiz Demirayak, Director General of World Wildlife Fund in Turkey (WWF-Turkey), says: ‘Instead of continuing to consume water like there is no tomorrow, we should start to seriously

worry about this weather, which is drying up our water resources' (Agence France Presse, 26 January 2007). According to Dr. Ümit Şahin, Climate Change Coordinator of Turkey's Greens, the Turkish government ignores the reality of climate change. He mentioned that successive Turkish governments based their policy on prioritizing economic development. Dr. Şahin's organization gathered 168,000 petitions for urging the government to sign the Kyoto Protocol (*Turkish Daily News*, 5 February 2007 and 21 May 2007). On the other hand, Yunus Arıkan, Climate Change Project Manager of Regional Environment Center (REC)-Turkey, said the declaration of an action plan by the AKP Administration was important because it signified that Turkey was not ignoring the Kyoto Protocol (*Turkish Daily News*, 13 February 2007).

As a public awareness raising activity, WWF-Turkey invited former US Vice-President Al Gore to Istanbul for a speech on global climate change and its negative impacts. According to WWF-Turkey Chairman Akın Öngör, building momentum for the public movement is necessary to start implementing the inevitable precautions that need to be taken (*Turkish Daily News*, 21 May 2007 and 12 June 2007). The Greenpeace activists, with the help of German and Turkish carpenters, reconstructed a Noah's Ark in model form on Turkey's highest mountain Ararat and read out the 'Mount Ararat Declaration' which warned that the global warming would lead to drought, famine, mass migration, rise of sea level and massive floods that would jeopardize the future of the Earth (Anatolian News Agency, 31 May 2007). Greek and Turkish cyclists gathered in Izmir in June 2007 to draw public attention to global warming and changing climates for the event called 'Meeting at the Two Shores of the Aegean against Global Warming, Izmir-Athens Bicycle Tour' with the sponsorship of the Izmir Metropolitan Municipality (*Turkish Daily News*, 30 June 2007). In Istanbul, the Kadıköy Municipality's music festival in 2005, with the participation of environmental organizations and music bands, was turned into a 'platform against global warming' in which the cine-vision shows on climate change were used and many professional and amateur Turkish hiphop, rap, break dance and DJ groups drew attention to the issue (*Turkish Daily News*, 13 October 2005). Mayors of 350 European cities, including cities in Turkey, signed a European Union climate change agreement, 'Covenant of Mayors,' on February 11, 2009 pledging to cut

carbon dioxide emissions by more than 20 percent by 2020 (Associated Press, 11 February 2009).

Turkish companies have also raised public consciousness and pressed the government on climate change. Tansaş, a company of the Koç Group, started a campaign titled 'Be Part of the Solution to the Global Warming: Plant a Tree' in May 2007. The company, with the support of Aegean Forest Foundation, plans to plant 100,000 trees in Izmir through the campaign (*Turkish Daily News*, 11 May 2007). Turkish companies have been affected by global warming. According to a report released by the Association of Insurance and Reinsurance Companies of Turkey (TSRSB) the amount paid out in damages in November 2006 due to the unusual number of Fall floods was half that spent in the period between 2000 and 2005 (*Turkish Daily News*, 3 December 2006). Another study, 'The Affect of Global Warming on Sectors,' conducted by the Ankara Chamber of Commerce (ATO 2007) showed that global warming has caused deviances from the 'norms' in many sectors in Turkey based on the reports of 63 vocational committees (p.5). Turkish consumers, too, have been negatively affected by climate change. Since early 2007, market prices for food products have increased, according to the Market Hall Commissioners' Association, because of the fact that the yield has fallen off with the shortage of precipitation brought on by changing climate conditions (*Turkish Daily News*, 3 August 2007). According to a study which evaluates responses of Turkish companies to climate change, big scale companies in the country achieve more responsive reactions to the issue (Kaya 2008, p.73).

In reaction to drinking water shortages in major cities due to severe drought in 2007, opposition parties and legislators in Turkish Grand National Assembly (TBMM) submitted parliamentary inquiries for asking the AKP Administration's plans and policies in mitigating and adapting harmful effects of climate change. The common point made through these parliamentary inquiries is related to the roles of the pivotal governmental institutions which plan, design and coordinate the country's climate change policy. The main opposition party, Republican People's Party (CHP), demanded an inquiry to evaluate the impacts of climate change and designate precautions to deal with the problem on 6 September 2007. In a letter submitted to the TBMM together with other CHP legislators, CHP's Antalya legislator Tayfur Süner claimed that the government did

not take any concrete steps regarding climate change and its effect on the agriculture sector (*Turkish Daily News*, 7 September 2007). On 14 December 2007, another written inquiry was submitted by Ufuk Uras, then Istanbul legislator of the Freedom and Democracy Party (ÖDP), on the effectiveness of cooperation among the Ministry of the Environment and Forestry, Ministry of Energy and Natural Resources, and Ministry of Agriculture and Rural Affairs to launch the Climate Change Research Program, and on ratification of the Kyoto Protocol (TBMM 2007).

In addition to domestic pressure, the AKP Administration also has faced international pressure to actively fight against climate change. The European Union (EU) urged Turkey to ratify the Kyoto Protocol as a first step to align with its long-term objective. The EU's new binding target to reduce GHG emissions by 20 percent by 2020 raised the parameters for candidate countries like Turkey. The EU's expectations from Turkey for tackling climate change were clearly mentioned in the European Commission's screening report, released on 22 June 2007, for the negotiating Chapter 27 on the environment. The report stated the obligations arising from the Kyoto Protocol were an integral part of the *acquis* on climate change. The Commission urged Turkey to ratify the protocol, to put in place a national solid system for the yearly and timely submission of the inventory of greenhouse gas emissions, to take on a target for the first commitment period between 2008 thru 2012 and to start preparations to take on a post 2012 target (EC 2007, p.21). Although the Commission did not recommend ratification of the Kyoto Protocol as an opening benchmark for the chapter on the environment, expectations from Turkey were set up during the accession process.

Climate change policy of the AKP Administration

In response to domestic and international pressure, the governing Justice and Development Party (AKP) has taken initial steps in mitigating and adapting negative effects of climate change. However, like other emerging economies governments, the AKP Administration has argued that accepting a binding emissions target before the completion of big-scale energy investments in the country would lead to serious economic and social problems. The administration does not want to risk the economic

growth, considering that Turkey has less GHG emissions per capita than other OECD and EU member countries (UNFCCC 2009) (see Table 2).³ The Administration's climate change policy is not different from any other major developing country's related policy and has been shaped by three main parameters: priority of economic development, principle of equity underscoring the historical responsibilities of the industrialized countries and more focus on sustainable development.

The Ministry of the Environment and Forestry, Ministry of Energy and Natural Resources and Ministry of Agriculture and Rural Affairs have been planning, formulating, and coordinating climate change policy in Turkey. The Coordination Board on Climate Change (CBCC) is responsible for inter-ministerial coordination of climate change related activities. CBCC, which was established in 2001, include all relevant ministries as well as the Turkish Union of Chambers and Commodity Exchanges (TOBB). The Board, chaired by the Ministry of the Environment and Forestry, has the overall responsibility for the implementation of mitigation and adaptation policies.

On 6 February 2007 then Environment and Forestry Minister Osman Pepe, Energy and Natural Resources Minister Hilmi Güler and Agriculture Minister Mehdi Eker presented the report, 'Climate Change, Drought and Water Management,' to the public by a press conference held in Ankara. The report highlighted that there would be irreversible damage caused to the environment due to climate change. Its negative impacts for the country would be a decline in water resources, changes in agricultural production, forest fires, drought, erosion, desertification and increase in deaths and illnesses caused by heat waves (Office of the Prime Minister 2007). The ministers announced that the Turkish government was preparing an action plan of measures to combat the fallout of climate change. The ministers estimated that Turkey had to invest up to 35 billion euros (50 billion US dollars) in environmental projects in order to catch up with EU norms (Agence France Presse, 6 February 2007, Telli *et al.* 2008).⁴

Table 2- Carbon Footprints of Selected Countries, 2004

	GDP per head (US\$ at PPP*)	Growth of real GDP per head (percent)	Private consumption per head (US\$)	Energy consumption (kg oil equivalent per head)	CO2 Emissions (tons CO2 per head)
India	3,182.60	6.76	388.10	340.60	1.20
Indonesia	3,474.10	3.67	758.80	525.10	1.70
Brazil	8,300.00	4.18	2,184.40	1,052.50	1.80
Turkey	7,690.00	7.40	2,760.00	1,194.70	3.20
China	5,879.20	9.44	593.30	1,090.60	3.80
Mexico	9,690.00	2.95	4,434.90	1,529.70	4.20
Malaysia	10,000.70	4.57	2,145.70	2,340.30	7.50
South Africa	10,910.00	3.80	2,890.00	2,442.20	9.80
Russia	10,015.70	7.76	2,064.20	4,945.30	10.60
G7 Countries*	34,010.00	2.30	23,220.00	5,987.00	11.98

*PPP:Purchasing Power Parity. G7 Countries: Canada, the US, the UK, France, Germany, Italy, and Japan. Sources: (EIU 2008, UNDP 2007, p.69).

A week later, these three ministers presented a climate change action plan to the Cabinet. The action plan includes several national measures such as enclosing waterways, regulating groundwater usage and individual measures like using a pressure cooker or putting the fridge in the coolest part of the house. The plan was criticized by experts due to a perceived focus on individual efforts and avoidance of key topics (*Turkish Daily News*, 13 February 2007). Government officials admit that as Turkey develops economically, the country's carbon dioxide emissions will increase. Mr. Pepe argued that Turkey needed to take measures to decrease its GHG emissions while developing economically and socially. He claimed: 'In terms of carbon dioxide emissions, Turkey is one of the most innocent countries in the world' (*Turkish Daily News*, 20 November 2006).

At a panel discussion held within the scope of the 62nd session of the UN General Assembly meetings in New York in September 2007, Prime Minister Recep Tayyip Erdoğan said in his speech: 'The most unjust phenomenon regarding the climate change is that the countries which are affected the most from the negative impact of the problem are those which have the least responsibility in occurrence of this problem.' However, he admitted that the amount of gas emitted in Turkey would rise when the fact that Turkey is a country with a rapidly-developing market economy and high development goals is

taken into consideration (Anatolia News Agency, 24 September 2007). Two years later in the same venue while speaking in a high-level UN meeting on climate change, Erdoğan said that the Turkish Government had taken important steps by which different sectors have contributed to minimizing the negative effects of climate change (Anatolia News Agency, 22 September 2009).

Under Erdoğan's leadership, Supreme Council for Science and Technology (BTYK), the highest scientific decision organ of Turkey, convened on 7 March 2007 to discuss global warming, scenarios on climate change, effects of climate change, steps to be taken and scientific and technological research programs. Several ministers and chairmen or high-ranking executives of related government institutions also attended the meeting in which alternative energy technologies to meet Turkey's future energy need, including nuclear energy, were assessed (TÜBİTAK 2007, p.60). On 29 August 2007, Erdoğan said that a more active ministry would be formed in order to deal effectively with global warming and its impacts after submitting his cabinet list to President Abdullah Gül (Anatolia News Agency, 29 August 2007). Minister of the Environment and Forestry, Veysel Eroğlu, sent a letter to Ministry of Foreign Affairs on 29 May 2008 stating that his ministry supported for ratification of the Kyoto Protocol (*Radikal*, 30 May 2008).

TBMM ratified an agreement on 5 February 2009 to sign the Kyoto Protocol after intense pressure from environmental groups and the European Union. Three legislators voted against as 243 legislators voted in favor of the Kyoto Protocol. Since Turkey is late in ratifying the Kyoto Protocol, it may not have a binding emissions target until 2012 when the Protocol expires. Turkey is not currently added to the Kyoto Protocol's Annex-B Parties list, which includes 37 countries that committed a total cut in GHG emissions of at least 5% from 1990 levels between 2008 and 2012.

As a party to the UNFCCC, Turkey submitted its Country Outcome Report, prepared within the framework of the Initial National Communication on Climate Change, to the Secretariat of the UNFCCC on 23 March 2007. In this study the possible impacts of climate change on the country were analyzed and an inventory of the greenhouse gas emissions was prepared in addition to the projected emission calculations

until the year 2020. The project was implemented by the Turkish government and the United Nations Development Program (UNDP), with a budget of 420,000 US dollars extended by the Global Environment Fund (GEF).⁵

Based on the projection of Ministry of Energy and Natural Resources, Turkey's energy demand, particularly for electricity, is predicted to double by 2020. The AKP Administration has considered nuclear energy as a main component of its approach to the threats of energy shortage and rapidly increasing GHG emissions of energy sector. Okay Çakıroğlu, Chairman of the Turkish Atomic Energy Agency (TAEK), announced in his testimony to the parliamentary Global Warming Research Commission that Turkey's first nuclear power plant will be built by 2015. He underlined nuclear plants would be necessary for reducing the amount of carbon dioxide emitted to the atmosphere (Anatolia News Agency, 10 May 2007). Mithat Rende, Deputy Director General for Energy, Water and Environment at the Ministry of Foreign Affairs summarized the approach:

Nuclear energy is considered to be one of the main components of our energy strategy. Turkey, which is neither an oil nor a gas-rich country, is trying to have a sound energy mix by efficiently utilizing its domestic resources and reducing its dependence on imported fossil fuels through the sequential commissioning of nuclear power into the Turkish electricity grid. Turkey is considering establishing around 5.000 MW nuclear capacity by 2015. Nuclear power should initially constitute 5 to 6 percent of Turkey's total energy generation. The total share of nuclear energy in electricity generation in Europe is about 31 percent. We consider nuclear power to be a realistic option to meet Turkey's future energy needs since it is not only affordable but also provides significant environmental benefits, in particular, in limiting CO₂ emissions (*Turkish Daily News*, 10 April 2006).

Government officials admit that Turkey's rapid growth of GHG emissions is not sustainable and voluntary measures should be taken to take emissions under control (see Table 3). They concentrate on the energy sector, which is the number one contributor to the aggregate GHG emissions of the country. Government officials state that the new environmental regulations, including Environmental Law, Energy Efficiency Law, Renewable Energy Law, and the action plan to control carbon emissions, will limit the country's GHG emissions growth.⁶ In the post-Kyoto era after 2012 the focus will again be on increasing energy efficiency; utilizing thermal, wind and sun energy potential; implementing low or zero-carbon emitting green technologies; building nuclear power

plants; initiating projects to counter the growing use of pollution-causing energy resources, growing use of natural gas; and constructing environmentally friendly waste treatment facilities. According to officials commitments regarding the reduction of GHG emissions will cause huge financial requirements for Turkey. They believe that the issue needs to be analyzed in a healthy way by all sectors, particularly by the energy sector (Anadolu News Agency, 13 March 2007, Nalan *et al.* 2009, p.1428).

Table 3- Forecast CO2 Emissions Based on ‘Business-As-Usual Scenario’ (million metric tons CO2 equivalent)

Emission Sources	2015	2020
Electric	151.8	221.96
Industry	146.53	196.41
Transport	80.03	102.44
Residential	57.64	65.21
Agriculture	14.97	18.61
TOTAL	450.97	604.63

Source: (Apak and Ubay 2007, p.131).

At the summit of the heads of state and government of the United Nations Framework Convention on Climate Change (UNFCCC)’s Conference of Parties (COP15) in Copenhagen on 17 December 2009, Turkish President Abdullah Gül summarized the Turkish Government’s climate change policy in the short- and long-terms: ‘Turkey is a rapidly-developing country. Our economic and social development continue without intervals. We have recorded high growth rates in the past 20 years. However, national income per capita, energy consumption for each person and green house gas emissions include Turkey among countries of medium-income developing country. Turkey will need technological and financial support to fulfill its national reduction and harmonization targets.’ Gül underlined that Turkey took important measures in dealing with climate change and noted that legal arrangements have taken place on renewable energy and energy productivity. In his speech, Gül said the targets could be achieved with the financial and technological assistance of the rich countries. He added: ‘Turkey is

eager to take place in a fair, equalitarian, transparent and achievable new climate regime after 2012.’ Underscoring that global problems require global solutions, Gül mentioned developed countries, within the scope of their historical responsibilities, should urgently pledge to reduce emission and additionally the developing countries should accelerate works to transit to modern low-carbon economy. He reminded that developing countries would need technology transfer and financial support from the developed countries in this important transition process (Anatolia News Agency, 17 December 2009).

The Copenhagen Accord, the last minute deal brought to the table in the Copenhagen Climate Change Conference based on the proposal presented by the United States and major emerging economies: China, India, Brazil and South Africa, is in parallel to the Turkish Government’s climate change policy. According to Article 4 of the Accord, ‘Annex I Parties to UNFCCC commit to implement individually or jointly the quantified economywide emissions targets for 2020’ (UNFCCC 2009a). Turkey, as an Annex I Party with no emissions limitation target under the Kyoto Protocol, will continue to undertake individual efforts to curb its GHG emissions and adapt to negative effects of climate change ‘in accordance with the principle of common but differentiated responsibilities and respective capabilities’ as stated in the Article 1 of the Accord.

The inter-ministerial Coordination Board on Climate Change (CBCC) has initiated a process to prepare a comprehensive National Climate Action Plan. On the path of accession to the EU, Turkey is undertaking considerable efforts to comply with EU environmental legislation on, among others, air quality and emissions control standards, waste management, energy performance of buildings, CO₂ emissions from passenger cars and labelling of electrical appliances. However, no preparatory steps have been undertaken yet with regard to the EU’s Emissions Trading Scheme (ETS). The related ministries and governmental agencies are also working on the country’s second national communication to the UNFCCC, which should clearly identify the status of planned, adopted or implemented policies and measures in combating climate change.

Conclusion

This paper has analyzed Turkish Government's climate change policy. The paper has concentrated on political pressure felt by Turkish policymakers as the country's GHG emissions have increased sharply in parallel to its rapid economic growth.

With a clear understanding of the fact that climate change has already impacted the country, the Turkish Government pays more attention to this global problem. Turkish policymakers would like to initiate sustainable development practices and contribute to the worldwide emissions reduction schemes under the principle of 'common but differentiated responsibilities.' Turkey's climate change policy, like other major emerging economies' policies, is based on three main parameters: priority of economic growth, principle of equity, and sustainable development.

Governing AKP Administration clearly believes that any mandatory emissions reduction target will slow down the economic growth, as they assess rapid economic growth as the only way to deal with the chronic economic problems such as high unemployment rate. Mindful of the historical responsibilities of developed countries for releasing GHG emissions since the Industrial Revolution, Turkey like other emerging markets expects from developed countries a strong leadership in combating climate change. Turkish policymakers argue that the Western countries also should disseminate carbon neutral 'green' technologies to developing countries to support their sustainable development projects. It is believed that this is a moral responsibility of developed countries based on the principle of equity. Emphasizing sustainable development in response to domestic and international pressure, as well as understanding the future mitigation costs, Turkish Government has begun shaping its national climate change action plan and implemented environmental regulations.

However, it is certain that these actions will remain as voluntary individual steps in adapting and mitigating the negative impacts of climate change although the AKP Administration signed the Kyoto Protocol, four years later the Protocol took into force on February 16, 2005. With this late ratification of the Kyoto Protocol the AKP Administration aimed to participate in the flexible mechanisms of the Protocol such as emissions trading mechanism. Turkey would not have a binding emissions reduction

target till 2012 when the Kyoto Protocol expires. Turkey demands to have a special status under the Protocol, which may allow it to participate in emissions trading mechanism of the Protocol without having a mandatory emissions target.

Like other emerging economies' governments, the AKP Administration argues that a commitment in reducing GHG emissions before the completion of big-scale energy investments will lead to serious economic and social problems in Turkey. The administration does not want to risk economic growth by accepting a binding emissions target, considering that Turkey has less GHG emissions per capita than Western countries have. In the post-Kyoto era, Turkey's focus will be on its energy efficiency in order to keep its energy sectors' GHG emissions growth under control. With increasing energy demand and facing climate change problems, policymakers in the country seriously consider nuclear energy as a sound option.

Notes

1. Annex I Parties include the industrialized countries that were members of the OECD in 1992, plus countries with economies in transition (the EIT Parties), including the Russian Federation, the Baltic States, and several Central and Eastern European States. Annex II Parties consist of the OECD members of Annex I, but not the EIT Parties. They are required to provide financial resources to enable developing countries to undertake emissions reduction activities under the Convention and to help them adapt to adverse effects of climate change. In addition, they have to 'take all practicable steps' to promote the development and transfer of environmentally friendly technologies to EIT Parties and developing countries. The Kyoto Protocol sets binding targets for 37 industrialized countries and the European Community for reducing greenhouse gas (GHG) emissions by an average of five percent against 1990 levels over the five-year period 2008-2012. The Protocol allows Annex I Parties with emissions targets listed in its Annex B to participate in emissions trading. For the full list of Annex I and non-Annex I Parties, see the UNFCCC's Kyoto Protocol Status of Ratification available online at http://unfccc.int/files/essential_background/kyoto_protocol/application/pdf/kpstats.pdf.

2. Also see: International Energy Agency, 2005. *Energy Policies of IEA Countries: Turkey*, Paris: OECD/IEA.

3. After an in-depth review (IDR) of Turkey's first national communication to the UNFCCC, which was carried out between September 2008 and August 2009 and conducted by the expert review team (ERT) including Christopher Lamport (Austria),

Daniel Martino (Uruguay) and Hristo Vassilev (Bulgaria), the ERT noted that Turkey has the lowest per capita primary energy consumption and the lowest per capita GHG emissions, among Annex I Parties (average for 1990–2005).

4. According to another study, stabilizing CO₂ emissions to year 2005 levels causes economic costs amounting to 17% and 23% of Turkey's GDP in the years 2020 and 2030, respectively (Kumbaroğlu *et al.* 2008, p.2694).

5. The inter-ministerial National Climate Change Coordination Council set up a Technical Commission that consisted of various working groups who contributed to the preparation of the national communication. The UNDP Project Team worked in-consultation with the interdisciplinary working groups which were formed from several ministries in accordance with main topics of National Communications. For more information, visit website of the UNDP-Turkey at <http://www.undp.org.tr/Gozlem3.aspx?WebSayfaNo=628>.

6. Turkey received the World Bank's first ever Clean Technology Fund (CTF) for financing the country's Private Sector Renewable Energy and Energy Efficiency Project. \$600 million financing of which \$100 million came from the CTF was approved on May 31, 2009 by the World Bank Board of Executive Directors for the project which aims at increasing privately owned and operated energy production from indigenous renewable sources within the market-based framework of the Turkish Electricity Market Law, thereby helping to enhance energy efficiency and curb GHG emissions as a result. (Info-Prod Strategic Business Information, 2009).

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