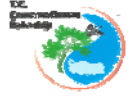




REGIONAL ENVIRONMENTAL CENTER
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TANITILMASI

PROMOTING
CLIMATE CHANGE
POLICIES
IN TURKEY

EFFORTS of TURKEY FOR REDUCTION OF EMISSIONS of GREENHOUSE GASES in 1990-2004

TECHNICAL REPORT

PROJE EŞGÜDÜM VE YÖNETİM / PROJECT COORDINATION AND MANAGEMENT

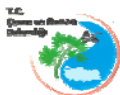
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I. OVERVIEW

I.1 GHG Inventories in the Context of UNFCCC and Kyoto Protocol

The First Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), released as a global consensus of scientists and government officials in 1991, concluded that emissions of greenhouse gases due to human activities shall be considered as one of the most significant environmental problems caused by humankind. In response to this scientific evidence, the United Nations Framework Convention on Climate Change (UNFCCC) was adopted at the Earth Summit in Rio in 1992 with an ultimate goal of stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

The UNFCCC further states that such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner. Referring to the broad participation of national governments and civil society, the level of progress achieved in the implementation of the Convention, introduction of innovative institutional, financial and regulatory process and reflections in sectors other than environmental management, UNFCCC can be considered as one of the most comprehensive and successful initiatives of the environmental community. A *strong support for sustainable development*, the implementation of *precautionary principle* and referring to the *common but differentiated responsibilities* of Parties are the three key drivers for the implementation of provisions of the UNFCCC.

However, it has to be noticed that, at the time of adoption of the UNFCCC (i.e. 1991-1992), it was not possible to have any kind of information on sectoral, national or global emissions and removals of anthropogenic greenhouse gases data, mainly due to the fact that carbon dioxide and other heat trapping gases (i.e. greenhouse gases) were not considered as an air pollutant since carbon dioxide is not a toxic or hazardous element for the survival of both human beings and other elements of ecosystem.

In order to overcome the difficulties raised by the lack of quantifiable data on emissions, pursuant to the provisions of Article 3.3 which states that lack of full scientific certainty should not be used as a reason for postponing measures on mitigation of and adaptation to climate change, membership to the OECD, political process and level of industrialization were considered as the key parameters for defining the commitments of the Parties. Thus, Annex-I List consisted of members of OECD and countries of the former Communist Bloc in the Central and Eastern Europe (economies in transition), representing the countries with historical responsibilities in global warming and climate change until 1990, whereas Annex-II List consisted only the members of OECD as of 1990, representing the group of countries that can mobilize financial resources for the implementation of relevant measures on mitigation and adaptation.

Thus, as an initial attempt to have a better understanding of the contribution of each and every country in the global warming process, Article 4.1 urges all Parties to develop national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol. As the implementation of Article 4.1 is linked to the common but differentiated responsibilities of Parties, Article 4.2 of the UNFCCC states that Annex-I Parties to the UNFCCC, shall take the lead in the preparation of their national GHG inventories, within the scope of their commitments to take the lead in all mitigation and adaptation measures.

Pursuant to Decision 3/CP.1 of the 1st Conference of the Parties (COP1) in 1995, Annex-I Parties are invited to submit as of 15th of April of each year their inventory of greenhouse gases which includes emissions by sources and removals by sinks, calculated according to the guidelines adopted by the IPCC. In order to develop, regularly update and disseminate the methodology related to the preparation of GHG inventories, IPCC has set up a Task Force on National Greenhouse Gas Inventories (TFI). Thus, the first IPCC guidelines for national greenhouse gas inventories were developed in 1996. In a parallel attempt, in 1997 the International Energy Agency (IEA) released the first report on CO₂ emissions from fossil fuel combustion at the national, regional and global level.

The GHG inventories of Annex-I Parties consists of a number of detailed activity data and respective emissions calculated according to default conversions factors and referring to the information between 1990 and last 2 years before the year of submission. Table I.1 represents an overview of summary page of a national inventory. Non-Annex-I Parties do not have to prepare a GHG Inventory but they are invited to provide an information about emissions and removals of their GHGs within the scope of their National Communications that has to be submitted within three years after becoming a Party to the UNFCCC. National Communications of Non-Annex-I Parties are updated on a voluntary basis, with respect to the availability of funding.

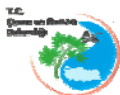


Table I.1 - Summary of a National GHG Inventory (IPCC, 1996)

	CO ₂ - Emissions	CO ₂ - Removals	CH ₄	N ₂ O	HFC	PFC	SF ₆	NO _x	CO	NM VOC	SO _x
	CO ₂ equivalent										
Total National Emissions and Removals											
1. Energy											
A. Fuel Combustion											
B. Fugitive											
2. Industrial Processes											
3. Solvents											
4. Agriculture											
5. Land Use, Land Use Change and Forestry											
6. Waste											
7. Other											
ADDITIONAL INFORMATION											
International Bunker Fuels											
Civil Aviation											
Maritime											
Multilateral Processes											
CO ₂ Emitted from Biofuels											

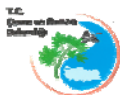
In order to assure the consistency of the reports and facilitate decision making process of the Conference of Parties, GHG Inventories of Annex-I Parties are reviewed by a team of experts that are delegated by the UNFCCC Secretariat. Annex-I GHG Reviews are undertaken at three levels; a desktop review is done by the UNFCCC staff, a centralized review is held annually by a team of experts and country reviews are held through a visit of expert team to the proposed country.

The information gathered both by the UNFCCC and IEA enabled the Kyoto Protocol to the UNFCCC adopted in 1997 to have a more sound basis on the scope and amount of GHG emissions and mitigation targets. Thus, as a sign of progress since 1992, Annex-A of the Kyoto Protocol listed the number of gases and sectors that will be considered for the mitigation efforts and Annex-B of the Kyoto Protocol listed Annex-I countries with their corresponding emissions limitation or reduction targets as of 2008-2012, compared to the level of the emissions in 1990. The main reason to indicate percentage instead of absolute amounts of reduction or limitation of emissions of GHGs was due to the fact that none of the GHG inventories of Annex-I Parties have been verified at the time of adoption of the KP.

In order to ensure compliance to the Kyoto Protocol, which mainly aims to achieve transparency, environmental integrity and avoid any conflict in the financial provisions of the flexibility mechanisms, Article 7 and Article 8 of the Kyoto Protocol urges Annex-B Parties to regularly update and report progress achieved in terms of accounting of emissions and removals of GHGs in a transparent and verifiable manner. Similarly, Decision 13/CMP1 states that each Party in Annex-B shall report as of 1 January 2007, an Initial Report that involves information on the calculated assigned amount of that party, which will be mainly taking into account of the GHG inventory in 2006, covering the period 1990-2004. Furthermore, Article 3.2 asks each Party to make demonstrable progress as of 2005 in achieving its commitments under this Protocol. Therefore, an intensive analysis of the period 1990-2004 is an important source of information for all Parties that are listed in Annex-I to the UNFCCC and Annex-B to the Kyoto Protocol.

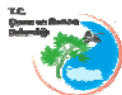
I.2 Overview of Turkey's Actions on Climate Change

Table I.2 lists a chronology of actions in the period 1990-2004, on the way to acced to the UNFCCC and Table I.3 lists a chronology of actions in the period 2004-2008, after being a party to the UNFCCC. Figure I.1 is a schematical representation of Turkey's actions on climate change, as a summary of these two tables.

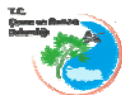


Year	Progress
1991 – 1995	12 meetings of Intergovernmental Negotiating Committee (INC) were held. In the final text of UNFCCC, Turkey was included in Annex-I and Annex-II Lists.
1992	National Climate Change Coordination Group, General Directorate of State Meteorology Services (DMI) acting as the Secretariat, prepared 2 reports: “Protection of Atmosphere and Climate Change” and “Energy and Technology”
1993	National Climate Change Coordination Group prepared National Climate Programme
1995	COP1 - Turkey submitted document FCCC/CP/1995/MISC.5, requesting to be deleted from Annex-I
1997	COP3 - Turkey submitted document FCCC/CP/1997/MISC.3 that includes Country Report
	COP3 – Azerbaijan and Pakistan submitted document FCCC/SBI/1997/15 that requests Turkey to be deleted from both of Annexes
1998	COP4 – Turkey distributed National Report on Climate Change.
	COP4 – Decision 15/CP4 decided to continue to evaluate the request of Turkey to be deleted from both Annexes.
1999	State Planning Organization established a Special Expert Commission on Climate Change within the scope of VIIIth Five Year Development Plan, the report was published by SPO.
	COP5 – The document FCCC/CP/1999/6/Add.1 noted that evaluation of Turkey’s request shall resume.
2000	COP6 – A side event on “Energy and Environment Project” of the World Bank was organized.
	COP6 – Turkey developed her proposal such that her name shall be deleted only from Annex-II.
	World Bank finalized ESMAP Report entitled “Energy and Environment - Issues and Options”
	Ministry of Environment organized “Training Courses on Climate Change” for the public and business institutions in 1999 and 2000.
2001	Pursuant to Prime Ministerial Decree No: 2001/2, the Coordination Board on Climate Change (CBCC) was established, where Ministry of Environment acted as the secretariat.
	COP7 – Decision 26/CP7 noted that taking into account her special circumstances, Turkey’s name shall be deleted from Annex-II, and placed in Annex-I in a position that is different that other Annex-I Parties.
	Ministry of Agriculture organized the panel “Effects of Climate Change on Agriculture”
2002	National Programme on Environment and Development commenced as a joint initiative of Ministry of Environment and UNDP.
	A Working Group on Climate Change was established within the scope of National Report on Sustainable Development for Johannesburg Summit, a special section is included in the report. More detailed version was published by the Technology Development Foundation of Turkey.
	Turkey joined Johannesburg Renewable Energy Coalition.
	The Energy and Environment Report of the World Bank was finalized including a special section entitled “Analysis of Greenhouse Gas Reduction Scenarios in Turkey”.
2003	Law No:4990 that enables accession of Turkey to the UNFCCC was issued in Official Journal issue no:25266 on 21 October 2003.
2004	Pursuant to Prime Ministerial Decree No: 2004/1, the setup and mandate of the Climate Change Coordination Council was revised. 8 Working Groups were established within the scope of Technical Working Commission.
	UNFCCC entered into force for Turkey on 24 May 2004. (Turkey acceded to the UNFCCC.)

Table I.2 - Chronology of Turkey’s accession process to the UNFCCC



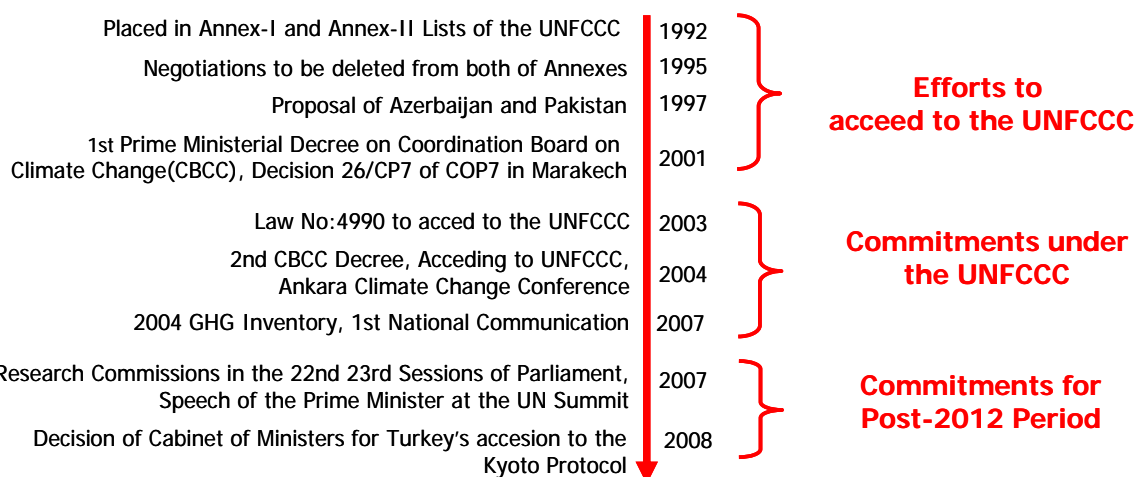
Year	Progress
2004	Ministry of Environment and Forestry and Ministry of Foreign Affairs expressed interest to participate in European Capacity Building Initiative. SPO supported the initiative.
	Ankara Climate Change Conference was organized on 1-3 September. The text of the Convention and 2 guidebooks of the Secretariat were published. A staff of the UNFCCC Secretariat provided a 1-day training for the preparation of the GHG Inventory.
	Turkey applied to benefit from GEF funding for the preparation of Initial National Communication.
	COP10 – Information about Turkey was provided at the REC Side Event on capacity building.
2005	A Sub-Commission was established at the 1st National Council on Environment and Forestry.
	REC Turkey was designated as the UNFCCC Article 6 National Focal Point on Education, Training and Public Awareness.
	The preparations for the Initial National Communication (INC) were commenced with the support of GEF. Trainings on various issues were provided by experts from Ukraine and European Environment Agency (EEA).
	DMI-WMO-ECO organized a Training Course on PRECIS – Regional Climate Modelling. DMI published a children awareness raising publication of WMO in Turkish.
	Gülhane Military Medical Academy (GMMA) published the book on “Global Warming, Climate Change and Health Effects”.
	Cemre – the first climate change bulletin in Turkish was published by REC Turkey.
	Law No: 5346 “The Use of Renewable Sources of Energy for the Production of Electricity” was adopted.
2006	COP11 – The preparations for INC and actions under Article.6 were introduced at REC Side event and Climate Talks Series of the UNFCCC Secretariat.
	“Promoting Climate Change Policies in Turkey”, REC Turkey as the beneficiary, the Ministry of Environment and Forestry and Exergia as partners and Italian Environmental Trust as co-financer was granted by the LIFE Third Countries Programme.
	The first informal meeting was held between senior managers the Ministry of Environment and Forestry, Ministry of Foreign Affairs and Ministry of Energy and Natural Resources and DG Environment of the European Commission
	Representatives of Ministry of Environment and Forestry, TURKSTAT and Ministry of Energy and Natural Resources attended REC workshop in Budapest.
	Turkey’s first official GHG Inventory was submitted to UNFCCC Secretariat.
	Informal Turkish version of Kyoto Protocol was published by REC Turkey.
2007	INC was adopted by the Coordination Board on Climate Change.
	INC was submitted to the UNFCCC Secretariat.
	Strategic Research Center of Turkish Armed Forces held “Workshop on Climate Change”.
	Supreme Council on Science and Technology adopted a decision to develop “Climate Change Research Programme”.
	Turkey’s Initial National Communication was presented at the side event at SB26. Ministry of Environment and Forestry and Ministry of Foreign Affairs held a high level meeting with UNFCCC Executive Secretary. Initial negotiations to convene an IPCC meeting in Turkey were commenced.
	Law No: 5627 “Energy Efficiency Law” was adopted. EEA organized “Workshop on Energy and Environment Scenarios”.
	Within the scope of LIFE Project, informal meetings were held between high levels of Turkish government, Swiss Government and DG Environment of European Commission on Kyoto Protocol.
	A Parliamentary Research Commission on Global Warming was established at the 22nd Session of Turkish Grand National Assembly (TBMM). In the Draft Report, it was recommended for Turkey to commence negotiations on Kyoto Protocol, provided that her Non-Annex-B position shall be preserved.
Working principles of Agricultural Drought Management have been adopted. Cabinet of Ministers adopted a decision on compensation of agricultural losses due to drought. Ministry of Finance and Ministry of Health was included in the Works of the CBCC.	

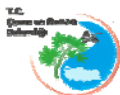


	A Parliamentary Research Commission on Global Warming was established at the 23rd Session of Turkish Grand National Assembly (TBMM).
	At the UN High Level Summit on Climate Change, the Prime Minister H.E. R.T Erdogan announced that Turkey's accession to the Kyoto Protocol was evaluated at the highest level.
	Climate change was included in the Turkey/UK Strategic Partnership.
	IPCC adopted to convene IPCC General Assembly in 2009 in Turkey.
	Turkey supported EU submission at the Ministerial High Level Segment at COP13 in Bali.
2008	At the Final Conference of LIFE Project, for the first time, the Turkish delegation and participating Turkish NGOs met to discuss and exchange their views on the outcomes of a COP meeting.
	Ministry of Foreign Affairs commenced a series of high level meetings with the relevant government institutions on Turkey's accession to the Kyoto Protocol.
	Pursuant to the Prime Ministerial Decree No:2008/2, 2008 was announced as the "Year of Energy Efficiency".
	Experts of Turkish Businessmen's and Industrialists Association (TUSIAD) and Environment Commission of TBMM participated at the "Post-2012 Workshop" hosted by REC in Budapest. At the workshop, REC Turkey delivered a presentation on involvement of advanced developing countries in the international climate change regime in the post-2012 period.
	Chair of Environment Commission of TBMM MP Haluk Ozdalga announced a press release, noting that Turkey shall accede to the Kyoto Protocol as soon as possible.
	Ministry of Environment and Forestry held a consultation meeting with key representatives of business community on Turkey's accession to the Kyoto Protocol and implementation of carbon trade in Turkey.
	Coordination Board on Climate Change adopted decision on Turkey's accession to the Kyoto Protocol.
	Ministry of Environment and Forestry and UN institutions in Turkey commenced a partnership within the scope of the project "Enhancing Turkey's Capacity in Adaptation to Climate Change", funded by the Spanish government.
	Ministry of Environment and Forestry established a Special Expert Commission on carbon trade.
	On June 3rd, Cabinet of Ministers adopted the decision to forward the draft law on Turkey's accession to the Kyoto Protocol to TBMM.
	Subcommissions on Environment, EU Accession and lead commission of Foreign Relations of TBMM approved the draft law on Turkey's accession to the Kyoto Protocol and forwarded the draft law to the General Assembly of TBMM.
Cabinet of Ministers adopted a decision on compensation of agricultural losses due to drought.	

Table I.3 - Chronology of actions at the public level after Turkey's accession the UNFCCC

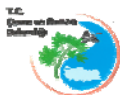
Figure I.1 – Milestones of Turkey's actions on climate change





Based on the information provided above, it is possible to drive below comments on Turkey's overall efforts in climate change;

- Pursuant to the facts that, Turkey has participated at the IInd World Climate Change Conference in 1990 and the Ministerial Declaration thereof, voted for the General Assembly resolutions in early 1990s, and participated at the meetings of the Intergovernmental Negotiating Committee (INC), it can be concluded that Turkey has been involved in early stages of global efforts on climate change.
- At the INC negotiations that gathered hundreds of delegates from all around the world to define text of the UNFCCC, the average size of Turkish delegation was 2, which mainly consisting of primarily a representative of Ministry of Foreign Affairs and a representative of public institution that deals with research and development, rather than representing critical investor government agencies. This approach can be interpreted that Turkey was not able to recognize that the process in climate change was evolving from a purely scientific basis to a more technical, economical and political issue.
- The weakness in closely monitoring the progress at the international level, specifically by those economical sectors that would be expected by the outcomes of the process, eventually led to inclusion of Turkey to be included in both of the Annex-I and Annex-II List, based on the membership of Turkey to the OECD.
- Thus, as long as her name is not deleted from both of Annexes, Turkey declared that she would not become a Party to the UNFCCC, which was opened for signature at the Earth Summit in Rio in 1992.
- Thus, being excluded from the UNFCCC until 2004 due to the country's concern related to her position with respect to the annexes, set up the turning point for Turkey's involvement in any efforts at the scientific, technical, administrative, institutional, financial and social level on climate change.
- During the period 1990-2004 while both Annex-I and Non-Annex-I Parties were involved in numerous capacity building activities at the national and international level to implement and improve the Convention, Turkey was primarily focusing on finding a solution to her national position within the scope of UNFCCC.
- One of the milestone events in this period was the presentation of Country Report voluntarily at the 3rd Conference of Parties in 1997. The report, which was somewhat comparable to the National Communication and Greenhouse Gas Inventory of the Annex-I Parties, led to Turkey's position to be excluded from both of Annexes to be submitted officially to the Secretariat by Azerbaijan and Pakistan. This official submission has, in fact, set up the main background to launch a process that led to adoption of Decision 26/CP7.
- Based on the fact that Turkey's proposal to be excluded from both of annexes was not supported by Parties, in 2000, Turkey changed her negotiating strategy to a position that will enable the country to be placed only in Annex-I with her unique national circumstances.
- The establishment of a Coordination Board on Climate Change pursuant to the Prime Ministerial decree in 2001 that consisted of high level representatives of relevant governmental institutions enabled Turkey to have a broader participation and comprehensive approach at the public level.
- At the 7th Conference of Parties that was held in Marakesh, Decision 26/CP7 was adopted which deleted Turkey's name from Annex-II but placed the country in Annex-I in a position that is different from that of other Annex-I parties. Thus, Turkey succeed to make a change in the Annexes, after the deadline of 3 December 1998, which was stated in Article 2.d of the UNFCCC. Considering the extent of the contents, Dec.26/CP7 can be considered as the only decision that enables such broad provisions for a single Party at the UNFCCC.
- Ankara Climate Change Conference that was convened on September 1-3, 2004, immediately after Turkey's accession to the UNFCCC on May 24, 2004, has been recognized as a milestone progress regarding both due to the fact that it enabled gathering of leading international institutions with their counterparts in Turkey and also finalized longlasting negotiations for Turkey to benefit from Enabling Activity Fund of GEF for the preparation of Initial National Communication. The fact that Turkey is the only non-EIT country in the Annex-I List that achieved such a support from Annex-I can be considered as a practical implication of the country's being in a position that is different from other Annex-I parties, pursuant to Dec.26/CP7.
- The preparation of Initial National Communication that commenced through the mobilization of GEF fund in 2005 filled a serious gap in terms of enabling many official data and information, including inventory of greenhouse gases, publicly available at the national and international level. Moreover, the process of the preparation of the National Communication carried out a more comprehensive mission, in terms of launching many initiatives in research and capacity building at the national level.

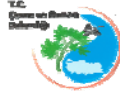


- Pursuant to the New Delhi Work Programme that was adopted at the 8th Conference of Parties in 2002, the designation of Regional Environmental Center Country Office Turkey (REC Turkey) as the national focal point for Article.6 of the UNFCCC on education, training and public awareness in 2005, was both welcome by the international community by one of the very early implementation of the above mentioned Programme and provided a considerable technical support for all stakeholders in terms of facilitating implementation of commitments of the UNFCCC.
- The heavy drought conditions being experienced especially starting from the beginning of 2007 has also enabled the recognition of UNFCCC not just as a tool for mitigation but also as a power tool for adaptation to the climate change.
- Parliamentary Research Commissions that was established in the 22nd and 23rd sessions of the Turkish Grand National Assembly (TBMM) in 2007 and 2008 respectively enabled opportunities for intensive dialogues with the civil society and public institutions. The active position of Parliamentary Research Commission and the Environment Commission of the 23rd Session of TBMM has also helped relevant efforts of the government. In this period, the increased capacity and awareness at the national level also led to a more active involvement of Turkey at the international level. The side event held at the 26th Session of the Subsidiary Meetings in May 2007 enabled establishment of a closer dialogue between Turkish and international negotiations.
- All the above mentioned efforts, including fulfilment of commitments at the UNFCCC, a more active involvement in the activities of the UNFCCC, a more active dialogue and collaboration with the non-governmental actors at the national and international level have all contributed a more appropriate assessment of Turkey's position with respect to the Kyoto Protocol.
- The background papers and formal/informal meetings for high level decision makers to have a more comprehensive and appropriate information have also facilitated taking of necessary steps at the political level. Moreover, the evaluation of the concept of climate change at the UN Security Council and UN General Assembly have both enabled a more active contributions of officials of Ministry of Foreign Affairs and achieved highest level involvement of political decision makers. Thus, pursuant to the fact that the governmental decision for Turkey's accession to the Kyoto Protocol was forwarded to the Parliament only 10 months after the announcement of the Turkish Prime Minister at the UN General Assembly that Turkey is considering accession to the Kyoto Protocol at the highest level and the adoption of the relevant decision by the Commissions of the Parliament in less than a months's period might lead to a conclusion that Turkey was one of the leading countries where efforts at the international event have resulted in the most substantial outcomes at the national level.
- In addition to the efforts at the United Nations level, the success of the dynamic process in the last 2 years can also be considered as a successful outcome of the EU Accession process of Turkey. In comparison to the fact that in the period starting from 2004 until the beginning of 2007, Turkey has submitted view on only 1 agenda item of the UNFCCC, in the period between the start of 2007 until the beginning of 13th Conference of Parties in Bali in December 2007, Turkey has supported 10 submissions of the EU on issues related to the agenda of UNFCCC and 1 submission of the EU on AWGKP. Similarly, at the Bali Conference, for the first time Turkey supported the EU submission at the High Level Segment of a COP meeting. Finally, at the historical plenary session negotiations on the last day of Bali Conference, Turkey independently but in a parallel position, supported with the EU, supported position of developing countries. Thus, all the above critical steps can be considered as the concrete outcomes of the fruitful dialogue between Turkey and the EU in the field of climate change.

Turkey's position with respect to UNFCCC and Kyoto Protocol as of 2008, together with some other critical countries is presented at Table I.4.

UNFCCC List	Relevant KP Articles	KP List	Critical Parties to the KP	Critical Non-KP Parties
Annex-II	Article 3.9	Annex-B		USA
Annex-I		Non Annex-B	Belarus <i>(until entry into force of Dec. 10/CMP2)</i>	Turkey
Non Annex-I	Article.9	Non Annex-B	Cyprus and Malta <i>(Member of EU as of 2004)</i> Mexico and S.Korea <i>(member for OECD since 1994 and 1996)</i> Argentina <i>(Announced voluntary targets at COP4)</i>	Kazakhstan <i>(Urges to be evaluated as Annex-I in the KP)</i>

Table I.4 – Milestones of Turkey's actions on climate change



II. METHODS

Turkey's first GHG inventory was submitted to the UNFCCC Secretariat in April 2006. Considering the magnitude of work load that have been faced in conducting such a study for the first time, some miscalculations have been observed and the inventory have gone through second and third revisions in August 2006 and January 2007. Final version of the inventory was also included in the First National Communication of Turkey to the UNFCCC that was submitted to the Secretariat in February 2007.

In the GHG Expert Review Report of Turkey, it has been noted that the expert review team was not able to fully assess rationale for the choices of data, methods and assumptions and Turkey was recommended to follow the requirements of the UNFCCC reporting guidelines for its future submissions and was encouraged to consider a more extensive use of higher-tier methods for key categories.

The analysis in this report is mainly based on the actual data provided in the 2006 GHG inventory of Turkey which covers the period 1990-2004. Thus, it is possible that the results and conclusions might vary significantly, based on the improvement of data quality in future submissions, which has been the case for almost all Annex-I Parties in the past. Concerning data other than GHG emissions, the Energy Balance Sheets of the Turkish Ministry of Energy and Natural Resources are used to obtain the information on energy production and consumption. Socio-economic data are gathered from the development indicators database of the World Bank and the Statistics Division Database of the United Nations. The official reports of the UNFCCC Secretariat and reports of research conducted by various institutions and organizations are used for the comparisons of the figures among various countries. A decomposition analysis of emissions of greenhouse gases is also developed.

III. RESULTS

III.1 Sectoral Analysis of Turkey's GHG Emissions in 1990-2004

Figure III.1 provides a sectoral breakdown and evolution of GHG emissions between 1990-2004. The figures show that, except agriculture, emissions from all sectors have increased. The highest increase is increased in the waste sector (331%), which is mainly due to the fact that the data for the years before 1994 has been extrapolated rather than based on a calculation. Figure III.2 represents breakdown of emissions in 2004. It has to be noted that, as of 2004, 77% of Turkey's GHG emissions are resulted from the combustion of fossil fuels. This figure is slightly below that of EU, but above global average. Similarly, the contribution of agriculture and waste sectors account for 62% of the non-fossil fuel GHG emissions, which is also below EU and above global average. Figure III.3 presents changes in GHG emissions of subsectors in 1990-2004. It has to be noted that that increase of GHG emissions in electricity production (132%) ranks the highest followed by non-fuel carbon emissions in industry (102%) and fossil fuels in industry (82%).

Figure III.1 – Sectoral breakdown of GHG emissions in 1990 and 2004.

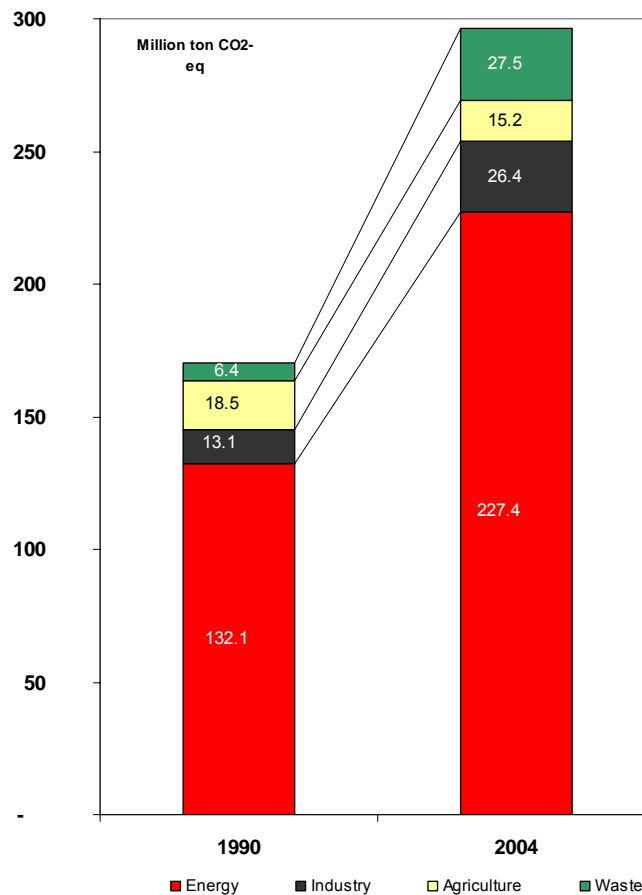


Figure III.2 – Breakdown of GHG emissions in 2004

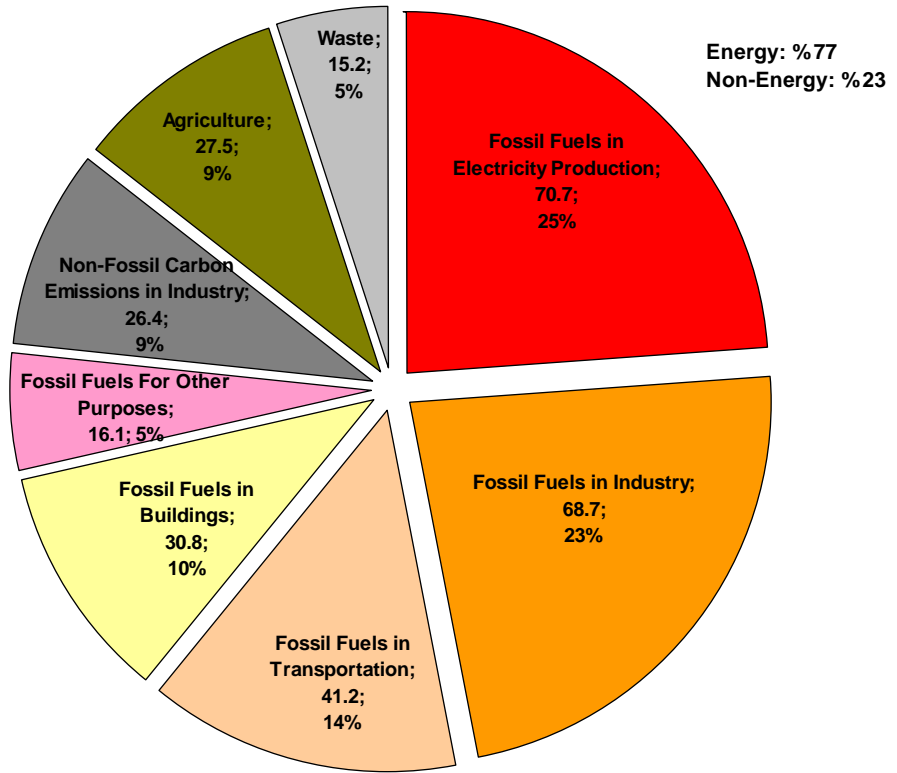
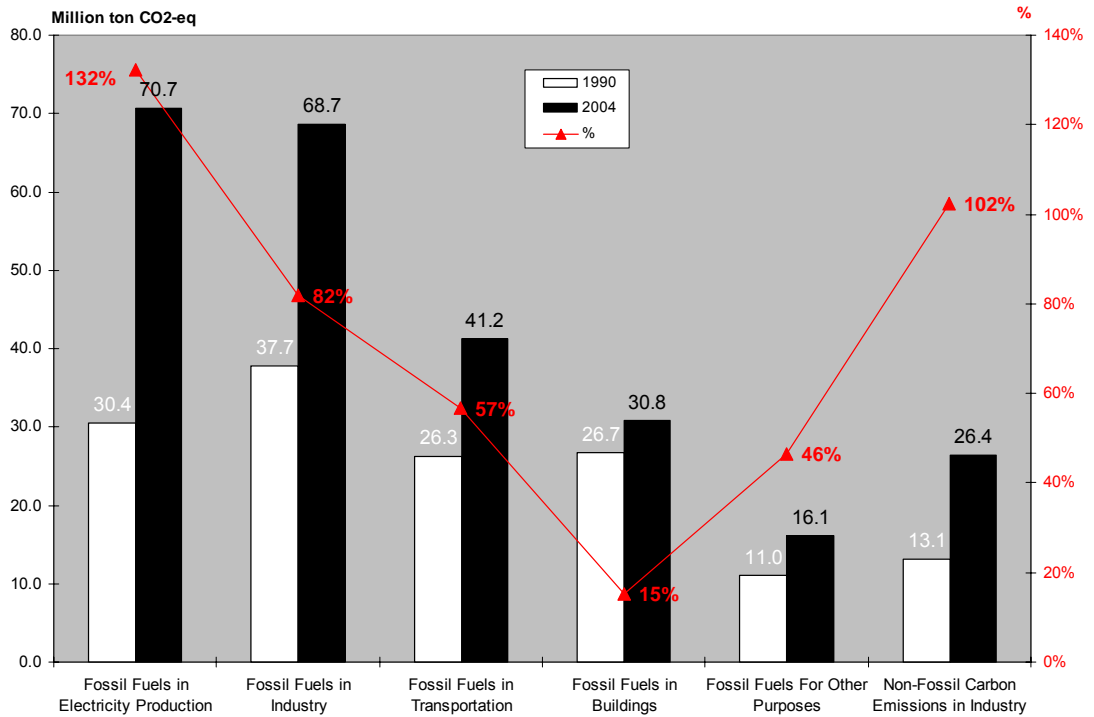


Figure III.3 – Breakdown of changes in GHG emissions in 1990-2004



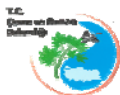


Figure III.4 shows “The Top 10 List” for highest GHG emissions in 2004. These 10 subsectors emit in total 236.3 million tons CO₂-eq, which account for 80% of the GHG emissions in 2004. The use of coal in industry and electricity and fuel-oil in road transportation are recognized as the primary subsectors. Coal combustion in electricity, industry and buildings in total account for 30% of all emissions and 37% of the Top 10 List in 2004. It is interesting to note that the list involves 2 non-energy sectors (solid waste landfill and enteric fermentation) that account for 13% of the total GHG emissions in 2004, which can lead to a conclusion that there remains a considerable gap in the field of urban and rural development in order to fully consider the country as a developed country.

Figure III.5 shows “The Top 10 List” for highest absolute increases in GHG emissions in 1990-2004. The emissions of these 10 subsectors reach 118.7 million tons CO₂-eq, which account for 94% of the increase in 1990-2004. It is important to note combustion of natural gas in electricity, industry and buildings account for 40% of the Top 10 List and 32% of all increases in GHG emissions in 1990-2004.

Figure III.6 shows “The Top 10 List” for highest increase rates in GHG emissions in 1990-2004. The increase in GHG emissions resulting from the use of natural gas in buildings (9271%), industry (507%) and civil aviation (430%) rank the first three places.

Based on the analysis presented in Figures III.4, III.5, III.6, the Top 10 list for priority subsectors in Turkey in 1990-2004, based on the GHG emissions, amount of GHG increase and rate of GHG increase, are presented in Table III.1 and Figure III.7. The Top 10 List represents 63% of all GHG emissions in 1990 and 76% of all GHG emissions in 2004. Thus, the rate of increase (111%) in total emissions of Top 10 List is approximately 1,5 times higher than rate of increase of total GHG emissions (74%).

The Top 10 List indicates that coal, natural gas and fuel oil rank the first 3 places, based on types of fuel and industry, electricity and transportation rank the first 3 places, based on types of sector.

It has to be noted that combustion of coal in buildings and emissions from enteric fermentation are not included in Top 10 List, due to the fact that emissions from these sectors have a decreasing trend, despite their high contribution in absolute GHG emissions.

Similarly, due to the enormous increase rate in 1990-2004, subsectors of use of natural gas in buildings, use of natural gas in industry and civil aviation have been included in the Top 10 List, despite their relatively small contribution in overall GHG emissions.

Table III.1 – The Top 10 List For Priority Subsectors in Turkey in the period 1990-2004.

Priority	Sub Sector	GHG Emissions (million ton CO ₂ -eq)		Change in 1990-2004	
		1990	2004	(million ton CO ₂ -eq)	%
1	Coal in industry	23.4	40.3	16.9	72%
2	Solid Waste Landfill	6.4	27.5	21.1	331%
3	Elec. and Heat from NG	5.4	27.5	22.1	405%
4	Elec. and Heat from Coal	21.6	35.4	13.8	64%
5	Road Transportation	24.1	34.8	10.8	45%
6	NG in Industry	1.7	10.5	8.8	507%
7	NG in Buildings	0.1	9.8	9.7	9271%
8	Liquid Fuel in Industry	12.6	17.9	5.3	42%
9	Cement production (klinker)	10.3	16.7	6.4	62%
10	Civil Aviation	0.9	4.8	3.9	430%
	Sum of Top-10 Subsector	106.5	225.2	118.7	112%
	Annual Total	170.10	296.60	126.50	74%

Figure III.4 - The Top 10 List for Highest GHG Emissions in 2004

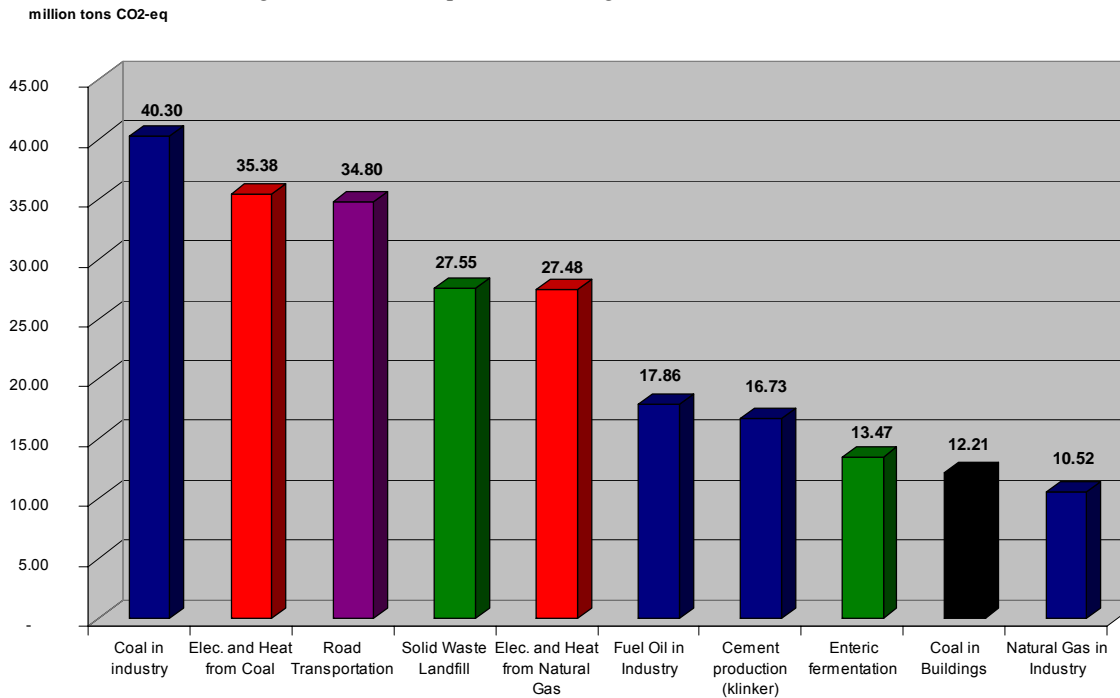


Figure III.5 - The Top 10 List for Highest Absolute Increase in GHG emissions in 1990-2004

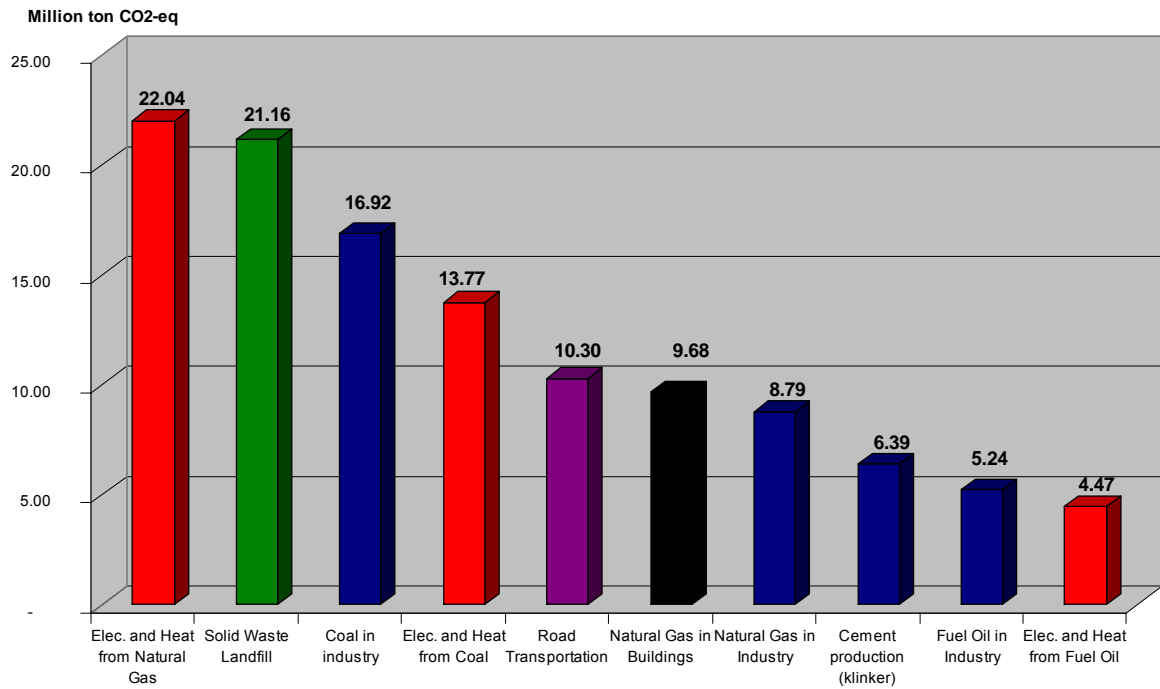


Figure III.6 - The Top 10 List for Highest Increase Rate in GHG emissions in 1990-2004

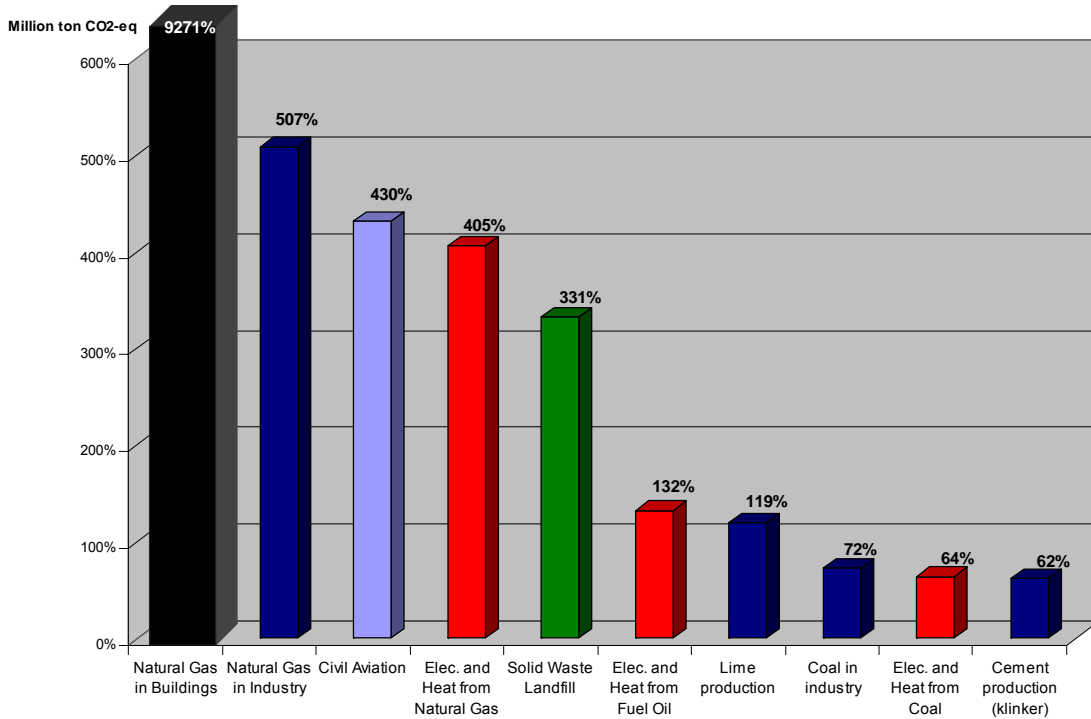
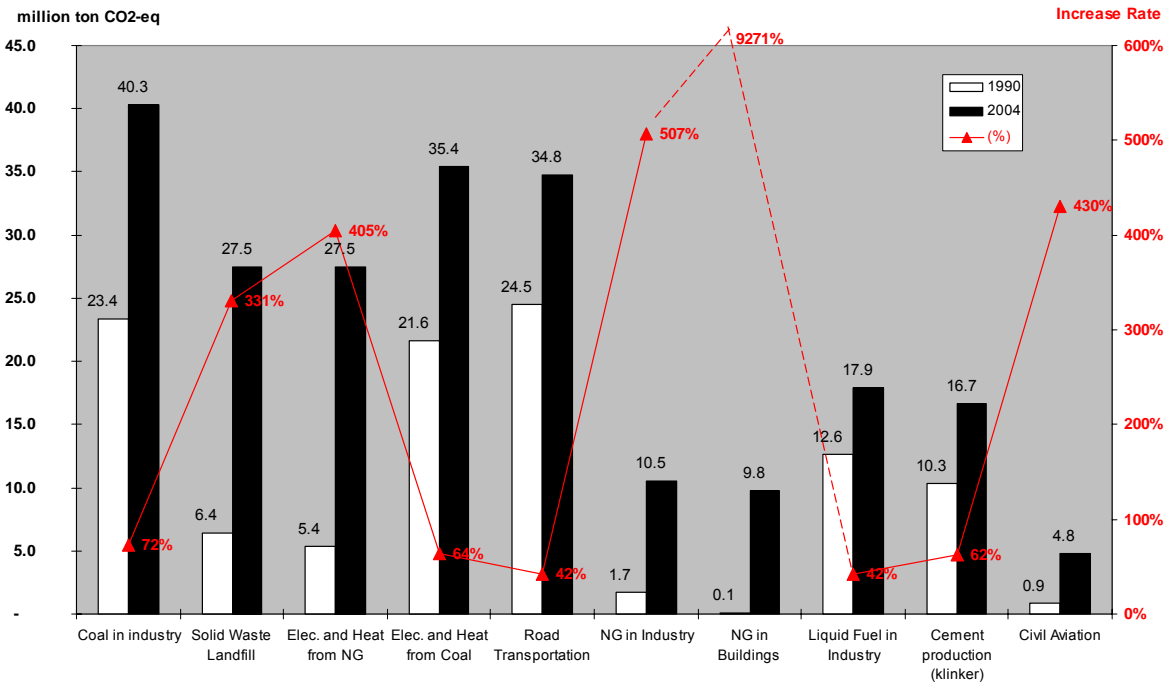


Figure III.6 – Top 10 Subsectors based on total emissions, absolute changes and change rate in 1990-2004



III.2 Mitigation Efforts in the Period 1990-2004

The GHG inventory of a country basically reflects the changes in the emissions of GHGs as a result of actions taken in the country in the stated period. However, at the international level, Parties are requested to provide further details about the difference in the trend of emissions in case if the stated measures had not been implemented so that a comparison between the “business as usual” path shall also be observed. A comparison between the baseline emissions trend (BAU) and the realized emissions trend is also essential in the design of the “cap-and-trade” systems or other carbon market tools since the difference between the two pathways can be valued at the compulsory or voluntary carbon market. Thus, Figure III.7 present a hypothetical evolution of GG emissions of a typical Kyoto Protocol Annex-B Party whereas Figure III.8 present actual values of the European Commission.

Figure III.7 – GHG Emissions of a Hypothetical Annex-B Party

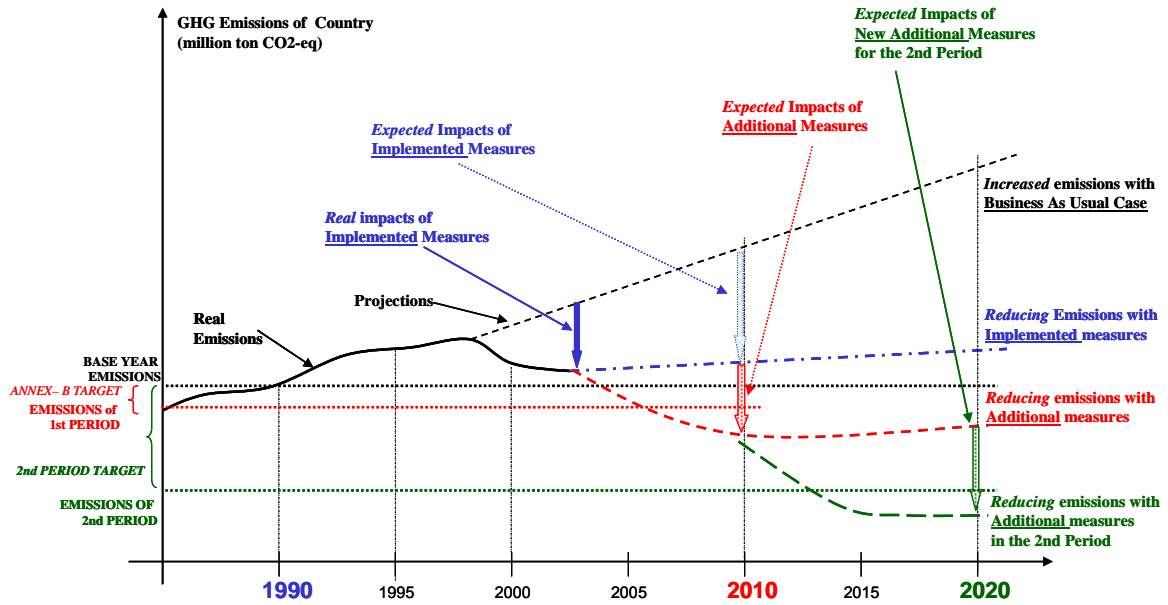
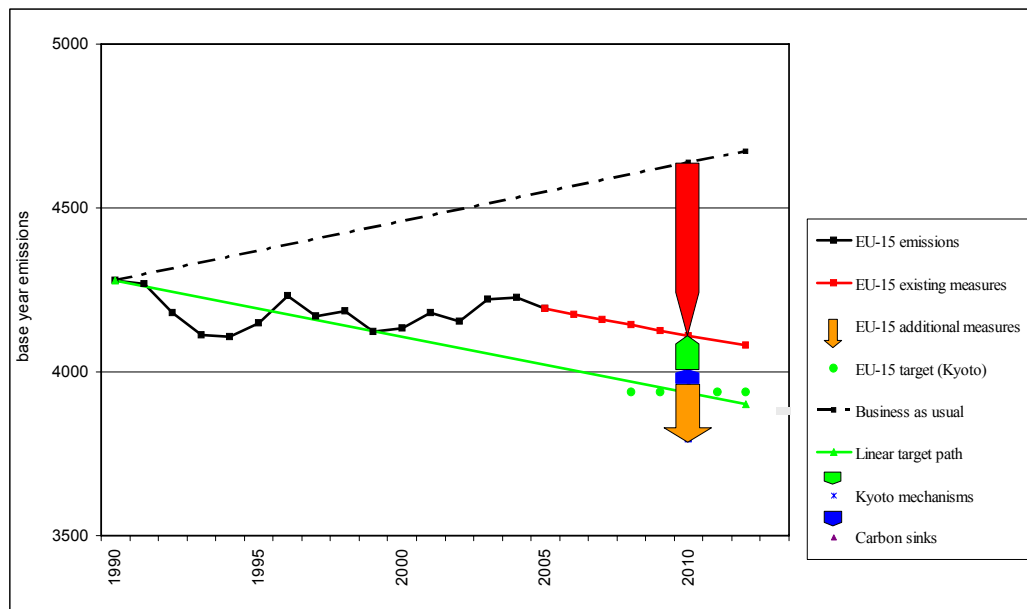
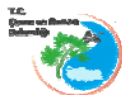


Figure III.8 – Actual and Projected Emissions of the EU15 in 1990-2010





The trends in Turkey's first GHG inventory in 2006, involving data for the period 1990-2004, presents the emissions pathway of the country with some measures implemented. However, an official BAU pathway has not been developed yet. Table III.2 lists a number of activities that have a direct impact on the GHG emissions of the country. It is important to note that the number of entries in Table III.2 can be extended in case any quantified activity data can be developed.

Table III.2 – Individual local/national efforts for the climate change mitigation in Turkey in 1990-2004

No.	Sector	Sub-Sector	Method	Explanation
1	Energy	Electricity Production	Fuel Change (shift from coal to natural gas)	Coal in electricity from fossil fuels fell from 65% to 50% in 1990-2004 NG in electricity from fossil fuels rise from 23% to 39% in 1990-2004
2	Energy	Electricity Production	Fuel Change (from fossils to renewables)	RES in electricity rise from 20% to 31% in 2002-2004
3	Energy	Electricity Production	Waste-to-Energy	Wastewater and solid waste treatment plants in Ankara (1998), Bursa(1998), Kemerburgaz (2002)
4	Energy	Buildings	Fuel Change (from coal to gas)	Coal in fossil fuels in buildings fall from 47% to 21% in 1990-2004 NG in fossil fuels in buildings rise from 1% to 47% in 1990-2004.
5	Energy	Buildings	Insulation	New standards (TS825) for new buildings since 2000 Use of Insulation products/building rise from 10.6 m ³ /building to 21.2 m ³ /building
6	Energy	Transport	Urban railways	Ankara (1997+1998), İstanbul (1996+2000+2003), İzmir (2001), Bursa (2003)
7	Energy	Transport	Fuel change (fuel-oil to LPG)	LPG in transport rise from 405,000 ton to 1,260,000 ton in 1990-2004
8	Energy	Transport	Change of Vehicle Type	A total 325,000 vehicles has been withdrawn from traffic
9	Energy	Industry	Efficiency	Iron/Steel sector; integrated product GHG intensity fall from 2.59 to 2.22 in 1990-2004
10	Waste	Solid Waste Management	Methane	Number of solid waste disposal sites increase from 0 to 16 in 1990-2004

It is important to note that, due to the fact that Turkey was not a Party to the UNFCCC until 2004, economical, environmental and health concerns at the local or national level were much more dominant than concerns on global warming concerns in the decision making process of the above mentioned measures. Moreover, as in the case of shifting to natural gas, it is a fact that some of these measures have the potential to risk Turkey's energy security and socio-economical infrastructure. And finally, pursuant to the Non-Party position to the UNFCCC until 2004 which was a result of the fact that Turkey was not explicitly considered as a developing country within the scope of Convention, none of the above mentioned were supported by the international carbon funds and all of the above mentioned measures were implemented by national funds in Turkey.

Therefore, in order to conduct fair and sustainable negotiations both at the UN and EU level for the commitments of Turkey in the post-2012 period, it is essential to make transparent and verifiable calculations on reduction of emissions of GHGs as a result of all the implemented measures listed in Table II.2, in order to obtain a full BAU pathway of Turkey in the period of 1990-2004. But within the scope of this study, only selected number of actions were analysed in terms of GHG reduction.

Figure III.9 shows that, just by implementing measures on promoting use of natural gas and efficiency in iron/steel sector, Turkey saved a total of 19,5 million ton CO₂-eq of GHG emissions in the atmosphere. Thus, if these measures have not been implemented, increase rate of Turkey's GHG emissions in the period 1990-2004 would be 86%, instead of 74%.

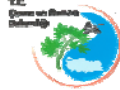
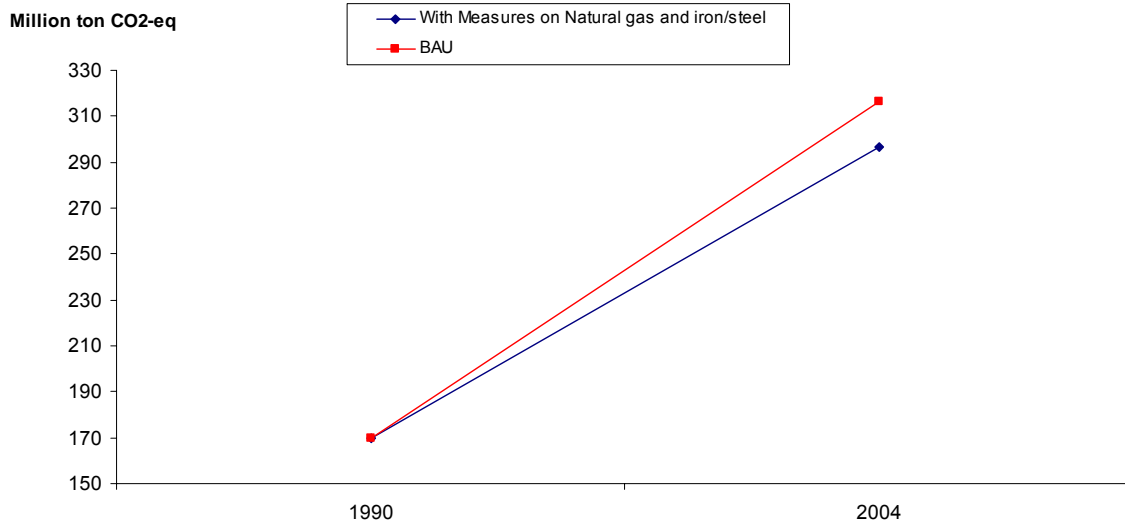


Figure III.9 Business-as-usual path for Turkey if natural gas and efficiency policies have not been implemented.



III.3 Comparison of Socio-Economic and Carbon Indicators in the Period 1990-2004

As GHG emissions are result of human activities, it is essential to link and compare basic socio-economic development figures with that of the changes in the emissions of GHGs in order to present a better understanding of the rationale behind the changes in the period.

As a preliminary effort to have a better understanding of the GHG emissions in 1990-2004, CO₂ emissions from the combustion of fossil fuels have been analyzed by decomposition method. The method is based on formula (i) which takes into account *carbon intensity*, *fossil fuel intensity*, *conversion efficiency*, *energy intensity*, *growth and population respectively*.

$$CO_2 = \frac{CO_2}{FOSS} \frac{FOSS}{TPES} \frac{TPES}{TFC} \frac{TFC}{GDP} \frac{GDP}{POP} \text{ POP} \quad (i)$$

Figure III.10 shows that growth in the population and economy are the main driving forces for the increase in CO₂ emissions due to fossil fuel combustion in 1990-2004. It is interesting to note that, despite a higher rate of increase in fossil fuel intensity (7.2%) than increase rate of energy intensity (1.4%), the overall carbon intensity decrease by 1.3%. Considering the time scale of the evolution of CO₂ emissions, it is important to note that the highest decrease (-2.4%) of fossil intensity was achieved in 1997-2001 whereas highest decrease in conversion intensity was achieved in 2001-2004, a period when a significant increase in use of hydroelectricity was achieved.

The results of the decomposition analysis prove that the change in the emissions of GHGs might be due to changes in many different parameters. Therefore, in order to provide a more comprehensive analysis, data on GHG emissions are incorporated with various socio-economic factors, which is presented in Table II.3

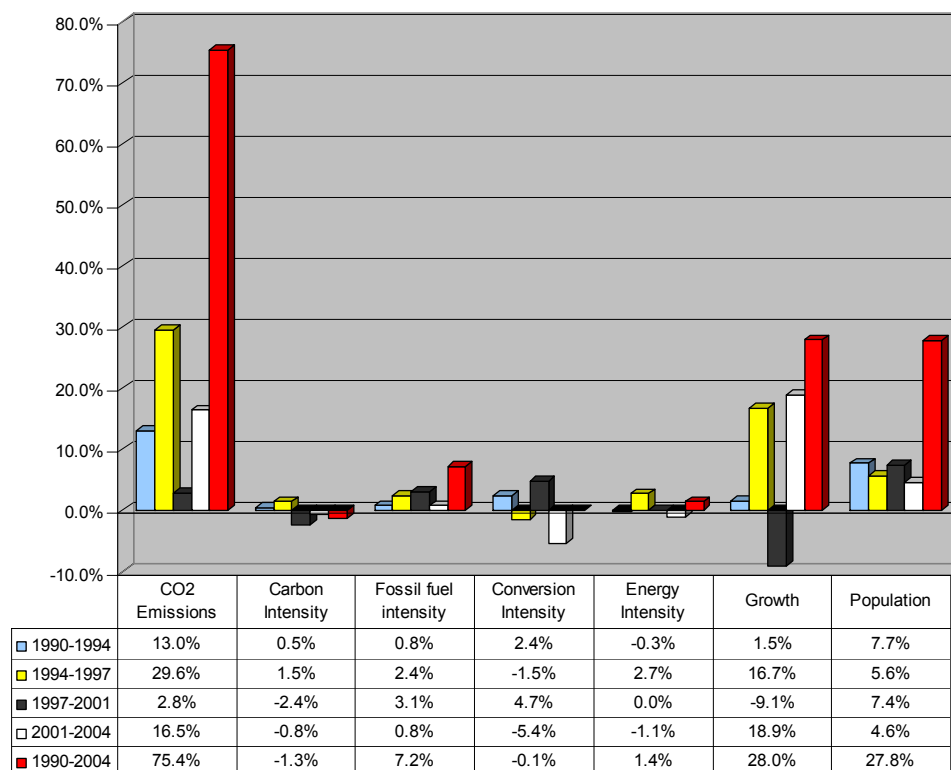
Figure III.10 – Decomposition analysis of CO₂ emissions from fossil fuel combustion in Turkey in 1990-2004.

Table III.3 - Selected socio-economic and carbon data and indicators of Turkey in 1990-2004.

		1990	2004	1990-2004	
Socio-Economy	Data	GDP (PPP) (billion USD 2000)	306.9	502.0	64%
		Population (million cap)	56.2	71.8	28%
		Per Capita GDP (PPP) (USD 2000/cap)	5,466	7,055	29%
		Total Primary Energy Supply (Mtoe)	53.0	87.8	66%
		Total Electricity Generation (billion kWh)	57.5	150.7	162%
	Indicators	Energy Supply per Capita (toe/cap)	0.94	1.22	30%
		Electricity Generation per capita (kWh/cap)	1,024	2,099	105%
		Share of Energy in the Total Primary Supply	11%	14%	25%
		Share of Renewables in Total Primary Energy Consumption	18%	12%	-33%
		Share of Renewables in Electricity Production	40%	31%	-24%
Carbon	Data	Energy Consumption for Electricity Production (Toe/1000 kWh)	0.10	0.08	-21%
		Energy Intensity of Economy (Toe/1000 USD)	0.173	0.175	1%
	Indicators	Total GHG Emissions (million ton CO ₂ -eq)	170.1	296.6	74%
		Electricity GHG Emissions (million ton CO ₂ -eq)	30.4	70.7	132%
		Per Capita GHG Emissions (ton-CO ₂ -eq/cap)	3.0	4.1	37%
		Carbon Intensity of Economy (ton CO ₂ -eq/1000 USD)	0.55	0.59	7%
Carbon Intensity of Electricity (kg CO ₂ -eq/kWh)	0.53	0.47	-11%		
Carbon Intensity of Electricity Production (ton CO ₂ -eq/Toe)	5.3	5.9	12%		
Carbon Intensity of Energy Supply (ton CO ₂ -eq/Toe)	3.2	3.4	5%		

Based on the information provided above, the following findings can be highlighted;

- As of 2004, the country's per capita emissions (4.1 ton CO₂-eq/cap) are still well below the OECD average and slightly above the global average.
- However, it is observed that in the period 1990-2004, increase in total emissions (74%) and per capita emissions (37%) are higher than the increase in the economic income (68%) and the increase in the population (28%) in Turkey. The increase in the carbon intensity (7%) of economy is also higher than the increase in the energy intensity (1%). Thus, despite progress achieved by the activities listed in Table III.2, it can be concluded that the country has been carbonized in terms of lifestyles and economic preferences.
- In the period 1990-2004, increase in per capita electric consumption (105%) is much higher increase in per capita energy supply (30%). Although electrification can be considered as an indicator of industrialization, the fact that economic income was increased by only 64%, raises the need to question on the efficiency of the use of the electricity.
- It is interesting to note that in the period 1990-2004, increase (132%) in the emissions from greenhouse gases in the electricity production is much less than increase (162%) in the amount of electricity produced. As an indication of increase in efficiency, the decrease by 21% in the use of energy for electricity production has compensated the decrease of renewables in electricity production by 24%, thus carbon intensity of electricity production has been limited to 12% and thereby, carbon intensity of electricity was decreased by 11%.

In addition to the figures provided in Table III.3, it would also be helpful to have a timeline analysis of the progress achieved in 1990-2004 which is presented in Figures III.11,12,13.

Figure III.12 – Evolution of socio-economic and carbon data in 1990-2004

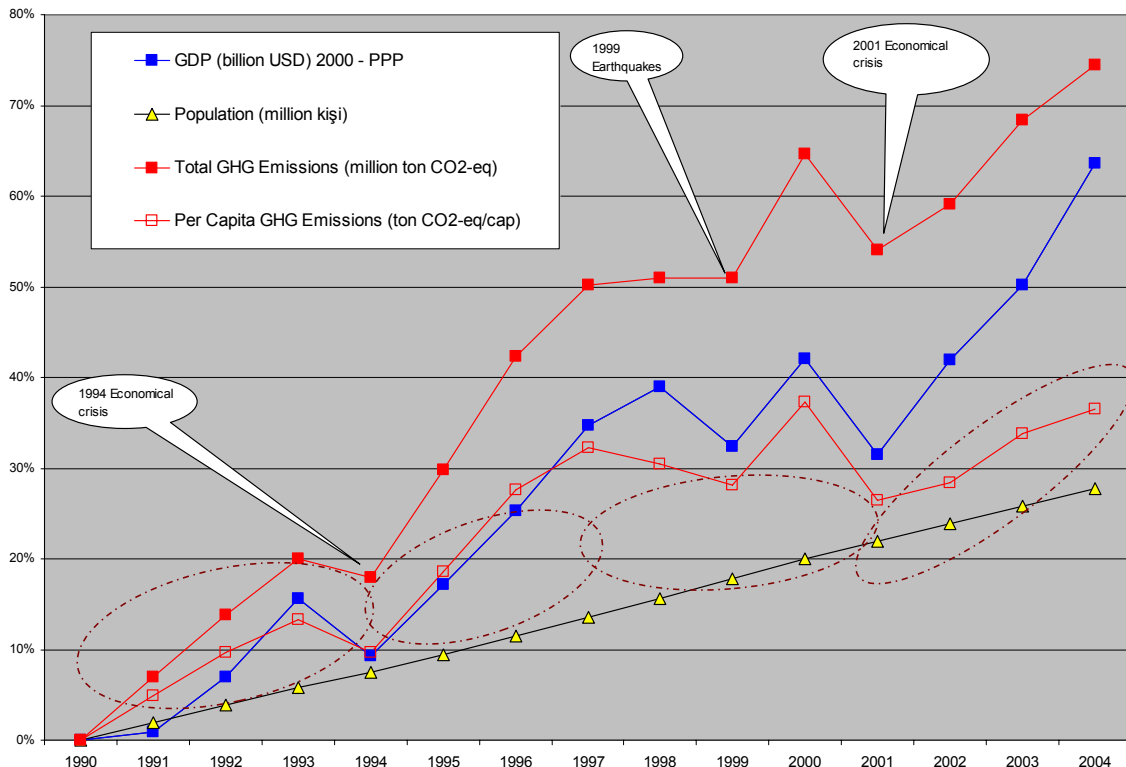


Figure III.13 – Evolution of electricity production in 1990-2004

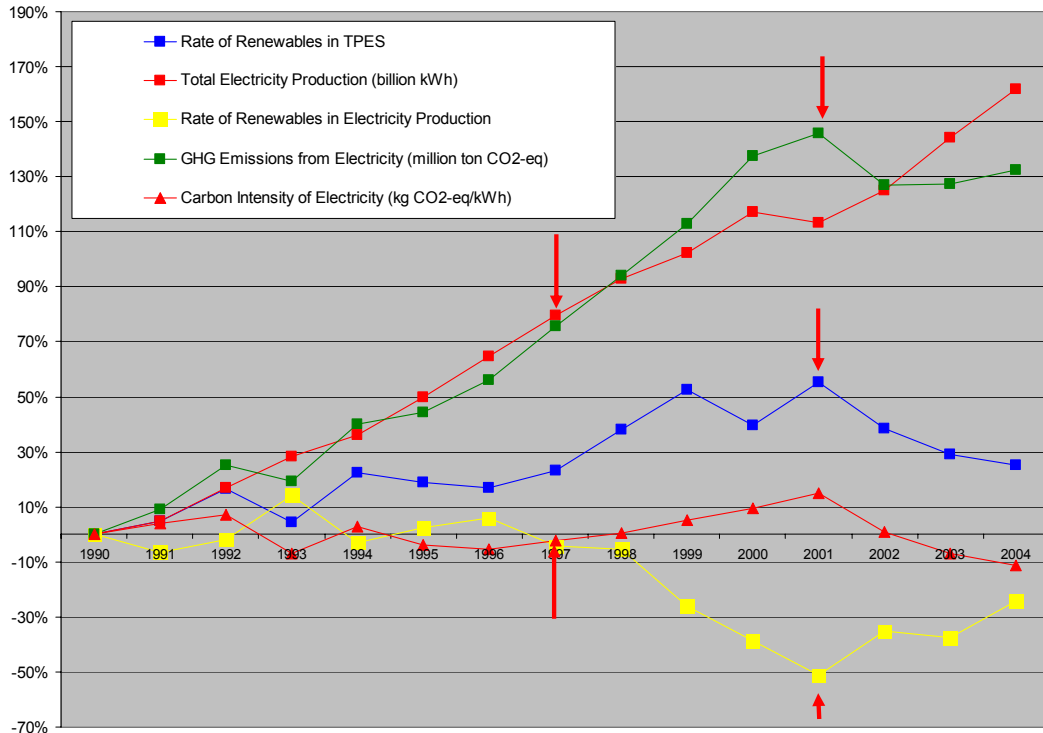
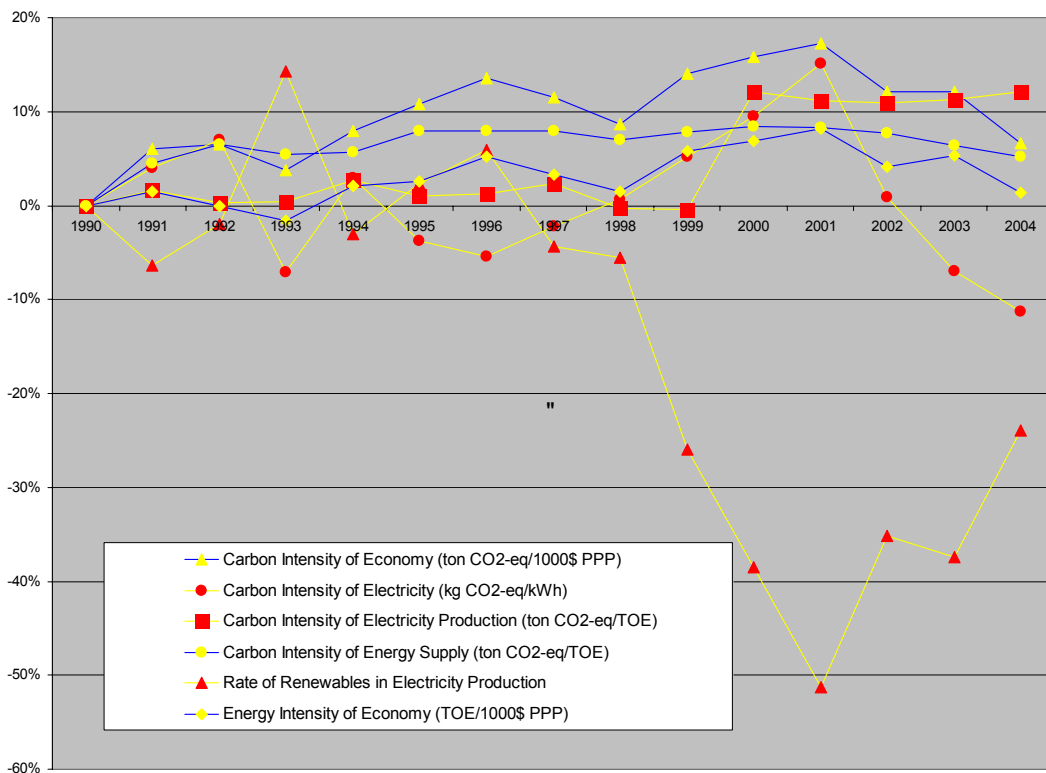
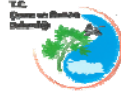


Figure III.14 – Carbon intensity of economy and electricity production in 1990-2004





Based on the above information, the following issues can be highlighted;

- This 14 years period can be evaluated in 4 different slots; 1990-1994, 1994-1997, 1997-2001 and 2001-2004.
- It is important to take note of decoupling between economic growth and emissions of GHGs in the period 2001-2004.
- In terms of use of renewables, the decrease in the period 1997-2001 and increase in 2001—2004 was inversely proportionally reflected to the emissions of GHGs. However, in the period 1997-2001, a lower increase of rate of emissions of GHGs can be attributed to the increased use of natural gas in the period.

III.4 Comparison of Turkey's GHG Figures with Other Parties in the Period 1990-2004

At the global level, both in the OECD countries and in many countries of the developing world, the period 1990-2004 was recognized as the enhancement energy efficiency and renewable energies, as an important result of climate change policies and measures. Figure III.11 presents a comparison of energy use and energy intensity of selected OECD countries in the period 1990-2004.

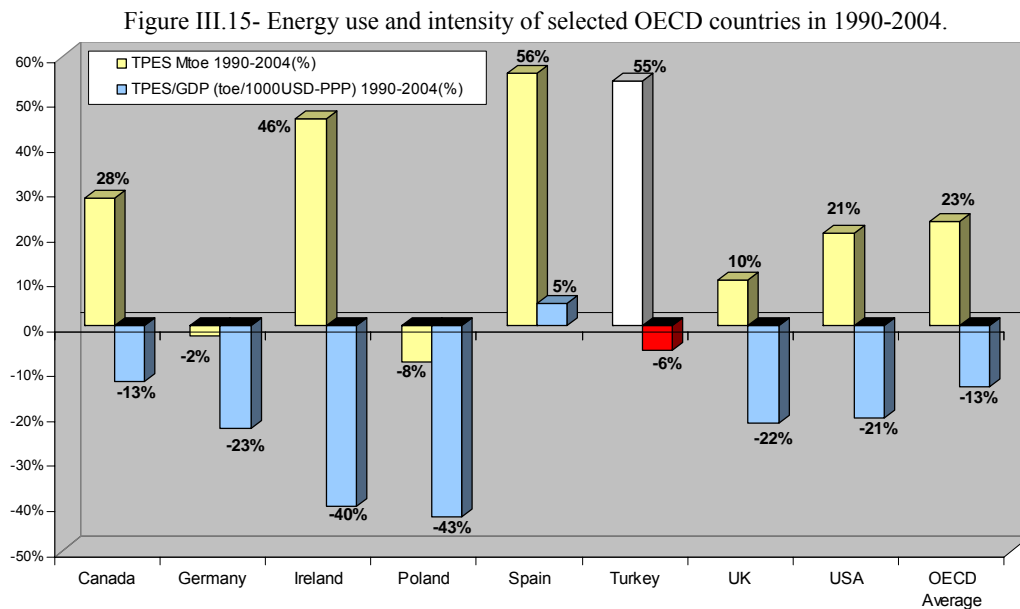


Figure III.15 shows that on average, OECD countries have both increased their energy consumption and improved significant progress in terms of energy efficiency. But Turkey and Spain, the former not being involved in the global climate change regime and the latter not properly addressing climate change as a primary concern due to the suitable position in the EU Bubble, are recognized as the countries which did not place appropriate emphasis in energy efficiency. The two countries have also been recognized as the 2 countries that have the highest rate of increase in the emissions of GHGs. Furthermore, during 1990-2004, very little progress in the utilization of wind energy was achieved in Turkey, despite the very suitable climatic conditions and the fact that the sector was boosted in the OECD countries in the late 1990s.

Thus, the lack of progress in enhancement of energy efficiency and better utilization of renewable energies can be considered as the major consequences of lacking climate change policies in Turkey in 1990-2004, due to the fact that Turkey was not a party to the UNFCCC.

The first submission of Turkey's GHG inventory in 2006 provided an enabling environment for a more appropriate comparison of the country among Annex-I and Non-Annex-I Parties for the first time. Turkey's ranking as the first among all Annex-I Parties in the rate of GHG increase was widely discussed by all stakeholders. But a more detailed and careful analysis is essential to determine the position of the country in the most appropriate way. Table III.4 presents an in-depth comparison of Turkey's position with respect to the other countries of Annex-I, based on the information provided in the Technical Paper of UNFCCC.

Compared to other 40 Annex-I Parties, TURKEY's		
Rank in Key Parameters	Rank in Performance Indicators	In brief, TURKEY;
5th ; The Most Populated	1st ; in the Rate of Population Increase in 2020-2004	is a very crowded country with a rapidly increasing population, however, the overall and general quality of life of this big population is not as high as expected;
	40th ; in Human Development Index	
14th ; The Highest Total Primary Energy Supply	40th ; Highest Per Capita Energy Supply	can not provide adequate amount of energy, when compared to the size of the population;
30th ; The Highest National Income	38th ; Highest Per Capita Income	in spite of relatively inadequate energy supply per capita, the absolute value of energy consumption is also not effective in terms of economical productivity;
	26th ; Highest Energy Consumption Per Income Generated	
13th ; The Highest Total GHG Emissions	40th ; Highest Per Capita GHG Emissions	the energy profile that is huge in absolute terms, inadequate in meeting the demand, less efficient in terms of economic productivity, also yields in a relatively carbon intensive energy sector, which provides a significant potential in reduction of emissions of greenhouse gases.
	16th ; Highest GHG Emissions Per Income Generated	
	8th ; Highest GHG Emission Per Energy Supply	
	1st ; Highest Rate of Increase in GHG Emissions in 1990-2004	

Table III.4 – Comparison of Turkey with other Annex-I Parties, based on FCCC/TP/2007/1

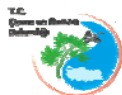
Dec.26/CP7 adopted in Marrakesh at COP7 provides the legal background for Turkey to be considered different than that of other Annex-I Parties. The differentiating position of the country based on a number of criterion that is listed in Table III.4 can also be considered as an important supporting tool for the validity of this decision. However, it is also important to have a detailed comparison of the country with respect to other leading developing countries not listed in Annex-I to the UNFCCC.

The main barrier for conducting a comprehensive comparison among Non-Annex-I Parties is related to the lack of updated data on GHG emissions. Non-Annex-I Parties do not have to provide a GHG inventory as frequent and comprehensive as Annex-I Parties are obliged to. Figures of many international think-tank institutions vary a lot due to the fact that there is no obligation for standard assumptions for the inventories of these countries. Climate Analysis Indicator Tool (CAIT), developed by World Resources Institute (WRI) provides one of the most comprehensive data set for this purpose. Table III.5 presents a comparison among leading Non-Annex-I Parties and Turkey as of 2000.

	Population in 2000 (million)	Total GHG Emissions (million ton CO ₂ -eq) 2000	Change in GHG Emissions in 1990-2000 (million ton CO ₂ -eq)	GHG Increase Rate (%)
1	China 1321	China 4882,7	China 1247	S. Korea 97
2	India 1100	India 1606,5	India 457	Indonesia 97
3	Indonesia 245	Brezilya 949,8	S. Korea 246	Iran 93
4	Brasil 183,9	Mexico 573,3	Iran 178	S. Arabia 91
5	Pakistan 169	S.Korea 524,7	Indonesia 164	India 70
6	Mexico 103,3	Indonesia 502,7	S. Arabia 148	Pakistan 60
7	Iran 70	S.Africa 441,6	Brasil 125	Turkey 59
8	Turkey 67,4	Iran 422,1	Turkey 100	Brasil 57
9	S.Korea 48,8	S. Arabia 319,6	Mexico 87	China 49
10	S.Africa 44,2	Argentina 296,1	S.Africa 69	Mexico 28
11	S. Arabia 27	Turkey 280	Pakistan 40	S.Africa 23

Table III.5 Comparison between Turkey and leading Non-Annex-I Parties as of 2000.

Table III.5 shows that, unlike the case with Annex-I Parties, Turkey always ranks among the first top 10 countries of the Non-Annex-I Parties, based on various parameters like population, total GHG emissions, change in GHG emissions, GHG increase rate. Therefore, within the scope of negotiations related to any mitigation commitments in the post-2012 period, in addition to any quantified analysis, it would be essential to take into consideration Decision 26/CP7 that recognizes Turkey's differentiation from that of other Annex-I Parties.



IV. CONCLUSIONS

- The fact that Turkey was not able to participate in international collaborations held under UNFCCC in the period 1990-2004, constituted one of the main reasons for the slow pace of improvements Turkey in the fields of renewable energy and energy efficiency.
- In 1990-2004 period, as a result of efforts of both government, local administrations and also private sector, successful initiatives such as increased use of low-carbon fossil fuels in energy and electricity sector, wider use of light rail systems in urban transportation, energy recovery from municipal solid waste disposal sites, development of insulation sector, use of low carbon vehicles and improvement of energy efficiency in industry have been accomplished. Although these initiatives were not aimed to design to mitigate greenhouse gas emissions directly, such initiatives limited the level of increase of GHG emissions of Turkey. Furthermore, these initiatives have some risks like increase in energy source dependency. Moreover, it has to be taken into consideration that these initiatives have been totally realized by national funds, without the use of any of the carbon funds which have become widespread all over the world since 2000 especially.
- Considering the huge potential that has not been realized until now and the increasing drought risk as a result of global climate change, for the purpose of mitigating emissions of greenhouse gases, it would be a more realistic approach to prioritize efforts in energy efficiency and non-hydro renewable energy. Accounting of baseline emissions of greenhouse gases and the level reached after the implementation of these projects, will also help to mobilize international financial support through voluntary carbon markets for these projects.
- Currently, and most likely until 2012, Turkey will be considered as the only country that is listed in Annex-I of the UNFCCC but had not defined a target for greenhouse gas limitation or reduction until 2012 in the Kyoto Protocol. In addition the fact that Turkey is the only non-EIT Annex-I Party that received a funding support from GEF for the preparation of Initial National Communication, such a position of Turkey in the Kyoto Protocol, can be considered as the most concrete and important indicator of the Turkey's position that is different than that of other countries in Annex-I List, as adopted in Dec.26/CP7 in 2001.
- Together with S.Korea and Mexico, Turkey is also considered as one of the 3 countries of the OECD that do not have a target for the limitation or reduction of emissions of greenhouse gases with respect to 1990 levels until 2012. However, unlike Turkey, the other two OECD countries have been seriously benefiting from the international carbon funds, due to the fact that they are not listed in Annex-I of the UNFCCC.
- Pursuant to Dec.26/CP7, as a continuation of Turkey's position that is different from that of other Annex-I Parties, for the post-2012 period, Turkey can propose to be considered as the only Annex-I country that is included in a list that is different than Annex-B. This new list, that involves some other countries than Turkey, might indicate less binding sectoral greenhouse gas emission reduction targets, that is different than that of absolute GHG emission reduction targets with respect to 1990 levels, as indicated in Annex-B.
- The capacity of the country in renewable energy and energy efficiency that leads to a potential of reductions of emissions of greenhouse gases, enables Turkey to fulfill any types of commitments related to the control of emissions of greenhouse gases that can be defined in a list that is other than Annex-B.



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