BENEFITS OF CARBON TRADE

Accumulation of greenhouse gas emissions[1] in the atmosphere increases with economic activities like energy, industry, transportation and land use, and the greatest contributor to these emissions is the energy generation activities. For example, according to the Greenhouse Gas Emission Inventory[2] prepared by TÜİK (Turkish Statistics Authority), while the total greenhouse emissions in Turkey in 1990 were equivalent to 180.03 million tonnes of CO_2, in 2010 this value is estimated to be equivalent to 401.9 million tonnes of CO_2. The largest contributor in greenhouse gas emissions in CO_2 equivalent in 2010 is energy generation activities with 71%, while total greenhouse emissions in CO_2 equivalent in 2010 shows an increase of 115% in comparison to 1990 figure. In 2010, greenhouse gas emissions in CO_2 equivalent per capita was calculated as 5.51 tonnes per person, while this figure was 3.39 tonnes per person in 1990.[3]
This increase in the greenhouse gas emissions has adverse effects on growth and development, as well as in regard of global warming, climate changes and environmental events. For instance, according to the Stern Report[4] examining the effects of climate change on the economy, the cost of climate change will be equal to a minimum 5% loss on annual global GNP. It is estimated that the measures need to be taken in order to minimise the adverse effects of greenhouse gas emissions will be approximately equal to 1% of annual global GNP. In this context, "emissions trade" (carbon trade) is one of the subjects that came into spotlight with the Kyoto Protocol, which aims to minimise the adverse effects of global warming and climate changes caused by greenhouse gas emissions, and has become a point of discussion.

Birth of Carbon Trade
Drawn up as an appendix of United Nations Framework Convention on Climate Change (UNFCCC)[5], Kyoto Protocol was opened for signing in 1997 and entered into force in 2005. While UNFCCC lays out action strategies and responsibilities directed at minimising greenhouse gas emissions, Kyoto Protocol aims to minimise greenhouse gasses through some mechanisms. In this context, "Emissions Trade" is one of the mechanisms that become a current issuewithin the framework of the Kyoto Protocol. Other mechanisms in this category are "Joint Implementation" and "Clean Development Mechanism". While Emission Trade is a market-based mechanism, the other mechanisms are project-based.

What are the Carbon Market and Carbon Trade? How Does the Carbon Trade Mechanism Work?
Carbon market is a market wherein emission allowances are traded and within the framework of emission trade mechanism, it allows the countries with a certain emission target to trade a part of their emission allowances (European Allowance Unit – EUA) among them. In this scope, the countries are assigned a carbon emission quota and each member country is expected to allocate this quota among its producers. In case any country or producer exceeds its quota, it can buy carbon quota from another country or producer who produces less carbon.[6] In other words, if a country with an emission target achieves a greater decrease in emissions than targeted level, then this excess decrease can be sold to another country who cannot reach its target. This situation has opened the way for the formation of a market based on emission reduction and development of instruments which will be traded in this market. Due to the general trend of trading CO2 in this market, it is generally called as "carbon market" and the transactions in these markets are referred to as "carbon trade"[7].

What is the Volume of Carbon Trade Market?
In global markets, the trading volume has grown from 10 billion dollars in 2005, to 40 billion dollars in 2006 and 67 billion dollars in 2007, and the amount of traded carbon dioxide was realised as 4.8 giga-tonnes and trading volume has almost doubled in comparison to previousyear, exceeding 126 billion dollars. Moreover, monetary value of the market is expected to approach 3.1 trillion dollarsby 2020.[8]

Situation of Turkey in Carbon Trade
Even though there is single market for the carbon trading activities, there are different systems: mandatory and voluntary carbon markets. Since Turkey does not have any numerally categorised greenhouse gas limitation or minimisation obligation in effect, it could not benefit from the Protocol mechanisms in the first commitment

period of the Kyoto Protocol (2008-2012). However, within the scope of environmental and social responsibility principles, Projects Intended for Voluntary Carbon Markets are begin developed and implemented in Turkey[9], and Turkey holds an important place in Voluntary Carbon Market. In Voluntary Carbon market, wherein companies sensitive to global climate changes purchase the carbon allowance certificates documented in scope of carbon minimisation project of another company in consideration of the carbon emissions they cause, prices are lower in comparison to mandatory Carbon Market. The first legalisation effort regarding the projects traded in the Voluntary Carbon Market is the Notice on establishment of a record keeping system for this market issued by the Ministry of Environment and Forestry.

Importance of Carbon Trade for Turkish Energy Investor and Necessary Actions

Even though Turkey has become a party of the Kyoto Protocol on 26 August 2009, since there was no obligation to reduce carbon emissions until the end of 2012, no efforts were made towards "carbon trade". The carbon certificate sales made by Turkish companies in scope of voluntary carbon market are directed at foreign buyers. However, in the upcoming course, it is expected individual and corporate domestic investors will display a demand for domestic and foreign carbon certificates, thus forming a carbon market and causing similar investment tools to come into play. Again, in this context, in the upcoming course, the domestic Turkish companies with a determined carbon emission limit who exceed this limit will become carbon certificate buyers, and will have to supply this need from domestic and foreign sellers. Therefore, carbon trade will increasingly become a necessity and investment tool. Companies will be able to profit from carbon trade. For example, it is projected to create emission certificates equal to 19.7 to 22.6 million tonnes of carbon and prevent emissions equal to 7.5 tonnes of carbon with the currently developed projects until 2012, and to realise certificate sales up to a total value of USD 220 million as of 2012[10]. The importance of "carbon trade" for the companies is obvious. Especially those who use renewable resources for energy generation will have more advantageous positions. Unfortunately, companies are not sufficiently informed on carbon trade and the fact that they can make money on this trade. Yet, as Mr.HalukSayar states, "in case of gold standard carbon credit, the total share taken from carbon credits can be up to 15-20 per cent of the investment value"[11]. Therefore, businesses should prepare for conversion to low carbon economy, prepare risk management plans for greenhouse gas amounts and climate change risks, and focus on the matter of "carbon trade". But, it should also be kept in mind that relevant legislative preparations are still needed to be done to prepare the legal basis for the carbon market and develop the products to be traded in the market, as well as creation of detailed legislative regulations regarding creation of a legal framework for emission reduction transfers and emission trade, definition of emission reduction and ownership, transfer of emission reductions and tax implications.

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[1] Greenhouse gasses include Carbon Dioxide (CO_2), Methane (CH_4), Nitrous Oxide (N_2O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs) and Sulphur Hexafluoride (SF_6).

[2] This emissions inventory covers direct greenhouse gasses like Carbon Dioxide (CO_2), Methane (CH_4), Nitrous Oxide (N_2O) and F-gasses originating from energy and industry activities, use of solvents and other products, agricultural activities and wastes, as well as indirect greenhouse gasses like nitrous oxides (NO_x), non-methane volatile organic compounds (NMVOCs and carbon monoxide (CO) emissions.

[3] http://www.tuik.gov.tr/PreHaberBultenleri.do?id=10829

[4] http://webarchive.nationalarchives.gov.uk/+http:/www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_report.cfm

[5] For text of the Convention see: http://unfccc.int

[6] Presentation of CengizTüre, http://www.solar-academy.com/menuis/Karbon-Borsasi-Cengiz-Ture.011800.pdf

[7] www.unfccc.int

[8]Capoor K. &Ambrosi, P. (2009), State and Trends of Carbon Market 2009, Washington: The World Bank Point Carbon. www.pointcaron.com

[9] National Experience in Carbon Markets and Future View , General Directorate of Environmental Management, 2011, p.35.
[10] The Ministry of Environment and Forestry (2010), Report on Proposition for National Carbon Regulation Authority and Record System. Publication on the Capacity Increase for Climate Change Control Project, UNDP, Ankara
[11] http://www.milliyet.com.tr/---milyar-dolarlik-karbon-pazarinda---turk-sirketi/ekonomi/haberdetayarsiv/19.02.2008/240681/default.htm