

Reducing the Polluting Emissions. A Source for Diminishing the Climate Changes

Author*:

Emilian M. DOBRESCU

A*bstract.* The USA and the Western Europe are responsible for 2/3 of the CO₂ emissions accumulated until today. On the other hand, Africa has produced only 3% of polluting emission since 1900 until today, by burning mineral fuels. Since 1992, the most industrialized countries have promised to help “the most vulnerable nations face the adverse consequences of climate changes” by supporting the costs of adaptation. The commitment was included in the convention frame that gave birth to the Kyoto Treaty, which was rejected by the George W. Bush Administration, even though the initial document, issued in 1992, had been signed by George Bush. The industrialized countries that signed the Kyoto Treaty have decided to create a special fund for “climate adaptation”. Hundreds of millions of dollars had to be used in order to diminish the impact of the global warming in the most exposed areas.

Lately, maybe because the CO₂ emissions increase due to human activities, the planet climate has changed for worse. 2007 was a key year in evaluating the reply the planet would give to the global overheating, mainly caused by the green-house effect and worsen by El Nino oceanic stream. This superposition of climate factors made 2007 to be one of the warmest years ever registered.

Key-words: *diminution of polluting emissions, climate changes*

Jel classification: O13, Q00, Q27, Q54, Q57

* *Emilian M. Dobrescu, Ph.D., Professor, scientific secretary of the Economic, Law and Sociology Section of the Romanian Academy, e-mail: dobrescu@acad.ro*

Introduction

2000 years after Christ, in the specific conditions of the 21st century (globalization, deep economic crisis, need of strong measures for reshaping the economic, financial and monetary systems that had been the bases of the actual order after the Second World War), Mankind faces a new challenge: the industrial activities, great consumers of irrecoverable resources – especially oil and coal – have led to increasing polluting emissions and, further, to profound climate changes, incarnated in the rise of average temperature of the Earth with about 2 degrees Celsius. This average temperature will still rise if people do not adopt urgent measures to reduce the polluting emissions into the atmosphere, emissions considered to be the main causes of the global warming on Earth.

Thus for more than 15 years, by means of thoroughness studies, the specialists are trying to draw attention upon the issue of reducing the polluting emissions as the main factor in reducing the climate changes, and the policy makers are working hard to transpose into global agreements, mutually and multilaterally respected, the conclusions of the researchers, there still is a lot to do in this respect. According to our opinion, the last three years, 2007–2009, are critical in terms of reducing the polluting emissions as the main factor in reducing the climate changes.

Let's see how the opinions of the specialists and decision makers, in our country and in the world, have evolved during these three years.

2007 Events. The Bali Agreement

There were two key events that marked 2007 regarding the matter of diminishing the polluting emissions as an important issue in decreasing the climate changes. Therefore, at the beginning of 2007 the European Commission set the foundations of an European Energy Policy, with instruments that are stimulating the competition and the reduction of energy dependence of EU, on a background of existing tensions with Russia in this matter. The European Executive considers that the developed countries, starting with the 27 EU states, should define as objective the diminution of the green-house effect gas emissions by 30%, within an international agreement that would follow the Kyoto Protocol which ends in 2012.

The European Commission has insisted that its plans would depend upon similar actions on behalf of the USA and expressed the hope that Washington would become more active about fighting the global warming. Eco movements

welcome the Commission's plan, though some of them have pointed out that it wasn't going to far and would not have the desired effect. On the 15th of November 2007, the European Parliament requested the gas emissions to be limited by the industrialized countries, and a decrease of 50% in green-house effect gas emissions until the middle of this century. The adopted resolution contains the European Parliament's objectives regarding the post Kyoto agreement, among which, besides the above mentioned objectives, were: the financial support for climate protection efforts; new mechanisms in order to transfer some technologies less harmful to the environment; measures to stop the deforestation.

The second event of 2007 was the UN conference regarding climate changes starting on the 3rd December in Bali (Indonesia) and represented the starting point of a new process that would lead to a global agreement on climate changes within UN, with compulsory objectives. The end of 2007 was marked at international level by the prospect of a new agreement regarding the climate changes. The UN conference on this matter took place in Bali and the participants reached an agreement on a "road map" for the negotiations of a new protocol that would replace the Kyoto treaty from 2012.

The new agreement would be negotiated within the following two years and would replace the Kyoto treaty that was signed in 1997; the text of this agreement had no clear references regarding the reduction of CO₂ emissions. Mr. Yvo de Boer, in charge of environment matters at the UN displayed uneasiness regarding the possibility that the negotiations on global climate treaty project could fail: "We find ourselves in a situation of all or nothing. If we fail in doing our work in time in the future, everything will collapse like a castle of cards". Bali agreement represented an important step towards reducing the rate of the global warming, which UN considers to be caused by human activities. The American delegation gave up the opposition to the plan meant to revive the talks, at the last moment. Until that moment, it seemed as if the USA would also reject the document which was finally signed in Bali. Paula Dobriansky, the chief of the USA delegation returned to the conference announcing that the USA changed its mind: "The USA are very determined to engage in this global effort but need to ensure that we will all act upon it together. Therefore, Mister President, allow me to say that we will proceed forward and, regarding this matter, we are today in consensus". After that, the UN Secretary General, Ban Ki-moon thanked the USA for agreeing at the end upon the declaration text. The UN delegate appreciated the "flexibility" the American delegation had shown despite the differences between the participant countries.

The new agreement, for which negotiations have begun in Bali, is meant to replace the Kyoto Protocol which had never been signed by USA and China. The

EU's main objective is to obtain a steady commitment in order to begin the negotiations regarding the fight against the climate changes after the end of the Kyoto Protocol in 2012. The European Commission wants a consensus and a common vision upon limiting the global warming at 2 degrees Celsius over pre-industrial levels. EU's commitments are clear: the developed countries have to commit themselves to reduce their emissions mostly by improving the technology and by creating a new global coal market. It is necessary to find the equitable but efficient means the developing countries could use to contribute to the diminution of gas emissions. Attention should be given to the matter of polluting emissions produced by air and sea transport and the deforestation, as well. It is also necessary to talk more seriously about increasing the investments for technology research programs that could decrease the carbon emissions.

The European Commissioner on environment matters, Stavros Dimas, declared before leaving for Bali: "I have the feeling that the odds for extensive negotiations are good and also, for establishing a clear date. As always, the details are problematic when it's necessary to establish the coordinates for a plan of action that would follow Bali conference. I am sure the negotiations will not be easy. There is a chance for a compromise and the international community have to rally, or otherwise the dangerous global warming could not be stopped any longer." "Real solutions are to be established, otherwise the mankind's future is in danger" said the Indonesian State Secretary for Environment, Rachmet Witoelar. "I want to appeal to all sides to take real steps towards stopping the global warming, a highly present matter", he said at the conference.

In an interview of the vice-chairman of the European Parliament, Alejo Vidal-Quadras, he expressed his hope that this conference would serve as forum where the international officials would establish a political consensus for a post Kyoto agreement. He also declared that 2012 was near and we needed to find a solution that would include the industrialized countries and would offer support to the economies intending to participate in technology transfer programs. The Chairman of the Commission for Climate Changes, Guido Sacconi, declared that this meeting would be an opportunity for Europe to fulfil its commitments already taken and to achieve a common agreement regarding the reduction in gas emissions, favourable to developing countries, as well.

Lena Ek (official of the Liberals and Democrats Alliance Group for Europe) declared that the discussions would focus on developing countries at first and on their need to combine the economic development with technologies less and less harmful for the environment; she also said that these countries would need help,

especially financial help in putting these new technologies into practice. She continued by saying that part of the solution were the woods, many of them being cut and these woods were needed to reduce the carbon emissions on Earth. The same opinion was expressed by the deputy Liam Aylward, the Vice-Chairman of the Committee for Climate Changes: "We spend too much time searching for solutions to decrease the carbon in the atmosphere and space; we continue cutting the woods that absorb the carbon, harming the species and the biodiversity."

2008 Events. Tokyo Agreement

The Climate Savers program is based upon a partnership between the WWF and the business environment, through which the company joining this initiative make them apply solutions aimed to fight the climate changes. The established objectives by WWF and by each company must be more ambitious than the objectives previously planned by the company. The companies already in the Climate Savers program are: Johnson & Johnson, IBM, Nike, Polaroid, Collins, Xanterra, Hewlett Packard, Nokia, Sagawa, Sony, Lafarge, Catalyst, Tetra Pak, Spitsbergen, Travel and Novo Nordisk.

On the occasion of the Climate Savers Summit, that took place in February 2008⁸¹, a new agreement was achieved, the Tokyo Statement, designed to answer the urgent matter represented by the climate changes. The Climate Savers Summit was organized by the World Wild Fund (WWF) International and Sony, at the company's headquarters in Tokyo. The signers were 12 top companies; among them, Tetra Pak, Nokia or Sony, which underlined the need to decrease the global green-house gas emissions by more than 50% by 2050 and to act so that they would decrease in the next 10-15 years, keeping the global temperature growth under the critical threshold by 2 degrees. The Tokyo statement was presented by Howard Stringer, Sony's chairman and CEO, and it represented the most important initiative of global business community regarding the fight against climate changes. "We from Sony think that it's impossible to make a business grow in a deteriorated environment. That's why we feel compelled to use our technological experience and know-how in order to diminish its impact on the planet and to help our clients diminish theirs in a day to day life", Howard Stringer declared. "We always considered having an obligation to act with responsibility in every aspect of our activities, in order to decrease the

⁸¹ See *SMART financial*, on site: www.SMARTfinancial.ro, visited on the 20th of March 2008.

impact on environment and, concurrently, to use our unique talent to resolve, together with our colleague and business partners, the environment's problems" Stringer added.

The signatory companies of the Tokyo Statement are Allianz, Catalyst, Collins, Hewlett Packard, Nike, Nokia, Novo Nordisk, Sagawa, Sony, Spitsbergen Travel, Tetra Pak and Xanterra. The most important measures for reaching the objective of gas emissions reduction aim to ensure the transparency of their own emissions quota and to promote among the clients a lifestyle which would produce less CO₂ emissions.

The statement release took place on the occasion of Climate Savers Summit organized by World Wide Fund for Nature International and Sony. Considering the need to stop the global growth of the temperature by more than 2 degrees Celsius above the pre-industrial era's level, the 12 companies commit themselves to decrease the CO₂ emission by establishing 4 measures to be applied. The first one consists in expanding the action range of activities of emissions reduction by collaboration with the business partners. To that effect, the signatory companies established actions to be taken so the Climate Savers program expands towards other regions and business areas. These 12 companies also promote among their clients and consumers a lifestyle that requires less CO₂ emissions. At the same time, the statement requires information transparency regarding each company's emissions quota.

Many of the companies signing the Tokyo Statement and also other companies participating to the Climate Savers Program have outrun their ambitious objectives – objectives established after joining the program. By signing this agreement the companies went forward, promising to convince their business partners to take efficient measures in order to reduce the impact on climate. At the same time, the companies assumed responsibility to promote a less CO₂ emission lifestyle.

The Climate Savers Program, released by the WWF and Tokyo agreement have showed how important the role of business sector was in starting successful actions to fight against climate changes. Companies could have big impact on environment but can also be part of the solution with technological innovation, initiative and collaboration with business partners, authorities and civil society. We hope that the international actions would also find an echo inside the Romanian business community, where the consequences of climate changes are more and more visible. The identification of realistic and efficient solutions for sustainable businesses and their setting up in order to decrease the impact over

environment should become a priority for all companies, because what is good for the environment is good for business also. By signing the Tokyo statement the companies involved in the Climate Savers Program restated the imperativeness and benefits of innovating actions in fighting the climate changes.

In mid of June 2008 the managers of the biggest 99 world concerns – among which was the chief of Deutsche Bank and British Airways – requested the powerful industrialized countries to take initiative regarding global warming and to decide an extreme reduction of green-house effect gas emissions. The amendments made on the Tokyo Agreement had to take into consideration the performance of sales markets to be solid, efficient and designed on a long term basis, they all said.

EU and the diminution of polluting gas emissions

The EU is considered to be the world leader in fighting against the climate changes. An UN report from 2007 showed that EU countries have registered limited progress in fighting climate changes (-1.5% for EU 15 and – 11% for EU 27). Only in 2008 the results of measures took during 2004-2005 were displayed. The most important was inserting the climate change and energy matters first in the working agenda by taking into consideration the integration of all expectations. The objectives of increasing the energy efficiency by 20%, increasing the contribution of the renewable sources of energy by 20%, and decreasing the green-house effect gas emissions by 20% have shown our commitment to fulfil the existent objectives but also to continue the fulfilment of medium-term objectives. Moreover, the European Strategic Plan for Energetic Technology presented in November 2007 intended to accelerate technology innovation with low carbon emissions by focusing on a common planning.

Some EU countries and big energy-consumer industries are putting pressure upon achieving a “change in frontier tax “ on goods imported from the countries not signing the Kyoto Protocol. As long as there is no international agreement to create a common regulation framework, it is important to consider the fact that relocating the big energy consumer industries out of Europe and continuing the gas emissions would not be either a good eco policy or a viable one from an economic point of view. EU specialists have studied different options to approach these matters as follows: to continue giving financial support based on technological parameters of energy efficiency; signing additional international agreements and including the importation of energy-efficient goods. In planning

these options the EU has to consider them to be achievable and compatible with OMC stipulations.

Carbon Credits

Trade instruments through which EU is trying to diminish the dangerous gas emissions – the so – called carbon emission credits – will not have the expected results, the World Wildlife Fund (WWF) says. These instruments classified in the European Trading Scheme (ETS) were initiated in 2005, still their success during 2005-2006 was relatively small as a result of light limitations imposed to the green-house effect gas emissions. The WWF officials feared that the next ETS stage would not succeed in reducing significantly the emissions. Therefore, the incapacity to reduce the level of CO₂ emissions will lead to irreversible climate changes. “While the mechanism of dealing with polluting gas emission certificates is OK, the first phase of the EU plan was seriously undermined by some political decisions”, WWF declared. The first ETS stage was criticized because the proposed limits for CO₂ emissions weren’t severe enough. The great pollution producers received free carbon credits and the companies which decreased their polluting emission had remained with additional credits ready to be sold. The EU established new limits for the next ETS stage for several countries among them being UK, Germany and Luxembourg. The WWF report called “Emission Impossible” shows that the second ETS stage, between 2008 and 2012, could fail because the big polluters have the possibility to buy carbon credits. In the opinion of WWF, ETS could become just a dealing market for these credits and the winners would be only the carbon credit dealers.

In late 2006, Finland signed agreements with Romania and Bulgaria, regarding the acquisition of some CO₂ emission rights, called carbon credits, through a special mechanism of the Kyoto Protocol. The transaction was made in accordance with the common setting up mechanism which stipulates that the states which outrun the limits of gas emissions valid until the 2012 could finance the state possessing extra carbon credits, like ex-communist countries, and the polluting emissions reduction would be put on the acquiring country’s account. Finland intends to develop projects in Romania and Bulgaria, mainly in renewable energy field and natural gas. Ex-communist countries could be the main suppliers of carbon credits, considering that the inefficient industries with high level of pollution allow the reduction of polluting emissions level at little cost. Finland also intends to acquire, during the 2008-2012 period, the equivalent amount of 10 millions tons of carbon, as carbon credit after 2 million tons acquired in 1999.

It is known that EU countries are leaders in low CO₂ emissions technologies. The EU answer to climate change challenge is not only a problem of finance; only with limited investments, the EU cannot create the necessary incentives for researchers and investors. The investors are increasing the investments on long term base and take bigger risks only if they are sure that the applied policies are durable. It is also very important that the EU gets involved in industry and ensure for companies and investors the best policies and the framework to encourage the development and extension of technologies producing low carbon emissions. The research ought to be better coordinated in order to stimulate the development of innovative technologies with low carbon emissions. At the beginning of 2008, the European Commission created a Directory Group, in order to start the Strategic Plan for Energy Technology (SET Plan), to coordinate the policies and programs, to ensure the resources, to observe and analyze regularly the progress achieved. Within the SET plan there were various initiatives, called European Industrial Initiatives, for research and innovation development. The European Committee also suggested a European Alliance for Energy Research, so a better co-operation and planning could be achieved between researchers. More money would be given to this area and new idea should be presented to finance low carbon emission technologies.

In mid January 2008, the European Commission chairman presented to the European Parliament a legislative plan regarding energy and climate changes. The Commission thought the costs of these new efforts would reach 3 euros/week for each citizen, 10 times less than the cost estimated if no action would have been taken. European representatives supported these ambitious proposals regarding the energy and climate changes, calling them "an economic chance for the Union". Some of them have expressed concern about the Commission's initial objectives for bio-fuels and feared that many jobs could be transferred to areas with no compulsory limits for green-house effect gas emissions.

The European Commission Chairman, José Manuel Barroso presented to the European Parliament the Commission's plans to fight against the climate changes and to ensure that Europe would benefit from more secure energy sources. The proposed legislation is based upon principle "20/20/20 by 2020" (increase by 20% in energy efficiency, decrease by 20% in green-house effect gas emissions, and use of 20% of the bio-fuels, all by 2020). The measures would determine a spectacular increase in bio-fuel use in each country and would establish compulsory legal objectives that the governments would have to achieve. All big CO₂ emission producers will be encouraged to develop

ecological production technologies within a radical reform of the European Diagram regarding the transactions with emissions certificates (ETS) which impose a maximum level of emissions for the entire EU. The package of measures announced by the European Commission contains 5 essential legislative proposals which were adopted by the co-decision procedure: to improve and broaden the European system of emission shares (EU ETS); diminution by 20% by 2020 of CO₂ emissions (considering the 1990 level); obtaining 20% of renewable energies by 2020 (10% bio-fuels by 2020); to promote the capture and preservation of CO₂; new regulations for public assistance.

It is required that these actions are taken right now in order to diminish by 50% the green-house effect gas emissions by 2050. Talking about measures to fight the climate changes, Mr. Barroso stated that the measures taken into consideration would cost less than the lack of action. "The extra efforts made for accomplishing the foreseen objectives will represent expenses of less than 0.5% of PIB by 2020, meaning 3 euro/week for each EU citizen (...). The no action costs could be 10 times higher than those of foreseen actions. We should think of EU gain instead of expenses" he said. Mr Barroso also said that the legislative package would be a chance for Europe: "This kind of policy proves why now, more than ever, we need a strong European Union".

Carbon Credits Operating System

The electricity sector responsible for most of EU emissions will submit entirely to an auction system once the new form will be launched in 2013. In other industrial sectors as well as in the aviation sector, the transition towards the auction system will occur gradually, although an exception could be made for the sectors more vulnerable to competition, by producers coming from countries where there are no similar restriction regarding the CO₂. Besides the auction, any EU operator will be able to purchase certificates in any member state. The incomes obtained from the Community diagram for trading emission certificates belong to the member states and ought to be used for helping the EU to adapt to an economy that respect the environment, by sustaining innovation in areas such as: sources of renewable energy; capture and preservation of CO₂; research and development. A part of those incomes should also be destined to help the developing countries in their struggle to adapt to climate changes. The Commission estimates that the incomes from the auctions could reach the amount of 50 billion euro each year by 2020.

The EU Diagram regarding the trading of emissions, valid until 2008, in its fourth operational year proved to be an efficient instrument in finding a market solution that would offer incentives to reduce the green-house effect gas emissions. In areas like constructions, transportation, agriculture and waste products, not regulated by the scheme, the EU would decrease the emissions by 10% by 2020, below the 2005 levels. For each member state, the European Commission proposed a specific objective to reduce emissions which would have to be accomplished by 2020, and in the case of new member states, like Romania and Bulgaria, these objectives foresee an increasing risk of emissions. These variations are around - 20% and + 20%.

Besides an efficient operating pollution market, all members are to start changing their energy consumption structure urgently. In 2008, the renewable energy quota inside the EU final energy consumption was of 8.5%, which means an average increase of 11.5% is necessary to achieve the 20% objective by 2020. The proposal refers also to the objective that refers to use, for the transportation inside the EU, fuels that contain 10% bio-fuels, percentage to be achieved by 2020.

During the 2013-2020 period, the package of measures grants Romania and Bulgaria the permission to increase the green-house effect gas emissions up to 20% but only in some sectors because the two countries need to recover the delays in their economic development. Besides all enthusiasm due to these facilities, today the Romanian economy is suffering due to the little quota received for the 2008-2012 period. A calculation should be made to see whether the penalties from exceeding this quota would be lower than the possible impact on Romanian economy resulted from observing them. Political decisions in Romania should be taken in accordance with the national companies' interests, as we see happening in important EU countries like Germany.

This new package of measures regarding the energy and the environment proposed by the European Commission is a favourable one for Romania and these measures give a proper response to the double challenge represented by the climate changes and the energy dependence. This package favours Romania because the members with developing economies are allowed a 20% emission increase in comparison with the 2005 level, increase calculated upon PIB. The countries with low PIB level are increasing the present emission quota compared to the 2005 one, and the EU members with high PIB level are decreasing the polluting level by 20% in comparison with the 2005 one. This way, the EU poor countries can reach the developed economy countries.

The European Commission decided that Romania has to decrease its gas emissions, by 20.7% in the 2008-2012 period. By doing so, Romania would not be able to sell emission certificates as it was its initial intention. The difference of 15 million certificates/year between the one the Romanian Government proposed and the one settled by the European Commission would have brought us 225 million euros which could have been spent for environment technologies. A diminution of emissions quota is expected for 2013-2020 period also, but the reduced PIB and the project for economic development could bring additional quotas. A certificate, now equivalent to 1 ton of gas, is sold for 15-16 euro on the market. But we are talking about a stock exchange for these certificates, which have cost even 26 euro/tonne. Romania has lost over 15 million certificates of green-house effect gas emissions, certificates which could be gained only by lawsuit.

The energy-producing companies in five EU member states could reach, between 2009 and 2012, profits up to 1 billion euros as a result of selling green-house effect gas emission⁸² shares. Therefore, the energy sector of Spain, Italy, Germany, the UK and Poland will obtain profits from dealing with carbon certificates, in the second phase – which is now occurring - of the ETS. In keeping with the ETS, the companies have to pay penalties in case they would emit CO₂ above the maximum allowed.

They can avoid these penalties only by acquiring gas emission certificates, which would increase the cost of the energy they produce. Therefore, the sources of renewable energy which produce no CO₂ and need no emission certificates are obviously cheaper. The report requested by the WWF was published at the beginning of April 2008, following the warnings launched by James Hansen, the Director of Goddard Research Institute, by NASA, who assessed that the EU target for reducing the green-house effect gas emission was not ambitious enough: the maximum level of 550 parts per million (PPM) for CO₂ emissions should be diminished to 350 ppm; at 550 ppm, the global average temperature would rise by 6 degrees Celsius. While at 350 ppm it would only rise by 3 degrees Celsius.

Green certificates market

The energy producers possessing green certificates, generated in 2007 46.299 MWh of energy, double the amount generated in 2006, amount consisting of

⁸² According to a report released by Point Carbon Company for World Wild Fund (WWF), report mentioned by the newspaper *Economistul*, 10 April 2008, p. 8.

83.7% hydrological sources and 16.3% aeolian sources, was stated in a 2007 ANRE report regarding the green certificate operating market. Green energy producers receive 1 certificate for each MWh of energy delivered to the network, which they could sell on the united green certificate market within OPCOM. The energy supplier is compelled to acquire a certain number of certificates equal to the product between the compulsory quota value and the quantity of energy delivered to the final customers, quota established for 2007 at 3.74% of the energy quota delivered to the final customers; for 2008 the established quota was 5.26% and for the 2010-2012 period will be 8.3%

Considering the number of green certificates released in 2007, the 2008 compulsory quota decreased to 2.62%, covered by 57 suppliers. From the 33 producers of energy using renewable sources in our country, only 19 of them have benefited from the green certificate plan, the rest having hydro-stations with a power over 10 MWh or less than 10MWh, operating from 2004. The installed power of the suppliers benefiting from the diagram was of 52.36 MW consisting of 84.7% hydro-stations and 15.3% aeolian stations (8 MW).

The energy producers possessing green certificates, generated in 2007, 46.299 MWh of energy, double the amount generated in 2006, consisting in 83.7% hydrological sources and 16.3% aeolian sources. A number of 46.299 green certificates have been issued, 81.7% of them were sold and the rest were carried forward in 2008. Taking into consideration the average annual selling price of green certificate of 142.72 MWh resulted that in 2007 the support granted to the green energy producers was around 6,608 million lei involving a 0,144 lei/MWh rise in energy price towards the final consumer. At the same time, the selling price of a MWh green energy had got an average value of 304.1 leu, ANRE stated. A number of 25 suppliers didn't fulfil, partially or totally, their green certificate compulsory quota. For 2007, the value of an unsold green certificate was 63 euros, meaning 214.08 lei. The amount resulted from the non-fulfilment of the compulsory quota was collected by Transelectrica, the transport and system operator, and redistributed to the green energy producers, in accordance with the number of certificates sold. The ANRE officials have also stated that by producing green energy, a 26.205 ton emission of CO₂ was avoided!

Among the new states that have joined the EU, Hungary was leading the battle to reduce the compulsory quota settled at the Community level. The authorities from Budapest argued that to take into account the 2005 calculations in establishing the compulsory quotas was wrong, because in doing so it did not take into consideration the progress achieved by the Central European countries. The Hungarian authorities for environment requested Brussels to use the data

supplied in 1990 in calculating the new upper limits. The main reason was the fact that the Kyoto Protocol came into force in 1990 and will be valid until 2012; the protocol stipulates that 30 industrialized countries have to decrease the green house effect gas emission in comparison to 1990 level.

The position of the Hungarian government is supported also by Bulgaria, Estonia, Latvia, Romania and Slovakia. The efforts these countries make for protecting the environment are not entirely acknowledged, reduction of noxious emissions is to be attributed to the economic decline of new state members also. The CO₂ emissions have decreased dramatically inside the European space during the years of transition to the market economy, due to the closing of many inefficient factories in the ex-communist countries

The European Commission's package of measures intends to strengthen the emission certificate system in order to decrease the financial selling quota that can be sold each year, so the emissions in the related sectors will diminish by 20% by 2020. Hungary and the countries taking these steps have nothing against global diminution as long as the calculation base is the 1990 level. In June 2008 the spokesman to the European Commissioner for environment refused to comment the proposals and said that the European Executive was taking into consideration the reform of the certificate system by 2012, in order to be equitable and non-discriminating.

The legislation proposed by the European Commission is based on the principle "20/20/20, before 2020" (increasing by 20% the energy efficiency, reducing by 20% the green-house effect gas and use 20% of the renewable energy resources, everything before 2020). According to the Commission, the measures will lead to a spectacular increase of the renewable energy resources in every country and will establish compulsory objectives from the legal point of view that governments should achieve.

As a member of the European Union, our country has to adopt, to respect and enforce this legislation package aimed to reduce the polluting emissions as a main source of diminishing the climate changes.

Conclusions

The Copenhagen Treaty – that should be set up during the UN Conference on environment, on 7-18 December, 2009, hosted by the Capital of Denmark – proposes global objectives in terms of reducing the polluting emissions in the atmosphere and, according to the negotiations prior to the opening of the

conference, establishing the bases of the strengthening of the accommodation capacity of the world countries to the climate changes. The treaty establishes the limits of the green-house effect gas, replacing the Kyoto Treaty (also known as the Kyoto Protocol).

The Global Union on Environment – proposed now by the European Union, as the institution in charge of reducing the polluting emissions as a main source of diminishing the climate changes – is a parable, the relevance of which does not need any demonstration. The ample phenomenon of globalization is already happening under the influence of this parable. Our country is also participating in this planetary process of reducing the polluting emissions as a main source of diminishing the climate changes. Romania has to prove its active presence on the carbon certificate market that already allows a new kind of trading – the atmosphere emissions trade, according to the economic development of each country.

Selective bibliography

*** *Doing More with Less - Green Paper on Energy Efficiency*, European Communities, Bruxelles, 2005.

*** *Energy in a Finite World-Paths to a Sustainable Future*, report by the Energy Systems Program Group of the International Institute for Applied Systems Analysis, USA, 1981.

*** *Energy Efficiency Policies*, World Energy Council Report, United Kingdom, 1995.

Mashburn, William H., *Managing Energy Resources in Times of Dynamic Change*, USA, 1989.

Popper, Laurențiu; Mihăescu, Lucian și Iliescu, Maria, *Eficiența economică a sistemelor de energie*, București, Editura Perfect, 2005.

*** *Progress Report on the Implementation of the European Renewable Directive*, WWF, 2004.