

ROMANIA  
MINISTRY OF WATER, FORESTS AND ENVIRONMENTAL  
PROTECTION

FIRST NATIONAL COMMUNICATIONS  
CONCERNING THE NATIONAL PROCESS  
OF APPLYING THE PROVISIONS OF  
THE FRAMEWORK CONVENTION OF CLIMATIC  
CHANGES

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## **CONTENTS**

### **INTRODUCTION**

1. Short history of the issues
2. Short characterisation of the economic framework
3. Reorganization of the economy and environmental protection

### **BASIC DATA**

1. GEOGRAPHIC, DEMOGRAPHIC DATA AND CLIMATIC CONDITIONS
  - 1.a. Geographic data
  - 1.b. Demographic data
  - 1.c. Climatic conditions
2. ECONOMIC TENDENCIES IN ROMANIA 1980 - 1993

### **EMISSION INVENTORY**

1. Inventory methods used in Romania
2. Measures adopted for pollutant emissions reduction

### **MONITORING**

1. Air quality monitoring network structure
2. Emissions monitoring within the integrated monitoring

### **INVESTMENTS**

### **RESEARCH AND SYSTEMATICAL OBSERVATIONS**

### **DESCRIPTION OF POLICIES AND MEASURES**

### **PUBLIC INFORMATION AND CONSULTATION**

# ROMANIA

## FIRST NATIONAL COMMUNICATIONS

### CONCERNING THE NATIONAL PROCESS OF APPLYING THE PROVISIONS OF THE FRAME CONVENTION ON CLIMATE CHANGES

#### INTRODUCTION

##### 1. Short history of the issues

Romania has participated even from the beginning in the international process of defining the scientific and technical cooperation in the global issues of climatic changes. Our country has played an active role in the negotiation process of the frame Convention concerning climatic changes, by taking part in the Intergovernmental Negotiation Committee (INC). This participation was made through a great number of Romanian experts involved in the IPCC and UNEP activities. The actual result of this activity paved the way for the signing of the United Nations frame Convention on Climatic Changes in Rio de Janeiro, on June 5th, 1992, of the occasion of the United Nations Conference on Environment and Development. This convention was ratified by the Romanian Parliament through Law No.2/1994, which has as its main object the stabilisation of greenhouse gas concentrations in the atmosphere at such a level so as to prevent any dangerous anthropic disturbance of the climatic system. The climatic change strategy in Romania has in view reaching this objective in a time interval sufficient to allow the ecosystems to be able to adapt to the climatic changes, so that the food production should not be threatened, and the economic development should be carried on along the principles of a sustainable development.

Romania purposes to fulfil her obligations under the commitments made to:

- a) establish, periodically up-date, publish and inform the Parties Conference in connection with the national inventories of the greenhouse gas anthropic emissions and with the measures taken to reduce pollution. In the light of this provision Romania drew up a paper in 1992 in cooperation with : a British firm Touche Ross and Co: Greenhouse Gas Emissions -Initial Inventory and Implications (taking 1989 as reference year ) ;
- b) draw up the National Study on climatic changes, including actual measures and actions intended to reach the present convention objectives, both in limiting the greenhouse

gas anthropic emissions, especially of those coming from industrial sources, but most of all by increasing the natural absorption capacity of the pollutants, particularly that of CO<sub>2</sub>, which will lead to a positive national balance;

- c) define and promote scientific, technological and social economic research programmes in order to obtain the data necessary for applying the Convention provisions, including the data reflecting the assessment of the social and economic consequences of the various sectorial strategies and of the national policies in the field, so as to maintain at low level the greenhouse gas emissions;
- d) achieve an international cooperation for applying the provisions of the convention in all the countries and supporting the cooperation mechanisms defined by this. In this respect, Romania encourages the activities coordinated by the Provisional Secretariate, the participation of other international bodies and programmes, is the dynamic process of implementing the frame Convention provisions concerning concerning climatic changes.

Romania is one of the countries with a transition economy so the flexibility term was introduced during the last stage of negotiation in order to take into account the special situation of these countries (FCCC, Article 4.6; 1992). This article stipulate that: "In implementation of their commitments under paragraph 2 above, a certain degree of flexibility shall be allowed (...) to the Parties included in Annex I undergoing the process of transition to a market economy...".

## **2. Short characterisation of the economic framework**

The sectorial strategies, the actions and measures in the economic field are achieved in view of applying the principles of a sustainable development with stress laid on privatization and reorganisation, under the conditions of applying the general economic measures based on the increase of economic devices efficiency. It was in 1993, three years after the events which marked the social system of Romania, that for the first time the state of the economy recorded a positive tendency at macroeconomic level with a gross domestic product higher than in the previous year.

The main macroeconomic indicator - the gross domestic product(GDP) - shows great variations. Considering 1980 as a reference year and using data calculated

in comparable prices (prices from the previous calculating year), there results - rate per cent variation for GDP and for GDP per capita as follows:

GDP in 1985 - 116.8  
GDP in 1989 - 113.0  
GDP in 1990 - 106.7  
GDP in 1991 - 92.9  
GDP in 1992 - 80.3  
GDP in 1993 - 84.7

It has been a priority to carry into practice the general measures in regard to the ongoing process of reform in Romania. From among the most significant economic actions taken were price reform, subsidy elimination, introduction of the value added tax, freeing prices according to market economy and strengthening the financial discipline. The stabilisation of the economy is carried out also relying on an overall monetary, fiscal, credit and return policy correlated with the development of the material production. The main objectives of the economic activity in 1994 were those of relaunching the production, under the conditions of the restructuring and privatization processes, of keeping inflation under control and of providing an increased social protection.

### **3. Reorganisation of the economy and environmental protection**

The social-economic reform strategy integrates also the environmental protection aspects, by ranging the values of the emissions from fixed or mobile sources within the norms admitted by the legislation in force. In spite of the difficulties specific to the transition period, the Romanian Government has allocated important funds to the budget, in order to solve some complex environmental protection issues, in keeping with a strategy in this field, which is part and parcel of the governing programme endorsed by the Parliament. The new law of environment, which is now under final discussion in the Parliament, stipulates compliance of the existing companies with the new emission norms based on some conformation plans. In order to come to the aid of the companies faced with difficulties during this transition period, the conformation plans will be negotiated with every unit which is not able to readily apply the environmental requirements. As the economy is being strengthened, the cost of environment will be included in the product, while the new investments will have to apply the environmental requirements from the beginning.

## **BASIC DATA**

### **1. GEOGRAPHIC, DEMOGRAPHIC DATA AND CLIMATIC CONDITIONS**

#### **1.a. Geographic data**

Romania is situated in the South-Eastern part of Central Europe. Lying between parallels of latitude 43°20' South and 48°20', North and meridians 20°20' West and 29° 50' East, Romania has a surface of 237,500 km<sup>2</sup>. Romania's relief is presented on three major levels, namely: the highest one, that of the Carpathian Mountains: the mean one comprising the Sub-Carpathian area, the hills and the plateaux; and the lower one of the plains, meadows and the Danube Delta.

The climate is transitional temperate continental with oceanic influences. The mean multiannual temperature is differentiated longitudinally, namely 8°C in the North and 11°C in the South, as well as from the altitude point of view it has values of 2.6°C in the mountain areas and 11.7° C in the plain. The rivers of Romania have a radial configuration and most of them spring from the Carpathian Mountains, their main collector being the Danube River.

### 1.b. Demographic data

The data in regard to the number of inhabitants have as source of information the population census, the publications of the Central Statistics Institute and the information demographic system of the National Commission for Statistics.

**Table 1**

Data	Total inhabitants	Urban %	Rural %
July 1st 1989	23,151,564	53.2	46.8
July 1st 1990	23,206,720	54.3	45.7
July 1st 1991	23,185,084	54.1	45.9
January 70th 1992*)	22,810,035	54.3	45.7
July 1st 1993	22,755,260	54.5	45.5

(\*) the population census took place on in January, 1992.

### 1.c. Climatic conditions

Investigation of the physical processes and phenomena in the terrestrial atmosphere, which determine the weather and climate relies on the meteorological measurements and observations made permanently or periodically in various points on the Earth and at various heights in the atmosphere. The unitary measurement and observation programme, as well as other meteorological activities are carried on by the National Meteorology and Hydrology Institute through an international cooperation with WMO. The annual absolute maximum value was

recorded on July 25-th, 1987, at Turnu Magurele and it was of 43°2 C. The annual absolute minimum value recorded in Romania was of -38°C on February 10-th, 1929, at Varful omu. As for the annual maximum quantity of precipitations, this was of 1074.6 mm and it was recorded at the Varful omu station.

## 2. ECONOMIC TENDENCIES IN ROMANIA 1980 - 1993

Evolution of the Gross Domestic Product (GDP) according to industrial branches and taking into consideration 1980 (100%) as reference year is presented in Table 2.

**Table 2**

	1985	1986	1987	1988	1989	1990	1991	1992	1993
Gross Domestic Product	116.8	119.6	120.6	120.0	113.0	106.7	92.9	83.6	84.7
Industry	118.9	126.3	127.2	122.3	115.7	100.1	85.3	71.6	72.4
Constructions	113.1	115.9	114.8	114.0	95.9	96.9	75.8	69.1	73.8
Agriculture and Silviculture	112.3	104.4	94.2	102.8	96.8	111.6	102.0	89.7	89.4
Transport and Telecommunications	125.6	127.7	129.7	136.5	134.5	132.7	87.8	72.7	62.2
Trade	102.3	100.1	100.8	108.4	113.3	118.9	93.9	77.6	59.8

## EMISSION INVENTORY

### 1. Inventory methods used in Romania

For the overall characterization and for obtaining a state of reference concerning air quality throughout the country balance calculations were made knowing the flow sheet input and outputs in useful products according to various type or activities. The CORINAIR method was also used based on emission factors for 11 type of activities in the classified list of this programme.

The results of these calculations point out two conclusions:

- 1.1. taking into account the number of inhabitants the annual emissions at national level are close to the average for Europe. In the case of SO<sub>x</sub> and CO<sub>2</sub> the specific emissions are less than the average in the rest of Europe. Therefore, the air pollution phenomenon is manifest at local and regional level, not through the pollution from the inside to the outside of the country.
- 1.2. the pollutant emissions in Romania have decreased starting with 1989, especially due to the cut-down in the production activities, a situation which makes 1989 as a possible reference year when preparing reports on pollution abatement.

As for using the IPCC methodology for assessing the pollutant emissions in the atmosphere, this is currently applied in the Environmental Engineering Research Institute and the application of this method will be included in the specific chapter within the National Study on Climatic Changes, wich our country is drawing up at present with the support of the Environmental Protection Agency of the United States of America (EPA-US). The data supplied by using this method will be published following their validation and they will be then made available.

Table 3 shows the specific pollutant emissions in Romania.

**Table 3**

Pollutant (kg/capita yr.)	Year				
	1989	1990	1991	1992	1993
SO <sub>x</sub>	65.1	56.1	44.6	41.0	40.0
NO <sub>x</sub>	23.5	22.4	19.1	15.0	13.3
NMVOC	48.4	46.7	45.8	27.0	27.3
CH <sub>4</sub>	101.7	84.2	74.4	66.0	66.0
CO	143.0	137.0	116.0	108.0	104.9



CO <sub>2</sub>	8563.0	7373.0	6095.0	5430.0	5299.0
N <sub>2</sub> O	5.3	4.6	3.9	3.0	4.3
NH <sub>3</sub>	14.7	12.9	11.5	11.0	9.6

Note: Values for 1992 and 1993 are approximate.

Romania acceded to the Vienna Convention and the Montreal Protocol and now is developing a country programme to phaseout ozone depleting substances.

**Table 4 Production of ODS in Romania, 1986-93 (Metric Tonnes)**

Substance	1986	1989	1992	1993
CFC-11	425	214	158	130
CFC-12	2500	1176	645	385
CFC-113	-	-	-	-
CFC-114	-	-	-	-
CFC-115	-	-	-	-
Other CFC <sub>s</sub>	-	-	-	-
All CFC <sub>s</sub>	2925	1390	803	515
Halon-1211	-	-	-	-
Halon-1301	-	-	-	-
Halon-2402	-	-	-	-
All halons	-	-	-	-
Carbon tetrachloride, CTC	18711	13367	9600	8058,1
Methyl chloroform, MCF	274	240	120	99
HCFC-22	-	-	-	-
Other HCFC <sub>s</sub>	-	-	-	-
All HCFC <sub>s</sub>	-	-	-	-
HCFC <sub>s</sub>	-	-	-	-
Methyl bromide, MBR	-	-	-	4,4

**Table 5 Trends in Regulated ODS Consumption in Romania, 1986-93 (Metric Tonnes)**

Substance	1986	1989	1992	1993
CFC-11	395	270,6	264,3	296,5
CFC-12	2355	1642,4	970,75	1090,1
CFC-113	83	75,0	55,0	76,0
CFC-114	52	46,0	43,0	18,0
CFC-115	-	-	-	19,0
All CFC <sub>s</sub>	2.885	2.034	1303,05	1499,6
Halon-1211	1	1,1	1,0	1,2
Halon-1301	3	1,8	2,1	2,6
Halon-2402	0,75	0,5	0,5	0,25
All halons	4,75	3,4	,6	4,05
Carbon tetrachloride, CTC	2.675	1.363	2.400	1.745,0
Methyl chloroform, MCF	274	240	320	553,0
HCFC-22	200	10,82	7,69	11,5

**Table 6 Development in CFC Consumption in Romania, 1986-93 (Metric Tonnes)**

Year End-uses	1986	1989	1992	1993
Refrigerants	553	343	347	389
Aerosols	2100	1515	807	927
Solvents	52	75	55	76
Foams	305	76	61	75
Fire Extinguishants	-	-	-	-
Total	3010	2009	1270	1467

## 2. Measures adopted for pollutant emissions reduction.

Taking into account the actual situation which Romania has in relation to the state of the economy and of the environment, she is in the course of drawing up her own action programme which will be included in the "Environmental

Action Programme for Central and Eastern Europe", document whose principles were endorsed by the Ministerial Conference of Lucerne, Switzerland, 28-30 April, 1993. This programme includes objectives that must be substantiated by each governmental organization and each company, through actual actions specific to its field of activity. The action programme will include short, mean and long term activities. A first stage is that of identifying, preparing, designing and assessing these actions.

The actions taken for the public interest are supported by financial sources from the state budget. Those companies that take actions aiming at abatement or elimination of the negative impact on environment are supported through their own financial sources.

The short-term objectives are as follows:

- Strengthening the institutional capacity and improving the legislation in the field of environment. It is to be had in view a more active presence in solving the problems of the existing institutions, coordination of the actions to which those involved take part in, promotion of the law of environment and of other provisional laws.
- Organising the integrated monitoring of the environmental components and achieving the self-monitoring at the pollution sources.
- Taking measures for pollution abatement especially in the 14 areas with intense pollution by means of retrofitting, modernization, introducing pollutant retention equipment.
- Setting into operation at the designed parameters. If the existing waste water treatment plants worked at the designed parameters, they would have a substantial effect over the quality of the receiving water of the water treatment plants. It is possible to obtain important positive effects with so little effort.
- Improving industrial and domestic waste management. Solutions adequate for capitalisation and disposal.
- Setting into operation the executed works and their supplementation. Combat natural disasters. The existing and non-capitalized works bring about material damages and have a negative impact on the environment (for example: the land reclamation systems which no longer operate, dams and other unfinished hydraulic works).
- Increasing the role of the forest in improving and protecting environment by extending the forest fund on non-productive lands, through silvicultural developments, protective forest belts, restoration of

the cynegetic fund, conservation of biological diversity, natural reserves and parks, conservation of the Danube Delta biosphere reserve, all these are objectives that would turn to a better account the wealth which nature offers in our country.

- Enlarging the populated centres through a proper development of the territory, water supply, sewages, improving the road network, transport system, reducing the pollution from the fixed and mobile sources (road traffic) and so on.

- Proper development of education by teaching ecological and environmental protection subjects at all levels of education, improving the educational system.

- Developing the scientific, research and centering around the actual issues of the environment

- Fulfilling the tasks following from the International Conventions and Programmes.

The costs implied by the application of the pollution abatement measures and the way in which they will be applied will be established through actual analyses carried out by the Ministry of Waters, Forests and Environmental Protection with the consultation of all ministries involved in solving these issues.

## **MONITORING**

### **1. Air quality monitoring network structure**

In order to know the atmosphere pollution level and its evolution tendency, a rainfall and an air quality monitoring network subordinated to the Ministry of Waters, Forests and Environmental Protection is operating in Romania. This is structured in two levels :

a. background pollution monitoring comprising 4 plants included in BAPMAN network, located at altitudes higher than 1000 meters (Semenic, Fundata, Stana de Vale and Rarau );

b. impact pollution monitoring, imission measurements in urban areas, respectively ;

a. Background measurement programme includes: determination of daily mean concentrations of air SO<sub>2</sub>, NO<sub>2</sub> and O<sub>3</sub>, physical and chemical parameters characterization of rainfall samples collected weekly and

monthly.

b. Impact monitoring system of impact pollution comprises about 50 urban networks for which the indicators included in the standard are systematically determined.

The general structure evolution analysis of the monitoring system shows for 1993, as compared to 1992, an increase of the number of air analyses and generally, the air monitoring activities (27% of the total monitoring activities) carried out by the environmental territorial agencies. The Ministry of Health has also a monitoring network, having in view the main cities (county chief towns) and those affected by major atmospheric pollution sources.

## **2. Emissions monitoring within the integrated monitoring**

Balance computation for 1989, 1990 and 1991 was carried out at national, regional and local level in order to make a whole characterization and to obtain a reference status concerning the air quality. On the whole country the annual mean pollutant emissions related to the number of inhabitants are close to the European averages (as they were shown in Table 3). Henceforth, as it is illustrated in the sectorial strategies (energetics, metallurgy, chemistry departments, etc), self-monitoring systems will exist at the level of every economic unit producing polluting emissions into the atmosphere. The data obtained from this self-monitoring will be sent to the interested ministry, the Ministry of Waters, Forests and Environmental Protection and the National Statistics Commission. All these measurements will consolidate the environmental protection decisions.

## **INVESTMENTS**

Environmental protection and preservation represent an acute necessity for all the countries, all over the world. To solve these problems depend on the economic possibilities of the concerned countries, influencing the selection of the best technological solutions and the determination of the necessary potential to achieve the specific works in this field.

For those countries that are going through a transition towards a market economy, the environmental protection problems could be only solved by setting up the conditions necessary to relaunch the economy and the financial support necessary for investments.

At the request of the Ministry of Waters, Forests and Environmental Protection, the territorial agencies of environmental protection and local authorities sent the list comprising the economic units representing the major polluting sources.

The relative evolution of the investment works for reducing the environmental pollution, carried out during 1991 -1993 is illustrated in Table 4.

**Table 7**

	1991	1992	1993
TOTAL	100%	394,86%	486,12%

The structure of the financing sources for 1993 is presented as follows:

\* from the total investments: 57.7% represent State Budget sources (out of which 29.4% for pollution decrease); 42.3% represents the own sources of the concerned units (out of which 42.3% for pollution abatement).

The structure on environmental factors in 1993 is presented as follows: for air: 40.9%; for water: 31.5%; for soil: 19.7%; for other environmental factors: 8%.

Investments for environmental protection are conducted to complete the works already started and to start up those located in the hotspots included in Romania's environmental strategy; the hotspots have been considered with priority.

## **RESEARCH AND SYSTEMATICAL OBSERVATIONS**

In the last decades, the international scientific community is deeply concerned with the earth climate and particularly the possible climate changes. The high interest for climatic change results mostly from its effects: the increase of global temperature, droughts, flood, etc.

The first 'world Conference on Climate (February 1979) has as a result to initiate and set up the World Climatic Programme (PCM) comprising four major components:

- World Programme of Climatic Data and Monitoring
- World Programme of Applications and Climatic Services
- World Programme of Climatic Impact Assessment and Response

Strategies

- World Programme of Climate Research.

World Climatic Programme, together with the associated activities of the international community represent one of the most important mechanisms to meet the scientific requirements concerning climate, of the framework Convention on the climatic changes and Agenda 21.

The main objectives of this programme are the following:

- assessment of the stage of the scientific knowledge concerning the climatic system evolution at global and regional levels;
- study of climate impact and its fluctuation on the human society, natural ecosystems and resources;
- improvement of prognosis models of climate change;
- anthropic activities impact assessment on Romania's climate;
- increasing the use of climatic information in Rumania's economy.

The projects that will be selected and will meet the requirements of this programme development, together with other projects included in the same themes, but belonging to the field of activities of other institutes (energetics, metallurgy, chemistry, agriculture etc.) will be supported in order to obtain funds from the State Budget, by means of the Ministry of waters, Forests and Environmental Protection and the Ministry of Research and Technology.

Among the activities in this field, the following ones are presented:

- initial inventory of greenhouse gas concentrations, drawn up in cooperation with specialists of Touche Ross company of the United Kingdom, financed by the Know How Fund belonging to the Government;
- national study of climatic changes carried out in the framework of U.S.A Programme for national studies;
- to create a national climatological data base according to CLICOM system;
- vulnerability studies for the coastal Black Sea area;
- assessment of climatic changes impact on the air quality and agriculture.
- National Study and Research Programme concerning pollution sources and impact over ozone layer modifications, biological, ecological and socio-economic effects of these modifications, strategies and attenuation means.
- the National Programme on the reduction up to the total elimination of ozone depleting substances is being-drawn up and it will lead to the implementation at national level of the Montreal Protocol provisions.

The Programme will include:

- projects aimed at replacing group 1 substances proposed to be financed by the Multilateral Fund;

- . - identification of other projects and their way of implementation.

In Romania systematic measurements are carried out on:

- total atmospheric ozone layer;
- ozone at the level of the soil in the background and in highly populated urban areas pollution monitoring network.

In addition, intensive ozone, CH<sub>4</sub>, total hydrocarbon, Nox, SO<sub>2</sub> ,

CO and dust measurements are carried out in the city of Bucharest by means of automatic monitors located in three autolabs.

## **DESCRIPTION OF POLICIES AND MEASURES**

The main strategical points for climate change are:

- the legislative and institutional aspects, which contain the regulations on air pollution emissions for each economic sector, the establishment of the National Commission for Climate Change;

- the national greenhouse gas inventory and implications in accordance with the methodologies elaborated by IPCC and adopted by INC of UNFCCC, for the different fields: energy, industrial processes and solvent use, agriculture, land use change and forestry and waste;

- preparation of the national monitoring system for air pollution, in general, and for greenhouse gas emissions, in particular, and development of Romanian scenarios for future emissions;

- to identify the sectors in Romania most vulnerable to climate change: human health, agriculture and forestry, industry, energy and water resources;

- mitigation options for each sector and at national level in order to establish the short- and long-term targets;

- public information with a view to broadening and strengthening the public acceptance of climate strategy and policy;

- the National Environmental Research Programme will contain the aspects for Global Air pollution and Climate Change;



- promotion of very good cooperation with all the countries in order to improve this Convention.

All these points will be effected in order to provide a more scientific argument 'or climate change policy and for environmental Parcels, research into global environmental indicators of climate chance and will be conducted under an action plan aimed at establishing the concentrations of greenhouse gases in the atmosphere.

- to extend the afforested area and to restore the forest fund;
- to make an annual inventory of the greenhouse gas emissions and of the ozone layer of depleting substances and to draw up reports to the Convention Secretariats.

In the energetical sector, total primary energy supply (TPES) in 1991 was 48 mtoe, ranking Romania third in terms of consumption in Eastern Europe behind Poland and the Czech Republic. TPES peaked in 1989 at 68 mtoe. Romania's domestic energy production from coal, lignite, oil, gas and hydropower covered 69% of TPES in 1991.

In order to reduce the GIG emissions, the energy sector establish one own policy. The sector is being completely reorganised to improve its economic performance. Since early 1990s, former ministries have been reorganised with less powers, energy enterprises have been re-established either as companies (SAs), e.g. RAFIROM (refining industry) and ROMPETROL (import of crude oil and gas, exploration and production), or as reties autonomous (RAs) companies to remain in the long term state ownership due to strategic significance, e.g. RENEL electricity production, transport and distribution), or ROMGAZ (natural gas production, transport and distribution).

The Ministry of Industries has primary responsibility on energy policy. The Ministry of Finance is responsible for pricing and taxation policies, controls the vices of most energy products and determines budgets for the RAs. The MoF aims to ensure that end-use prices are close to reference market prices at official exchange rates. IN April 1992, energy prices raised to the reference marker levels. Energy prices are calculated according to the interbank exchange rate. Consumers subsidies were eliminated mid 1993, as scheduled under agreement with the IMF and the World Bank. The exception is heating for residential sector where a small subsidy still remain. Current energy prices for industrial consumers are US\$ 80/toe for natural gas and US\$ 0.065/kWh for electricity, remaining slightly below the average prices of OECD countries. Further increases, expected early 1995, should reduce this gap.

A study of energy policies in Romania ,was conducted by the International

Energy Agency in 1993. A number of recommendations have been formulated on issues to be addressed by the Government in the energy sector for a successful development of its economy, among others: to complete the move to independence for the management of energy sector industries to reform energy pricing structure and abolish subsidies, to improve protection of the environment, to put more emphasis on energy demand analysis and energy efficiency. It is worth noting that the proposed GEF project is in line with these recommendations.

The Romanian policy in the energy efficiency was defined by the specialized institution dedicated to energy conservation, which is the first Central and Eastern Europe countries designated, the Romanian Energy Conservation Agency (ARCE) created in April 1991, under the umbrella of the Ministry of Industries (Mol). The objective of this is to assist the consumers in their efforts to reduce their energy consumption and improve energy efficiency. The main advantage of ARCE is its regional structure, with 16 regional branches; a staff of 120 people, of which 80 are professional energy specialists and a financial backing from the State budget to support energy efficiency investment. ARCE is maintaining an energy database on energy demand trends and patterns supplied by the regional branches. ARCE also runs an energy demand forecasting model (MEDEE) which provides results based on socio-economic development scenarios. First results of simulation indicate that energy intensity would decrease by 3-4 % up to the year 2000, mainly as a result of the modernisation and restructuring of industry.

The Ministry of Water, Forests and Environmental Protection (MoE) has the responsibility of environmental policy in Romania. The MoE operates 233 monitoring stations for air pollution throughout the country. It also has 41 district agencies for the protection of the environment in charge of inspection issuing permits, laboratory analysis, monitoring and data collection. The district agencies require significant investment in control and monitoring equipment to cover the 41 counties of Romania which each includes between 2,000 and 5,000 point of sources of pollution.

The environmental authority analyzes with the energetical sector the possibilities to apply all the commitments contained in the provisions of the environmental strategy in order to reduce the GHG emissions.

There are a lot of projects in Romania destined to this issue in cooperation with some international programmes. One of these is the GEF project which is in accordance with the study on energy policies in Romania conducted by the International Energy Agency in 1993. This study contains a number of recommendations formulated on the present issues.

## **PUBLIC INFORMATION AND CONSULTATION**

Along the harmonisation of the national environmental legislation with the

communitary regulations and standards, the specific regulation drawn up in the last years are also included: procedure for obtaining the environmental acceptance and authorisation; methodology of carrying out the impact studies and analyses; atmosphere protection conditions (limit values for the emissions in the atmosphere) etc.

In the methodology of impact studies elaboration - Order 619/1992 - a public consultation is provided in promoting the projects with possible adverse impact on the environment. Such a way tackling the EIA studies has been applied in the framework of the rehabilitation programme in energetics and lignite extraction sectors; this project of energetics and lignite mining departments recovery; this project was supported by a consulting company from Denmark. This activity was carried out in cooperation with the Ministry of Industries and was structured in two stages specific to the two components of the project. An invitation for participation was diffused, by mass media sources and thus all non-governmental bodies involved in this field of activity had the possibility to study the documentation and to express their points of view in public meetings.

Because the framework of carrying on the public consultation activities should be further improved, the new environmental law includes important provisions related to the environmental rights and obligations. Among all these rights, the one concerning the public information and consultation, when drawing up the strategies, policies concerning the environmental protection, and sustainable development is the most important.

The public has the right to be consulted in taking decisions - in regard to the achieving of several objectives and the carrying on of activities that have a negative impact on environment.

The obligations of natural and legal persons regarding the environmental protection are illustrated in the existing regulations have been were substantiated; it has been taken into consideration the fact that the atmosphere protection represents a main objective of public interest prevailing against other interests.

In accordance with the characteristic process of transition to the market economy, the year 1989 which precedes the current economic recession is considered as the base year for comparison of the greenhouse gas emissions.