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## **THE ROLE OF GOALS, STEPS AND CONTENT OF COMPREHENSIVE COMPLIANCE PROGRAMS IN ACHIEVING ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT IN ROMANIA**

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### **SUMMARY**

This paper presents a general analysis of the state of environment in Romania, giving some statistical data. The challenge and obstacle influencing the environmental compliance and enforcement processes are pointed out. Taking account of the lists approach for the major violators the paper offers, besides coercive measures, an overview on innovative compliance and enforcement program actions in respect to violators in order to protect the environment. The results of such actions illustrate an increasing degree of compliance and enforcement actions, which are reflected in environmental quality improvement.

Such achievements, as well as the positive changes taking place in Romania are estimated as encouraging and motivating factors in shifting the actors' behavior in favor of promoting environmental voluntary compliance and enforcement.

### **1 INTRODUCTION**

Pollution in Romania is generated mainly by industrial, energy and urban sources and is severe, but mostly localized.

Before 1989, its real roots were built as elsewhere on the false precept that economic growth and environmental protection are two opposed elements forever, meaning that we could have one or the other, but never both.<sup>1</sup> Due to political and economic systems of that time environmental legislation was largely unenforceable.

After 1989, environmental degradation concerns moved the Romanian authorities to start enacting some new environmental regulations and to set up the Ministry of Environment, actually being the Ministry of Waters, Forests and Environmental Protection.<sup>2</sup> During the transition period toward a market economy and democracy, the impact of the reform process soon started to be felt and with it, a positive impact on the environment.

However, in spite of the fact that, between 1990 and 1994, there have been significant reductions in emissions and discharges due to production cutbacks, industrial restructuring and certain measures to alleviate environmental degradation, pollution levels in some localities are still high. We have many human settlements which have not clean air to breathe, clean water to drink, or which did not eliminate environmental hazards.

Since 1991 to 1992 the Environmental Strategy prepared by the Government of Romania and Americans and other experts as well as the World Bank has identified fourteen localized environmental "hot spots," among which are Baia Mare, Copsa Mica, Zlatna, Ploiesti. However, due to government changes the Strategy and the National Environmental Action Program have not been approved until recently. During this time the Government took a range of measures to alleviate pollution, especially within the "hot spots."

Obviously, the compliance and enforcement processes are influenced by quite a number of factors such as: a certain inadequacy of environmental legislation, lack of incentives, the types of pollution facing certain localities, difficulties with public participation, awareness and education, as well as especially the lack of technology and financial limitations.

Above all such factors, the slow process of privatization and corruption at all levels accounted for negatively influencing the processes of environmental enforcement and compliance.

## **2 A FORGOTTEN DIMENSION**

In Romania the basic environmental legislation currently in force dates from 1960s to 1970s.<sup>3</sup> The most burning questions concerning permitting, environmental impact assessment, fines, as well as, charges and penalties ( the last two only for water) have been regulated by way of secondary legislation. In a short period of time the persistence of such a situation turned out to be an obstacle interfering with the process of compliance and enforcement actions. Generally speaking, in certain cases this situation was invoked as an alternative for not enforcing the laws.

Needless to say, some other matters such as industrial compliance programs are not at all regulated and others, e.g., environmental auditing have not been strongly and directly emphasized, not even properly denominated. It is called environmental analysis and it has tended to be narrow in scope, covering only few environmental aspects. Perhaps the most distressing situation consists in the fact that in practice it is not so much and not enthusiastically used.

The environmental legislative process has been too slow. The proposed environmental framework law was presented to Parliament about three years ago. However, it was only last December (1995) that both the Senate and the Chamber of Deputies agreed to pass that law. On December 29, 1995 the new environmental protection law was promulgated by the President of Romania and on December 30, 1995 the law came into force. We hope the environmental framework law will open the way that many other old laws and regulations which are backward to be as soon as possible repealed by new ones more responsive and anticipatory to new challenges of environmental concern.

In this respect, it might be mentioned that throughout the old laws and regulations the involvement of nongovernmental organizations, both groups and individuals was quite palely reflected in the law, as well as in the real life. Now with the privatization progress other actors will have a role to play.

Moreover, in the old regulatory system there were no clauses dealing with economic incentives or other incentives. The regulatory system was based mainly on fines and less on penalties and charges. All of these payments were so low that they did not compensate society for damage caused to the environment and did not bring environmental results and deterrence as elsewhere.<sup>4</sup>

However, we should point out that a modest recovery in the economy, mainly after 1993, opened opportunities for improvements. The December 1995 move in the legislative process, e.g. passing by Parliament of the new environmental framework law and its coming into force on December 30, 1995, followed by passing within Senate and Chamber of Deputies of the draft law on water and forestry code, as well as, the adoption by Government of the Environmental Strategy and the National Environmental Action Plan, definitely illustrate new developments.

### **3 NEW PREMISE TOWARDS SETTING UP COMPLIANCE AND ENFORCEMENT ACTIONS**

#### **3.1 The key legal premise**

It is for the first time that the permitting procedure is provided for within the law. That is the new Environmental Protection Law No. 137 of December 1995. In this way the permitting procedure and other related issues will take their proper place by the front door, not as it used to be by back door, or not at all.

The key permitting provisions of the Environmental Protection Law are embodied in Articles 8 para. 3, 10 para. 4, and 14 para. 1 and 2. According to such provisions the following remarks are highlighted.

##### **3.1.1 The distinction between new and existing facilities**

Whereas, for the new facilities having an environmental consent (acceptance), the permit application is obligatory at the time of their putting into motion, for the existing ones the permit application is obligatory within a year time from coming in force of the new law.

##### **3.1.2 The gradual actions towards existing facilities which do not meet the permitting requirements**

In respect of such facilities the environmental authority establishes the compliance program based on the carrier out of environmental audit; and on the basis of common agreement with the holder of the facility. It is said that elapsing each agreed term, in case of noncompliance, the environmental authority decides closing down the facility, and this is an executory order.

##### **3.1.3 The changing of destination, property or ceasing of facility**

In such cases, the former owner of the facility generating an environmental impact is obliged to carry out the environmental audit in order to establish the obligations related to environmental rehabilitation within impacting area. The environmental authority is checking the audit and establishes the compliance program.

As will be seen, at the initiative of the Ministry of Waters, Forests, and Environmental Protection and other factors a number of existing facilities already started taking a range of actions in order to prepare themselves to meet environmental requirements. Also the above provisions underline the importance of the compliance program in bringing the polluting facilities into conformity with the law. Lastly the establishment of the permittee status provides legal justification for procedural requirements which may be imposed and enforced immediately even though substantive compliance is delayed.

A notable remark is that the Environmental Protection Law is paying attention to public participation, education and awareness. In addition, it also introduces incentives, e.g. tax exemption, specific rewards and other similar exemptions, which have already been experienced as attractive methods to influence public behavior in regard to environmental concern.

#### **3.2 The "lists" approach: an open way towards innovative actions**

As mentioned earlier, between 1990 and 1994 there has been a significant reduction in emissions and discharges into environment in comparison with 1989, due mainly to production cutback.<sup>5</sup> Partly, this is also the result of actions taken in 'hot spots' to improve technology and reduce pollution with an aim to mitigate the environment.

At an early stage (1993) of the process strategy at the initiative of the Ministry of Waters, Forests, and Environmental Protection lists were made<sup>6</sup> identifying both localities having the major sources of air pollution and other environmental constituents pollution, as well as the major sources of water pollution.<sup>7</sup>

One of the two main lists contained 44 localities, including 14 hot spots focused primarily on items such as: the locality; the kind of pollutants; the annual medium concentration; and the allowable maximum concentration within 24 hours and the frequency of exceeding of allowable maximum concentration.

The other list focused on the hydrographic basins, the kind of industries (activities) and the facilities that were the major violators of the water laws and regulations. It identified over 110 major violators, e.g. different kind of industrial, zootechnical, energy producing, food producing plants.

Towards violators a range of coercive measures were taken such as: inspections, compliance visits, fines authorization withdrawn, few prosecutions, but not even one successful prosecution. What seems worthy of mentioning is that, during 1991 to 1994, the major polluting plants primarily involving metallurgical, chemical, refineries plants were compelled to install water and air polluting control equipment required for initial compliance.

Here, it is interesting to mention among such actions:

- the supplementary catching of the black “snow” of Carbon at CARBOSIN chemical plant in Copsa Mica;
- prevention of air pollution by powders, sulfur dioxide (SO<sub>2</sub>) and Carbon dioxide at SIDEX metallurgical plant in Galati;
- modernization of the treatment water system and of air protection by setting up of an electrofilter at FIBREX chemical plant in Savinesti;
- improvements, including erection of a 350m. chimney at PHOENIX sulfur acid plant in Baia Mare;
- enlarging the acid pitch-pit at PETROTEL in Ploiesti;
- expanding the municipal stations of waste water treatment in Arad and Satu Mare; and
- small particulate control equipment at ARLO nonferrous plant in Slatina.<sup>8</sup>

The results of the above mentioned actions rapidly proved their ameliorative effects on the environment and economically they turn to be profitable and inspiring for more ambitious and innovative actions, moving towards voluntary compliance.

A notable example of a successful specific program is the setting up of the gas filter bags at ROMPLUMB smelter, in Baia Mare. This equipment induced lead recovery instead of holding back (reduction) in such a quantity which is enough to supply the raw material at ROMPLEMB for about 1.5 months per year.<sup>9</sup> It is just one example from which people can learn about others experience.

Moreover, other plants, as for instance, ARLO in Slatina went beyond and took innovative and sensitive actions in respect of health and comfort of inhabitants. In 1995, ARLO experienced a number of initiatives, e.g. supporting a part of heating cost for inhabitants in the area, offering a daily meal for its workers, free of charge medical care, treatment and medicines in case of workers illness. The practice of some facilities to offer a free of charge two weeks vacation for their workers’ children is more common.

The general state of the pollutants emitted in the air could be illustrated by pointing out few examples out of those given in the process of Environmental Strategy in Romania.

Such few examples referring to the specific emissions of pollutants in the air (kg. per capita/year) are as follows.<sup>10</sup>

- the Carbon dioxide (CO<sub>2</sub>) decreased from 8563.0 in 1989 to 5299.1 in 1993;
- the Carbon monoxide (CO) decreased from 143.0 in 1989 to 104.9 in 1993; and
- the Sulfur oxide (SO<sub>x</sub>) decreased from 65.1 in 1989 to 40.0 in 1993.

The main contributors to pollutants emissions were the energy generating plants which accounted for 70% of total sulfur oxide, and industries which accounted for 75 to 80% of total Carbon dioxide and monoxide.<sup>11</sup>

Globally, throughout the country the pollution level is about the same as the medium pollution level in Europe, in 1990. In respect to some pollutants, e.g. SO<sub>2</sub>, CO<sub>2</sub>, the pollution levels are even lower in Romania in comparison with other countries.<sup>12</sup>

However the pollution is still severe in the areas of major polluting sources, e. g., Baia Mare, Copsa Mica, Ploiesti due to metallurgical industry, chemical and petrochemical industries, and other industries and activities.

To illustrate this we mention that in 1993 the systematic measurements of pollutant concentrations have been carried out in over 50 cities with areas of major polluting sources. The data obtained reveal that in respect to Nitrogen dioxide (NO<sub>2</sub>), Sulfur dioxide (SO<sub>2</sub>) and Ammonium (NH<sub>3</sub>) the medium annual concentrations exceeded the allowable maximum concentrations in three cities only (Baia Mare, Brasov, Ploiesti), whereas the maximum concentrations on 24 hours exceeded allowable maximum concentrations with a frequency of over 25% in about 20 cities.<sup>13</sup> The situation is similar for other types of pollutants. The pollution is due to either old technology or the absence of gas filter bags or other equipment.

Regarding surface water quality the same factors contributed to improvement in all those four water categories. For instance, in comparison with 1989 to 1991 the water quality has improved in the first and third categories as follows:<sup>14</sup>

- In 1989 the water of first category represented 35% out of 20,500 km, whereas in 1993 it represented 54% out of 20,500 km.
- In 1989 the water of third category represented 18% out of 20,500 km, whereas in 1993 it represented 11%.
- Still we have 15% of the total water courses, which is very polluted, that it is harmful to fish life.

In Romania there are 2770 stations for waste water treatment, but out of this number 300 do not operate, whereas 535 are poorly operating.<sup>15</sup>

The groundwater is also in certain areas polluted with ammonium nitrate and less frequently with phosphates and others.

Waste management constitutes an important issue of the Romanian environmental policy. In spite of this, waste management has not yet been strongly organized. The increasing quantity of industrial wastes and municipal and household wastes has a negative impact on environment and imperil human health. In 1993 the generated wastes have been estimated at 268 million tons (that means 98 tons less than in 1992), out of which 260 million tons represent industrial wastes and 8 million tons municipal and household waste, out of which 92% were wastes generated by treatment of industrial waste waters. The \$8 million cost allocated to the number of inhabitants represent about 0.92 kg per capita/day.<sup>16</sup>

The reuse of wastes is at the very low level, except wastes wood, copper, lead, zinc, paper, and glass. Landfills are the predominant means of disposal, but most of them are operated in a rudimentary manner. There are no incinerators for hazardous wastes.

Therefore, taking account of the great danger the hazardous wastes and other kind of wastes pose for human health and the environment there is an urgent need for specific actions.

#### **4 Increasing Environmental Compliance and enforcement through Priority Objectives, more Targeting and Combining Content**

During 1995 the Environmental Strategy and the National Environmental Action Plan were completed. In the September 1995 Report on the National Environmental Action Plan guided by priority criteria, e.g., human health, sustainable development, 21 priority objectives were established such as:<sup>17</sup>

- modernization and technological advances in pollution reduction by means of efficiency of water treatment and emissions recovery;
- waste technology updating;
- solving the 14 "hot spots";
- acid rains by SO<sub>x</sub> NO<sub>x</sub> emissions abatement;
- solid waste management;
- the improvement of production process;
- environmental restoration;
- environmental auditing;
- integrate monitoring and self-monitoring;
- public participation and awareness;
- finalization the investments for environmental protection which are already in line;
- biodiversity conservation (e.g. the Danube River Delta the Black Sea Coast, human settlements); and
- the implementation of international treaties.

These priority objectives are reflected in a quite big number of priority projects with time frames for carrying them out and proposed investments. The National Environmental Action Plan contains a number of 296 priority projects.<sup>18</sup>

Out of these 296 projects 102 (34.3%) are projects, included in a list, on short term, for which the amount of 935 billion lei is allocated (see notes, US\$ =1850 lei). The proposed financing sources are: 418 billions lei from the state budget; 159 billion lei own sources; and 358 billions lei equivalent from external sources. The other 194 (65.7%) are projects on medium term for which the amount of 1780 billion lei is allocated.<sup>19</sup>

The completed form of the National Environmental Action Plan gives priority to the hot spots. Thus, out of 102 projects, 41 projects are considered selected project and included in a special list. The amount of money allocated is provided for per year.

##### **4.1 The projects and their goals**

The carrying out of a project might involve many goals such as water, air and waste equipment and installation. That would benefit to all these environmental constituents and might prove economically profitable.

The overwhelming majority of proposed projects are designated to determine the reduction of gas inducing the greenhouse effect and the minimization of gas emissions depleting the ozone layer.<sup>20</sup> To give a few examples of proposed specific goals we mention the reduction by 7.7% of SO<sub>x</sub>, 4% of NO<sub>x</sub>, and 0.23% of CO<sub>2</sub> by the end of year 2000.

As regards sectorial achievements, e.g., air protection in the following 3 to 4 years the industrial priority projects on short term are estimated to contribute to reduce polluting emissions from 2% up to 10% in comparison with 1989.

In respect to surface and underground waters the estimations are that in comparison with 1989, the quality of surface water shall improve diminishing the degraded water, and the third water category by about 8 to 10%. During the same time period the water pollution indicators, inter alia, Biochemical Oxygen Demand will decrease by 15%.<sup>21</sup>

To give an idea about proposed priority projects i.e., their area, goals, the time frame and the allocated investments we selected out of the 41 projects a number of 21, which are presented, according to our own scheme, in annex 1.

## 5 Conclusions

From the above analysis few remarks could be pointed out. The regulatory framework and its enforcement did not reach the required levels yet, but it is in the process of improvement, especially with the coming into being of the new environmental framework law. Still other obstacles are interfering. However, Romania made her choice to promote compliance and enforcement by means destined to make use of more adequate and profitable mechanisms and to continue to take coercive actions when such actions are justified and needed.

The established objectives aim at pollution reduction and securing human health and sustainable development, introducing incentives and disincentives, enlarging number of actors involved in environmental enforcement will positively influence public behavior towards voluntary compliance.

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12. Idem p. 34.

13. Idem, p.48.
14. Idem, 51-58.
15. Idem, pp. 51-63.
16. Idem, p,. 77; 78.
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18. Idem pp. 12-13.
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20. Report, p.24.
21. Idem, p. 24-25.

Notes: At the time of proposed investments, US \$ =1850 lei. The year 1989 is taken as year of reference in emphasizing the pollution reduction, due to production cutback. The 20,000 km represent the length water of reference.

**A Selective List of "Hot Spots" Priority Projects  
and Appropriate investments included in the  
NEAP on Short Term**

No	"Hot Spots"	Objectives No	PROJECTS		Short term proposed investments					Total investment		
			Objective	Projects goals (targets)	1996	1997	1998	1999	2000			
0	1	2	3	4	5	6	7	8	9	10	11	
1	BAIA MARE	3	1.1.	Increasing output holding back of SO <sub>2</sub> at PHOENIX S.A. Baia Mare	14400	35000	35000				84400	10270
			1.2.	Ecological rehabilitation of agricultural soil, Baia Mare	1209	1500	1500				4209	
			1.3.	Cleaning up of workplace, modernization of interphasic transport and of metallurgical furnace at S.C. ROMFLUMB Baia Mare.	3773	3773	3773	3773			15100	
2	CODLEA	1	2.1	Waste water treatment at S.C. COLOROM S.A.	13526	13526	13526				40579	40579
3	COPSA MICA	3	3.1	Equipment modernization at nonferrous metallurgical SOMETRA S.A. Copșa Mica	2424	2424	2424				7272	72,742
			3.2	Gradual increasing of SO <sub>2</sub> recovering at SOMETRA S.A. Copșa Mica	8640	8640	8640	8640	8640		43200	
			3.3	Afforestation Copșa Mica	2000	3000	3000	3000	3000		22000	
4	CRAIOVA	2	4.1	Waste Water treatment Craiova	10,000	10,922					20,922	57,923
			4.2	Modernization of Nitrogen acid installations II and III at DOLJCHIM S.A. Craiova	5667	5667	5667				17,001	
5	GALATI	2	5.1	Modernization of distilling and despowderization installation and pollution reduction at S.C. SIDEX Galati	10000	10000	10000				30000	62,400
			5.2	Despowderization and recoveres of CO out of converter gases OLD1, OLD3, UOR la C.S. SIDEX S.A. Galati	8000	8133	8133	8134			32400	