

RESEARCH ON EVOLUTION AIR POLLUTION IN THE INDUSTRIAL AREA COUNTY DAMBOVITA

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Abstract

Study on effect of environmental harm has occurred very late, after 1980. Unfortunately, some of these noxious acted on air, water and soil.

Environmental Protection primarily affected areas must be identified assessed the degree of damage and determined the causes which produced those imbalances. With respect to protection arrangements need to be addressed three issues: creation of a legal and appropriate and effective institutional to ensure compliance with the laws in force, assessing the costs of environmental protection measures and to identify sources of supporting their long-term development programs related to national and international level on environmental protection. State of the atmosphere is highlighted by the presentation of various noxious pollution impact, quality of rainfall, atmospheric ozone situation, the dynamics of emissions of greenhouse gases and some manifestations of climate change. Air quality monitoring involves tracking the items included in the four categories of issues: sources and emissions of air pollutants, the transfer of pollutants into the atmosphere, the concentration of pollutants in the atmosphere and spatio - temporal distribution of their effects of air pollutants on man and biotic and abiotic environment.

To protect the atmosphere and air quality improvement measures are required emission control of pollutants. In assessing the degree of pollution of atmospheric pollutant emissions are calculated and determined ambient air quality. Emissions are measured by appropriate methods of assessment, pollutant-specific basis, based on emission factors and activity indicators. The main objectives of environmental policy in Romania are designed to ensure a clean environment, and seek to ensure a healthy life people, to eliminate environmental degradation, to regenerate the economy of the principles of sustainable development and to harmonize national environmental legislation with the EU.

Keywords: pollution of air pollutants, noxious emissions

1. INTRODUCTION

Development of industry in recent years has led to large platforms and industrial units, pushing unwanted local or zonal focusing pollution emissions of pollutants well above acceptable limits due to this situation, the soil is one of the environmental factors affected its finding techniques required to remedy it.

Research in recent years is bound to find remedial techniques for contaminated soil with heavy metals in addition to provide remedial effect and improvement of soil quality properties of individuals.

Environmental pollution is one of the issues most current and most important of mankind. This issue was dealt with leniently by about 15 20 years, but in terms of scientific and technical development on the one hand, and the tendency to obtain a rate as high profit, on the

other hand, the problem of protecting nature has become a major concern both for scientists from different fields and to politicians.

The most sensitive of air pollution control strategy involves methods that reduce, collect, capture or retain pollutants before they enter the atmosphere.

From an environmental perspective, reducing pollutant emissions with an increase in energy efficiency and conservation measures, such as burning less fuel is the preferred strategy.

Influencing people to use public transport instead of private cars also helps to improve urban air quality.

Setting and then control the degree of pollution of the environment include: methods of detection and measurement of the concentration of pollutants, problems of organization of control system and long-term

monitoring, software adoption and enforcement of maximum limits for pollutants.

Determination of pollutants maybe of different compounds by different methods. Depending on features, they can be classified into several categories. Thus: by the principles of measurement, methods of assessment are divided into: chemical, physical methods, methods of physical, chemical, biological.

After sampling and analyzing the shape of samples, methods of analysis are divided into: methods manual, semiautomatic methods, automated methods

Depending on how the results of the analysis, the analysis may be: ways of reading direction of the results, methods of display and storage.

After the duration and frequency calculations, the methods can be: continuous, periodic, and intermittent.

Depending on the place of analysis of samples, methods are divided as follows: methods of sampling and transport of samples and subsequent analysis of data, methods of analysis in real time with immediate display of data and alarm options.

2. PROCEDURE

The principle method for determining the total particulate in the air is their separation from free or sedimentary their aspiration and determination by the gravimetric method, reflectometers, and chemical densitometrically.

Fine sediments are harvested by free sedimentation in vessels of glass, plastic or snow. Gravimetric method for determining them, content to pass the collection vessel quantities between one capsule husks with a glass rod and evaporate the water bath to dry. After evaporation, the caps is taken from the oven at 105 ° C for two hours, then cool in exiccator and weigh analytical balance.

Gravimetric method for determining sedimentary powders have the advantage of being very simple, but is a relative method of assessment of concentration dust in the air, because it refers only to large particulates, sediments.

For determination of particulate matter by gravimetric method air samples are collected using a suction system and dust retention takes place on filter paper.

Before harvesting, the filters are kept in exsicator for 24 hours and weighed. After taking a collection, the filters are dried and weighed again.

The concentration of particulate is determined as the ratio, the mass filter before harvest mass determined after harvest, plus the volume of air ingested.

In laboratory samples collected dry filters and brought to constant weight by repeated heating in the oven at 105 ° C.

Concentration C (mg/m^3) of dust will be the difference between the filter weight before and after harvest and determine the formula:

$$C = \frac{(a - b) \cdot 1000}{V_o}$$

Where:

a- weight of filter after sample collection (mg)

b- Weight filter to sample collection (mg)

c- Volume of air collected, brought to normal conditions, l

3. RESULTS AND DISCUSSION

The indicator respirable dust - PM10 fraction - in the industrial area Targoviste samples were collected from three collection points, the COS, based Procor and Erdemir, the limit (VL) daily is 50 $\mu\text{g} / \text{cm}$.

In the COS Targoviste in the first six months of 2009 have registered lower values, obtaining the highest values in February and the lowest in June, data is represented schematically in figure 1.

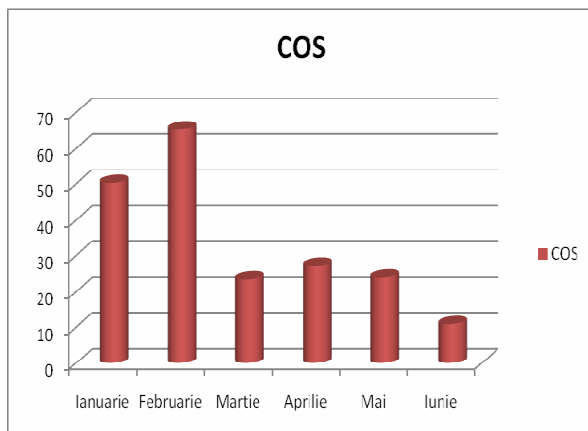


Fig. 1 Dust respirable area COS Targoviste

Procor area peaks were registered in February and January and the lowest in June, as shown in figure 2.

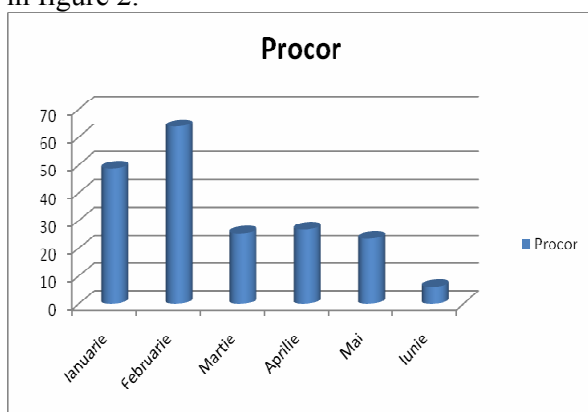


Fig. 2 Dust respirable area Procor Targoviste

Significantly higher values were registered in February and very low in June in the Erdemir, as we can see in figure 3

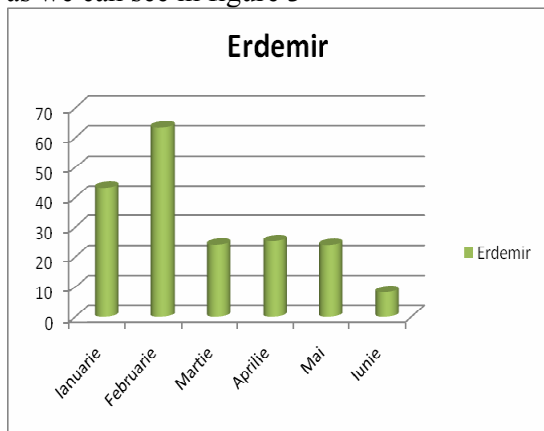


Fig. 3 Respirable powders Erdemir area

Indicator to monitor the proximity of the industrial area of the city, every 10 months there have done many measurements, One every day. Averages of values can be observed in table 1.

Table 1 Respirable dust fraction PM 10 (mediiile of values)

Collections points	January µg/mc	February µg/mc	March µg/mc	April µg/mc	May µg/mc	June µg/mc
Procor	48,82	63,75	25,40	26,73	23,55	6,25
COS	50,32	65,30	23,5	27,25	24,00	10,9
Erdemir	43,30	63,30	24,20	25,4	24,1	8,1

The monitoring indicators can be seen in figure 4 the highest values were obtained in the area of Special Steel Combine, followed by Procor and Erdemir.

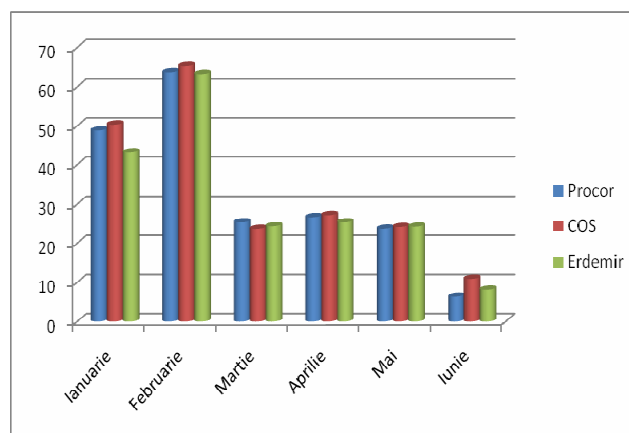


Fig. 4. Respirable dust (average obtained in the first 6 months in a period of 10 days)

The mean concentration of total suspended particulate indicator (TSP) for collection points in the industrial area of town Targoviste (Procoor, COS and Erdemir) was below the maximum allowable concentration (CMA under STAS 12574/87) and 0.068 mg / m³, representing 45.33% of the CMA (0.15 mg / cm).

There have been values recorded above the alert (AP 0.105) with a frequency of 18.37%. Maximum daily concentrations recorded in the period January to July 2009 was 0.148 mg / m³, representing 98.6% of the CMA. No exceedances of the CMA.

Fine sediments monitored in the same locations in the industrial area, after obtaining the results showed that this indicator has revealed exceeding the CMA (17 g / sqm / month), the global average for Targoviste, calculated for the first 6 months of 2009 were of 5.43 g / mp

4. CONCLUSIONS

Status of environmental factors in the industrial area of town Targoviste can not be improved, if not considering the following aspects:

- that environmental protection is an obligation incumbent on all those who organize and carry out an activity and existing environmental rules and standards must be respected by all and primarily those engaged in industrial activities;

- All industrial activities should be given to environmental protection, quality of human life and abandoned the conception of many factors affecting the fore production, without taking into account and negative impacts on our environment;

- Local institutions need to exercise, with the requirement necessary powers to them in law enforcement;

- financial resources should be best used and focused on solving environmental problems in critical areas.

- Traders to invest in new technologies, the economic and environmental performance. required some adjustments of national policy which takes into account the fact that economic performance will be directly linked to environmental performance.

5. REFERENCES

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