
A LEADING CASE FOR THE ENSENADA PETROCHEMICAL DISTRICT INDUSTRIES TRANSFORMATION, BUENOS AIRES PROVINCE, ARGENTINE REPUBLIC

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SUMMARY

A general work area description is given. A short diagnosis view, provincial and regional. Finally the strategy for the change.

1 INTRODUCTION

1.1 Work area description

The Ensenada Petrochemical District is located in the province of Buenos Aires, 65 km south of the city of Buenos Aires, which is the country's capital, It is situated very close to the city of LA PLATA, the capital of the province. The district is located in the Ensenada and Berisso districts. This area, practically includes the "BUENOS AIRES METROPOLITAN AREA", because there is no limit between the 22 town councils.

La Plata, Berisso and Ensenada municipalities have a total of 692,000 inhabitants, which means an average population density of 550 people per square kilometre (km²), according to the 1991 census. The active population, is around 48%, but only 12.9% is dedicated to industrial activities, approximately 43,000 people.

As of a few years ago, in this area, and specifically with respect to the port activities, there were very important industries, such as SWIFT and ARMOUR, meat packing. However, the economic decline and political fluctuation of the country, were responsible for the loss of 60,000 jobs, from 1970 to 1994. This is why at this moment, the industrial district is the last relevant source of work in the region.

The area of the district has given lodging to several industries working with the principal : the oil refinery, called YACIMENTOS PETROLIFEROS FISCALES (YPF). That firm, which was recently traded in a Stock Company and sold to private hands, is conducting oil operations all over the country, but it has only one oil refinery in Buenos Aires, located in this district.

1.2 Industrial activity

YPF is one of the most important firms in Argentina, with the biggest billing and fixed capital. For 60 years responsible for the petroleum policy in the country, and was the most important firm traded in the world during 1993.

THE PETROCHEMICAL DISTRICT has about 3,500 workers, at this moment and many contracting firms. This means a total of about 32,000 persons benefit directly, and 128,000 inhabitants, indirectly, considering a marginal tendency of consumption of four. Other firms within the district, excluding YPF, are:

- PETROQUIMICA GENERAL MOSCONI, which manufactures petrochemical products.
- COPETRO, which process YPF petroleum carbons and charcoal.

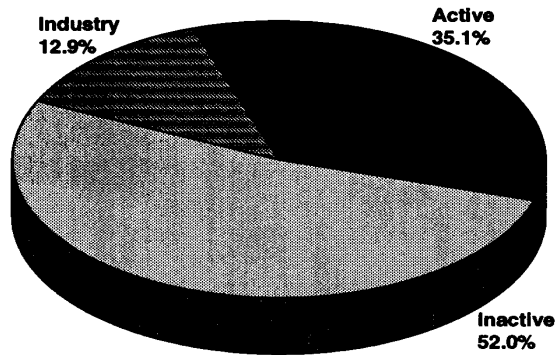


Figure 1. Active population: La Plata - Berisso - Ensenada.

- IPAKO, polyethylene.
- PROPULSORA SIDERURGICA, cold laminated.
- PETROKEN, polypropylene.
- POLIBUTENOS ARGENTINOS, polybutene.
- MALEILC, solid anhydride maleilc.
- EDELAP, energy distribution.
- PROSUL, sulfuric acid.
- PETROQUIMICA LA PLATA, aromatics and oleophins.

2 DIAGNOSIS

2.1 Environmental situation in the province

The Province of Buenos Aires consists of a very large area, and has 13,000,000 inhabitants, with 8,000,000 living in the METROPOLITAN AREA Buenos Aires, generating an average population density of 2,200 inhabitants per km². So it's very easy to see what kind of problems the province has. It lacks urban development and planning. There is not enough drinking water, sewers, or treatment of solid waste (urban or industrial), and there is an inadequate use of land.

Furthermore, it's necessary to speak about other problems, in order to make complete diagnosis, such us:

- Financing difficulties of the public departments, caused by the successive adjustment plan.
- Decline of human and material resources, in control and planning departments.
- No trust in the public's powers.
- Institutional confusion.

Apart from that, the State has other kinds of problems within its interior, where the average population density is not more than 16 inhabitants per km. Essentially, the problems come from the

inadequate management of natural resources caused by the different economic activities, and the natural conditions such as climate and geography (drought and flooding, etc).

Finally there is another Petrochemical area in the province of Buenos Aires, in the city of Bahia Blanca. It exists with similar problems as the ones found in Ensenada city.

2.2 Environmental situation in the area

During the last 50 years there wasn't any urban planning or pollution prevention, in the three municipalities where the program is taking place. That's why the environmental resources are affected, they are not irreversible, but of much concern.

The waterways are used as drainage for all kinds of wastes, because there is no alternative infrastructure for them.

All of them, flow into the RIO DE LA PLATA, which is contaminated in the coastal area, about 500 meters. In spite of that, the water is taken from the river to make it drinkable.

Finally, the atmosphere presents in general, tolerable indexes, even though our laws are not complete in this subject. If we compare the atmosphere quality with international laws, we are above the limits, in some periods.

2.3 Institutional situation

The governmental organization for environmental subject, is yet in an intermediate period, because there are several departments in charge of this, depending on different agencies, with no connection among them, nor among laws. They don't have clear limits among them, and in some cases there is no applicable law.

Apart from that, environmental concerns are never given priority, and that's why at the beginning of our management, we found several industries which never had been controlled or punished by the State.

This year, Buenos Aires province has created by law, a new agency to coordinate environmental policy, which is called PROVINCIAL INSTITUTE OF ENVIRONMENT, but it is not working yet.

3 STRATEGY

In this context, the Ministry of Health, through the Provincial Direction of Environment, in accordance with its responsibility of preserving the public health and natural resources, and using every tool possible, designed this program, to get the environmental transformation of the industries of the Petrochemical district.

3.1 Pressing to get consensus

The first step was to organize, within three months, an intensive operation of monitoring and control, with many inspectors of the Ministry viewing the working atmosphere in the surrounding area of the district (operating modern equipments to get samples, and to be communicated), in order to determine the activities of the industries. At the end of the plan we had to punish most of them, in an amount of \$1,000,000. It was the first time that the fines were paid.

3.2 Guiding the cooperation

After identifying the "environmental conflict", and to develop the program, we set up an institution both public and private with a model, calling every interested group, to look for solutions. And that's how provincial and local authorities, and presidents of the firms sat down together, to work.

A simple General Agreement, signed by the Ministry of Health, the three municipalities and all the industries, was the normative instrument to set up a work system, to solve the complex problems of the area.

A chairman council, named "PETROCHEMICAL DISTRICT PLENARY COMMITTEE," was created. They approved regulations of the committee, and agreed to make decisions by consensus.

After that we were able to sign agreements with each industry in particular, to develop actions described before, and to begin self-control programs and basic treatment works.

3.3 Internalizing the external

The second stage of the reconversion program contains the following actions:

- 3.3.1 Setting up a self-control mechanism to make each firm conduct its own diagnosis and corrections, considering certain data of the different issues that could impact the environment. Not one industry was controlling its waste, even though it seems incredible, and they were trying not to notice the damage they were generating.
- 3.3.2 Considering preliminary assessments, to make the basic treatment work for all the wastes, using adequate technologies. At this moment, most of the industries have installed different treatment systems in accordance with the problem.
- 3.3.3 Performing an atmosphere contaminant diffusion model for the area, to analyze the dispersion of the substances in the air, considering the climate and other natural conditions.
- 3.3.4 Installing a continual sampling network of quality air, in different parts of the region, with the agreement of everybody, in which will be analysed:
 - Sulfur dioxide.
 - Nitrogen oxide.
 - Carbon monoxide.
 - Hydrocarbons.
 - Particular materials.

The sampling network will be operated by the Ministry or the University, such as the PLENARY COMMITTEE decides.

- 3.3.5 Performing an environmental auditorship per industry, to make a certain individual assessment, and to be able to approve definitive transformation programs, to be done in not more than 5 years.

3.4 Law modification

In the third stage we will know if it is necessary to change the different laws, to make them adequate to regional limits. Strict periods and adequate technologies will be fixed, to be respected by human activity.

The approval of legislators local and provincial, is also necessary.

3.5 Looking for total solutions

Following these steps, we will perform a Regional Environmental Assessment, considering physical, biological, law-institutional, economics, cultural and social aspects. From that Assessment,

we will get different preventions, corrections or mitigating decisions of the environmental impacts, such as relocated towns, shutting or moving of factories, etc.

3.6 Respect to change

Environmental education and social participation could not be absent. It is necessary to give to the community, all the available information, enough for the people to understand and give their opinions. There is no possibility of success, without the community, in this kind of program.

That is why, from the beginning of the whole program, it was developed through the representative institutions with the knowledge and opinions of the people.

- Permanent and public information is given on the advances of the program.
- Popular control-program mechanisms are promoted in order to give continuity to the program, in spite of political fluctuations.

4 RESULTS: IMPLEMENTING THE ENVIRONMENTAL PLAN

The different community groups will be able to analyze and to approve the ENVIRONMENTAL PLAN OF THE AFFECTED AREA OF THE ENSENADA PETROCHEMICAL DISTRICT, which will contain not only industrial aspects, but other actions to perform the several activities which degrade the environment.

We are sure that it will be necessary, at this moment, to call other governmental agencies, also responsible for the protection of the environment, to be able to perform the ENVIRONMENTAL PLAN. Therefore the provincial or local governments could be required to transform themselves.

We are sure that this program, which is just beginning, is the only way to change behavior, after so many years of doing nothing.