

ENVIRONMENTAL STRATEGY IN OIL COMPANIES

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Abstract

Like any other industrial activity, the production of hydrocarbons affects the environment both through the performance of actual technological process and through undesired accidents, which may occur.

This paper presents environmental protection as an integral part of the sustainable development concept and it outlines the matter of environmental protection in connection with oil rigs and the assessment of ecologic impact.

Environmental impact is direct or indirect effect of human activity that produces a change in the direction of development of the quality status of ecosystems. Control the impact requires detailed knowledge of the phenomenon, which involves the stages of identification, estimation, evaluation, etc. This is what is intended by the general concept of Environmental Impact Assessment (EIA).

The orientation of the economy towards sustainable development requires achieving a growth process conducted in terms of ensuring a social welfare of the population as high ensuring time and preserving the Earth and its natural resources.

The purpose of all economic activity, as well as the activities in the oil industry, is getting competitive and efficient economic outcomes in the context of environmental-economic requirements imposed by the accession of Romania to the European Union . It is located at the interface eco-efficiency economic and social efficiency, which takes into account the ecological component in economic decision making because environmental issues are inseparable from the welfare and economic processes in general.

Cuvinte cheie: *Enviromental strategy, enviromental management, decisions*

Clasificare JEL : *F18, Q50, Q56, Q57*

1. Introduction to environmental issues in the oil industry

For contemporary society, environmental protection is of great importance as economic development takes place in the framework of the environment in which we exist and operate.

By definition, environment are all at a time of natural factors - physical, chemical, biological and social (created by human activities), in close interaction influences the ecological balance and determine the conditions for human life and development society.

Environmental problems have deep involvement in all organizations, regardless of size. Positive attitude towards environmental protection is a key factor in developing an indefinite period of each organization.

Principles and strategic elements that underlie environmental regulations are [4]:

1. Principle of integration of environmental policy into other sectorial policies ;
2. Precautionary principle in decision making ;
3. Principle of preventive action ;
4. Principle detention pollutants at source;
5. Principle of " polluter pays" principle ;
6. Principle of conservation of biodiversity and natural ecosystems specific biogeographic framework ;
7. Sustainable use of natural resources;
8. Informing and public participation in decision making and access to justice in environmental matters ;
9. Development of international cooperation for environmental protection.

By law, are established ways to implement the principles and objectives of environmental protection [5]:

- integrated pollution prevention and control through the use of best available techniques for activities with significant environmental impact ;
- adopting development programs with compliance with environmental policy;
- correlation of spatial planning and urbanism with the environment;
- conducting environmental assessment before approval of plans and programs that may have significant effect on the environment;
- environmental impact assessment in the initial phase of projects with significant environmental impact ;
- the introduction and use of economic levers and incentives or coercive instruments ;

- resolving the level of competence, environmental issues , depending on their extent ;
- promoting legislation harmonized with EU regulations and international standards ;
- establishment and in achieving compliance programs;
- establishment of the National Integrated monitoring of environmental quality ;
- recognize products with reduced environmental impact through eco-label ;
- the maintenance and improvement of the environment ;
- rehabilitation of areas affected by pollution ;
- encourage the implementation of management systems and environmental auditing ;
- to promote basic and applied research in the field of environmental protection;
- education and public awareness as well as its participation in the elaboration and implementation of decisions on the environment;
- the development of the national network of protected areas to maintain the favorable conservation status of natural habitats, wild flora and fauna as part of the European ecological network - Natura 2000 ;
- application systems to ensure traceability and labeling of genetically modified organisms ;
- the removal of priority pollutants that endanger human health directly and severely .

Extraction of hydrocarbons, like any other industrial activity affects the environment, both through the development processes themselves and by some unwanted accidents that may occur.

Although no oil extraction is among the most harmful, given its extensive range of activity on land and sea and indefinite duration of action, it must reduce its effects on the environment by promoting clean technologies and as methods and techniques for remediation.

Specifics hydrocarbon extraction industry requires strong measures regarding environmental protection. Applying the concepts of environmental management in the mining industry aims hydrocarbon soil and groundwater purification problems and minimize the amount of waste contaminated before use of expensive facilities to handle them.

Complexity of the oil extraction makes wide range of pollution sources to include in addition to sources of pollution resulting from human activities and pollution sources. Since the latter have the largest share, and their effect infestation and lasting negative impact on the environment, it is necessary to identify the sources and possible modes of action on ecosystems [1].

Exploration and exploitation of hydrocarbon deposits are considered factors of production with high environmental pollution phenomena. Extraction of oil in scaffolding system is closed, which should lead to avoiding or minimizing all forms of pollution.

Pollution prevention is reducing or eliminating discharges or emissions to the environment and can be accompanied by reduction of waste at source or use, reuse and recovery of waste generated. Potential restoration of contaminated sites is an expensive and sometimes impossible, it seeks to prevent pollution and, if it occurred, to limit its effect immediate local actions. Examination of the individual sources of pollution, with agents specific to taking concrete and effective measures to prevent and reduce pollution in the oil derricks.

Plan for prevention and control of accidental pollution must include [1]:

- Alert system in case of accidental pollution;
- Program works actions necessary to prevent pollution equipment necessary to fight its expansion and resources to its effect;
- Establishing, by decision of the head of the organization, the composition of the team formed to combat pollution and firefighters;
- Immediate announcement of the competent authorities in cases of accidental pollution ;
- Staff training on the tasks they have to fulfil in case of accidental pollution.

One Oilfield main prevention and pollution are:

- o creation of a database that includes all sources of pollution, establishing identification elements and permissible limits;
- o observation and continuous control of extraction and storage facilities and taking measures to prevent any leaks into the environment;
- o correct location of the target production zone, in connection with geographical position, waterways, topography, location and topography in the vicinity, soils, vegetation, wildlife and so on;
- o detecting and fixing leaks and other leaks (especially pipe);
- o combating corrosion and abrasion depth and surface facilities;
- o outfitting wells to avoid spreading outside its perimeter liquids that may escape from the probe during operations that are performed in Probe;
- o avoiding and limiting any gaseous emissions into the atmosphere;
- o collection and reinjection of salt to maintain and / or restore reservoir pressure times the waste water permeable layer;
- o avoid, if possible, salted water transport over long distances and subsequent reinjection areas closest to the separation - collection stations;

- limiting soil infiltration by waterproofing clay, PVC materials;
- removing or abandoning field installations at the end of life, rehabilitation potential site;
- construction of sludge deposits and residues in accordance with environmental restrictions;
- application of advanced technology during oil exploration and extraction to minimize the impact of these operations on the environment.

2. Environmental impact assessment

Environmental impact is direct or indirect effect of human activity that produces a change in the direction of development of the quality status of ecosystems. Control the impact requires detailed knowledge of the phenomenon, which involves the stages of identification, estimation, evaluation, etc. This is what is intended by the general concept of Environmental Impact Assessment (EIA) [2].

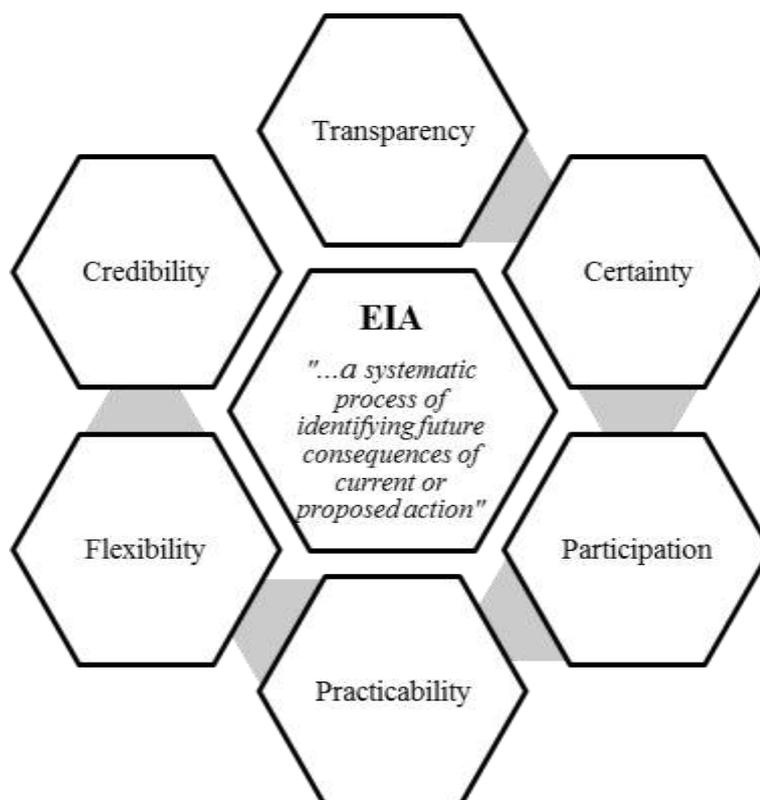


Fig. 1. *Concept of Environmental Impact Assessment*

Glasson J., Therivel R., Chadwick A., *Introduction To Environmental Impact Assessment*, Routledge – 2012

The evolution of concepts concerning the relationship between socio-economic activities and the environment in the context of sustainable development principles was made in two directions:

- A first direction, binding, consisting of obtaining the socioeconomic agents of permits, approvals, permits operation with the authorities in relation to the environmental protection. In this situation, the environmental impact assessment forms are regulated by national environmental legislation framework and detailed national secondary and tertiary legislation in this field;
- Second direction, voluntary, by which socio- economic agents, stimulated by certain potential advantages, is committed to increase environmental performance. In this case the environmental impact assessment forms covered by these standards (ISO 14000 and EMAS) with a European or international recognition.

The emergence of new environmental regulations related to impact studies for new investment objectives and environmental audit objectives already in operation, require a large volume of work.

Environmental impact studies (SI) are required and defined by environmental legislation in force in Romania. They are an essential part of the dossier submitted by companies to obtain environmental approval. And aim to estimate

the environmental impact of new investments and modernization/retrofitting businesses. This document is intended for new activities being developed.

By studying the impact is made complex scientific investigation of the effects that would result from the relationship with the environment of a future activity, in order to recommend measures to minimize the adverse effects of activities on the environment.

The starting point for the study is to describe the main technical characteristics of the objective function with all inputs and outputs, the current situation and perspective of the target. Also, are strictly necessary and useful information on natural physical coordinates, socio-economic profile of the area, demographics, traditions, cultural values, historical, archaeological, etc.

An impact study aims , on the one hand, the identification , assessment and evaluation of the effects of activities on the environment , on the other hand , based on these effects allows proposals and measures to eliminate or reduce the identified adverse effects . Direct or indirect effects of activities that have been highlighted by a study of the environmental impact, provide additional criteria in assessing the technical and economic asset.

Impact studies are conducted by specialized units, natural or legal persons certified at the expense of the developer or business. Responsibility for information on the proposed activity and the accuracy of the holder of the impact study, executes it.

Environmental audit is a procedure to obtain information on the causes and consequences of adverse cumulative past and anticipated part of the action of environmental impact assessment.

Balances environmental or impact studies are required to obtain the opinion or permit and if a change of ownership, destination, or termination of significant technological change and social impact of economic activities on the environment.

Average balances are technical documents whose main objectives are:

- assessing the existing and potential pollution of a site;
- how an investment / project (for an environmental application) or activity (if an environmental permit application) falls within legal regulations on environmental protection;
- or preventive remedies that can be taken to protect the environment;
- the conditions under which an investment / project or activity may be accepted by the environmental authority.

Balances and environmental impact studies are the main documents on which the environmental authority will determine program compliance, environmental obligations to be fulfilled by the developer / business in order to comply with environmental regulations.

Environmental balances can be level 0, I or II. The three types of environmental balances are not mutually exclusive and can be done consecutively or simultaneously.

3. Integration of environmental considerations in technical and economic decisions

The orientation of the economy towards sustainable development requires achieving a growth process conducted in terms of ensuring a social welfare of the population as high ensuring time and preserving the Earth and its natural resources.

The purpose of all economic activity, as well as the activities in the oil industry, is getting competitive and efficient economic outcomes in the context of environmental-economic requirements imposed by the accession of Romania to the European Union . It is located at the interface eco-efficiency economic and social efficiency, which takes into account the ecological component in economic decision making because environmental issues are inseparable from the welfare and economic processes in general.

Environmental side technical and economic decision will follow it to solve problems submitted to include both economic and social development by ensuring adequate and rational management of natural resources and environmental factors, the natural environment as a whole.

In order to solve the problems of eco -economic nature, the manager must take into account the activities that involve an individual or group of individuals pursuing objectives.

Problem solving involves consideration of economic and environmental problems with adverse effects on humans and the environment in which it lives. Thus any decision can't exclude economic and environmental side of this decision.

Researching environmental aspects and environmental provides the opportunity to improve how the traditional understanding of many concepts and issues, from the production process, cost, profit, growth, until the issue of international economic relations.

Environmental problem to be properly defined data and assessment, taking into account the costs and benefits that can be obtained so that decision making can be done properly. All these considerations are necessary when proposing inefficient investment in terms of environmental protection. In this case, policymakers should look for ways of solving simultaneous avoidance of problems and their transfer from one environmental medium to another.

A well-designed decision-making must take into account all of the following elements [3]:

- a support, where possible, those elements of economic policy have positive effects on the natural environment;

- an adoption of a system of measures and specific institutions for environmental protection process;
- an environmental expenditures will be directed to those projects that provide the greatest benefit-cost efficiency.

The decision making process must include both economic decisions and environmental and ecological decisions. The adoption of environmental decisions requires a good knowledge of the problems to be solved and information, documentation, and information processing establishment and the creation of the decision.

At the macroeconomic level, ecological and economic decisions must take into account the following elements:

- General review of environmental legislation and the introduction of economic and administrative measures;
- Eliminating all subsidies and support costs for activities impact on the environment;
- Promote priority action areas for reduction of emissions, waste downloads particularly dangerous;
- Restructuring urgently, polluting technologies sectors.

5. Conclusions

All activities of the oil industry involve the existence of specialist environmental and establish an information system that will include data sources, methods of investigation and gathering information from both the internal and external of the company and of its environment.

Economic data, environmental, social, be analysed at the same time pursuing the financial implications that must accompany an economic decision. Setting ecological- economic activity justifies the decision normality of natural factors and the economic.

Balance is achieved by environmental self-regulation, awareness of this equilibrium justifying economic performance , as growth takes place under conditions of limited resources and largely non-renewable and non-recoverable .

The general policy objective of a company includes economic, technical, social, scientific research, financial, environmental, etc. Objectives availability group around human, material, information from businesses and directs them to the aim pursued by the management team, to get competitive and efficient economic outcomes in the context of environment - economy requirements. An essential prerequisite for development action should be the prioritization of environmental protection.

Protect, conserve and improve the natural environment require a special effort in the scientific, technical, economic, financial, cultural, educational , and a great unity of will and action to this end the members of the society.

In this respect, experience shows that environmental protection programs can be organized and made effective solely on the basis of a whole, coherent, which includes priorities arising from the integration of scientific, technical, economic and social, designing and measuring also influences on all resources.

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