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Principles of eco-efficiency in business

A transition to sustainable development is a rather complicated, secular and multi-factor process of achieving a balanced interaction between the society and environment. Virtually, this process affects the whole complex of internal problems in national development of long duration, including investment policy, problems of changes in the pattern of consumption, rational use and reproduction of natural resources, economic and social policy. In general, the level of development of society, including economic opportunities and general cultural level, provides for a successful advance toward sustainable development.

An up-to-date world economy constitutes a mix of market, institutional and governmental principles. Such type of economy is dominating. It determines parameters of world development and co-ordinates its economic and ecological vectors.

In recent years, the "environmentalisation" of economic development has turned into one of the most principal lines of activity on the governmental and individual levels.

In 1970, the human race spent 40 billion dollars for environmental measures, in 1980 - \$75 billion, and beginning from 1990 - \$150 billion. And more than 250 billion dollars are planned to be spent by 2005. Industrial countries spend from 0.8 to 1.7 % of their GDP, while an average estimated cost of the annual damage to the environment is from 4 to 6 % of the GDP. In other words, if we compare the scopes of damage that the economy has inflicted on the environment, it will turn out that the rehabilitative measures cover only a quarter of the countable losses.

Elementary, eco-efficiency (this term is derived from «economic efficiency» and «ecological efficiency») implies obtaining maximum from minimum. Eco-efficiency is, as a matter of fact, a management approach permitting companies to improve their ecological indices and concurrently meet the market demands.

Eco-efficiency may become a basic parameter of the sustainable development concept and serve as a criterion for determining high quality of products with a simultaneous reduction of the use of natural resources in the technological cycle.

The criterion of ecologically efficient production (eco-efficiency) is determined as a ratio of the product's social utility to the index of resources consumption.

The resources consumption index determines changes in the volume of used resources, at which a smaller quantity of initial resources is used for the production of every next and new product with similar consumer properties.

Social utility of the product is assessed with the help of economic prices (shadow prices) that are used for measuring social utility of the products, services, resources, etc.

The eco-efficiency index may be of significant importance during formation of the national nature-oriented policy. The eco-efficiency index makes it possible to introduce either additional privileges (i.e. to reduce a production tax base), or an excise on the goods with a low eco-efficiency index.

The index may be calculated for separate industries with due allowance made for a specific character of the production process technology. For instance, it is feasible to calculate a weighted average of production eco-efficiency for mining, chemical and metallurgical industries manufacturing half-finished products.

Entrepreneurial structures play a special role in the organization of an eco-efficiency production. Entrepreneurs should be beyond the limits of traditional ways of thinking and acting. They should organically incorporate the tasks and aims of environment control into the process of business decision-making. It is necessary to establish a new nature-oriented business strategy, new economic ethics and new entrepreneurial culture to achieve the goals of balanced and sustainable development.