STRUCTURAL RECONSTRUCTION OF UKRAINIAN ECONOMY IN THE CONTEXT OF ECONOMIC AND ECOLOGICAL PROCESSES

Vladyslav Zhyginas
Tarasa Shevchenko Kyiv National University, Kyiv, Ukraine

The harmony between the man and nature is crucial for all countries of the planet Earth in the 21st century. The experience of post-industrial countries of the world, such as the USA, Japan, Great Britain and Germany, shows that natural and resource problems can be solved at the expense of structural and technological transformations. Due to a sharp increase in prices for fuel and raw materials in the 1970s these countries started profound systematic modernization of their economies on the basis of energy-saving technologies. As compared to 1970, at the beginning of the 1990s energy intensity of industrial output and emission of CO_2 respectively reduced in the USA by 39%, in Japan - by 40.3% and in Great Britain – by 45.2%. A characteristic feature of structural reconstruction of economies of the countries of Organization for Economic Cooperation and Development in the 1970-1980s was a reduction of material production volumes, in particular environmentally dangerous and resource-intensive ones, which was set out to the developing countries. Nowadays 70-75% of GDP of developed countries is made at the expense of tertiary sector of economy – the service sector, production and consumption of which are environmentally-friendly.

Ukrainian economy is resource-intensive with a heavy industry bias, which determines a high anthropogenic pressure on nature. In the industrial sector of our economy the ratio of ecologically "aggressive" industries, such as mining industry, energy sector, metallurgy, coke and petrochemicals production, increased from 21 to 56.4% for 1990-2006.

Resource-intensity of Ukrainian initial national product exceeds the world level 3 times, and almost a tone of natural resources is spent per one unit of GDP, though in the USA it is only 3 kg.In the structure of industrial production there is a low ratio of consumer and investment industries, in particular that of machine building, the industry which determines the country's scientific and technical progress (in 1990 its contribution was 30.5%, but at the beginning of 2007 – only 12.5%). Estimates of modern technological structure demonstrate Ukraine's considerable lagging behind as compared to the developed countries of the world. Unlike all post-industrials economies, which receive 85-90% of GDP growth at the expense of production and sale of high-tech products, at experts' estimates the contribution of knowledge to the production of Ukrainian GDP does not exceed 2%. Technologically outdated and environmentally-dangerous productions of the third and the fourth levels, whose ratio is 97%, dominate in our country's industry, while high-tech fifth and sixth level ones do not exceed 2-3%. Irrational structure of economy determines a high level of technogenic pollution of the Ukrainian territory, which, at the experts' estimates, is 3.2 times higher than that in 12 EU-countries taken together.

Taking into account abovementioned structural disparities and their negative impact on the ecological situation in Ukraine, the issues regarding a complex solution of the ecological and structural problems become vitally important.

Studying scientific literature on the steady development enables to draw a conclusion that technology and technological way of production are considered the most important determinants of the economic development and environmental stabilization. We refer to the works of a famous Russian ecologist N.F. Reimers, who was one of the first to pay attention to the connection between great technological revolutions and ecological crises. He demonstrated that in the course of historical development increasing anthropogenic activities of a human being inevitably lead to ecological crises, each of which called for changes in technological way of production.

From the conclusions received on the basis of the "Technological Revolutions" Concept by N.F. Reimers it follows that the achievement of steady development is possible only in case of constant innovation of technological base of the social production. Therefore, while implementing structural reconstruction of the Ukrainian economy, innovation of its technological structure has to be paid special attention to. Progressive changes of the latter lay in the increase of the ratio of most high-tech productions of the fifth and the sixth technological levels as well as simultaneous reduction of the ratio of resource-intensive and environmentally- dangerous productions of the third and the fourth technological levels. However, we agree with the opinion of the researchers, who consider that in industrial economies to which Ukraine can be referred, the most advanced post-industrial technologies cannot be copied effectively or used through a limited scope of possible re-distribution of resources, which other productions of sectors of domestic market have. According to this, the main contradiction of the Ukrainian economy technological development is in the fact that on conditions of incompleteness of industrial cycle, the most advanced technologies of the fifth and the sixth technological levels cannot become wide-spread and lagging behind in developing them will inevitably lead to a wide technological and economic gap with progressive countries of the world. We consider that this contradiction can be adequately solved only with participation of the government and through priority state financing of high-end technologies at the expense of budgetary funds as well as developing demand for the products of advanced technological levels on the basis of state orders system.