

The current system of nature includes two independent systems: material production and environmental protection. Ecological and economical system (EES) can be defined as the integration of economy and nature, which are interrelated in social production and flow processes in nature and biosphere.

The main properties of EES can provide balance, proportion and balance production and natural components of the system.

Designated properties include maintaining the balance of these subsystems, which precludes their selfdamage.

The economic system is organized totality of productive forces, which converts the input material and energy flows of natural and industrial resources in the input stream consumption. That is, some components of ecological systems use economic system. Thus, ecological and economic systems associated with mutual material and energy flows.

Investigation of the term EES is based on the concept of general systems theory. Using a systematic approach it should be based on close relations and integration processes of EES. Investigation of EES operation requires a comprehensive analysis of effects of self-discovery processes and management opportunities.

The development of EES is subject to general laws of self-organization, characterized by the following features:

1) self-organizing, can change the characteristics of their parameters, structure, functional relationships, depending on external conditions so that the entropy of the system decreased or remained unchanged level;

2) operation processes in EES aimed to improve the efficiency (productivity, product quality), while reducing energy consumption, which is a factor of reducing ecological and environmental impact and therefore achieve balance and sustainability of EES;

3) processes that occur in systems of self-organizing aimed at self-preservation and self-healing.

Operation of EES systems should be defined by the volume of energy and matter that generated them at this time.

The research aspects of formation and development of ecological-economic systems allows to make the following conclusions:

- system-factor in the EES is the presence of interconnections and interdependence of ecological and economic subsystems;

- EES brings together a great number of elements that interact to reach a goal - sustainable environmental and economic development.