

ENVIRONMENTAL MANAGEMENT: FUNDAMENTALS AND PRINCIPLES

This article examines the concept of environmental management as a key tool for achieving sustainable development. It analyzes the essence, evolution, core principles, and tools of this systems approach. The author defines environmental management not simply as compliance with regulatory requirements, but as a comprehensive management system integrated into corporate strategy aimed at minimizing human impact, improving environmental performance, and creating additional value for the organization.

In the context of escalating global environmental challenges, such as climate change, depletion of natural resources, and biodiversity loss, the concept of sustainable development has become an imperative for modern society. A crucial tool for achieving a balance between economic growth, social well-being, and environmental preservation is Environmental management (EM). This article explores the essence, evolution, key principles, and tools of environmental management as a systemic approach to minimizing anthropogenic impact on nature.

Environmental management can be defined as a system of coordinated management activities aimed at achieving the environmental objectives of an organization (enterprise, region, state) through planning, control, motivation, and organization of environmental protection activities. It is not merely compliance with legislative norms but an integrated part of corporate strategy, focused on improving environmental performance and creating added value [1]. The evolution of EM has progressed through several stages: from a reactive approach (cleaning up pollution) to a proactive one (pollution prevention and compliance) and further to a strategic and integrated approach [2].

Modern EM is based on the principles of the circular economy, corporate social responsibility (ESG), and international standards, the most prominent of which is the ISO 14000 series [3]. A circular economy is a restorative system designed to eliminate waste and pollution by keeping products and materials in use for as long as possible through reuse, repair, recycling, and remanufacturing. Departing from the "take-make-waste" linear model, it focuses on regenerating natural systems, reducing reliance on finite resources, and creating economic, environmental, and social value.

A distinction should be made between environmental management, ecological governance, and environmental management. Regarding the distinction between the subject and object of management in these systems:

Environmental management is a system for implementing state and public (economic, ecological, and social) interests in the field of environmental management. It is implemented by government bodies and economic entities.

Environmental management is a system for implementing socioeconomic interests in the ecological environment. It is implemented by government bodies and economic entities.

Environmental management is a system for implementing the economic (ecological-economic) interests of business entities. It is implemented exclusively by economic entities.

Several definitions of environmental management have emerged in scientific and academic literature [2]:

- Environmental management is a complex set of legal, economic, and social controls and instruments that support reproductive processes in the environmental sphere and the environmentally oriented development of business entities with the goal of meeting environmental needs.

- Environmental management is the proactive and effective activity of economic entities aimed at achieving their own environmental goals, projects, and programs developed based on the principles of eco-efficiency and eco-justice.

- Environmental management is a special proactive system for managing environmental quality and increasing the competitiveness of an organization, its products, and services, based on the principles of eco-efficiency and eco-justice.

- Environmental management is part of the overall corporate governance system, based on the organization's environmental policy and its implementation mechanisms.

Each of the presented definitions is valid, emphasizing one or another aspect of environmental management. But the main thing is that, despite having special regulators and instruments inherent only to environmental management, the latter in any case relies on the foundations of eco-policy; eco-efficiency; eco-justice [4].

The principles of EM form the philosophical and methodological foundation for developing and implementing a management system. They can be systematized as follows:

Table – Core principles of environmental management

Principle	Content	Practical implementation
Commitment and leadership	Top management demonstrates responsibility and ensures the integration of environmental aspects into business processes	Formulation of an environmental policy, allocation of resources, leading by example
Systems approach	Managing environmental aspects as a system of interrelated processes	Implementation of an environmental management system (EMS) based on the PDCA cycle
Continual improvement	Persistent enhancement of the organization's environmental performance	Regular audits, review of objectives, adoption of best available techniques (BAT)
Compliance with obligations	Mandatory fulfillment of legal and other requirements adopted by the organization	Legal monitoring, compliance evaluation procedures
Risk management	Proactive identification, assessment, and control of environmental risks and opportunities.	Conducting environmental impact assessments, life cycle analysis of products
Employee involvement	Enhancing the competence and motivation of all employees to achieve environmental goals.	Training, awareness programs, engagement initiatives
Stakeholder focus	Considering the needs and expectations of all interested parties (government, public, investors)	Public reporting (eco-ratings, sustainability reports), dialogue with the local community

The practical application of these principles is achieved through a suite of environmental management tools and standards [5]:

1) Environmental management system (EMS) according to ISO 14001 – an international standard specifying requirements for an EMS. Its core is the PDCA cycle (Plan-Do-Check-Act), ensuring the dynamic development of the system:

2) Environmental auditing and environmental impact assessment (EIA), procedures for identifying and analyzing potential environmental consequences of planned activities;

3) Environmental audit - independent assessment of the conformity of an organization's activities with established environmental requirements, standards, and policies;

4) Environmental accounting and reporting – system for collecting, processing, and disclosing information on environmental costs, liabilities, and performance results;

5) Ecolabelling and certification – informing consumers about the environmental characteristics of a product (e.g., Type I ecolabels like the EU Ecolabel);

6) Cleaner production – pollution prevention strategy aimed at the rational use of resources and waste reduction at the source.

In conclusion, environmental management has evolved from a largely technical function into a strategic pillar of corporate governance, fundamentally determining an organization's long-term resilience, competitiveness, and sustainability. Its core principles – systematic approach, continual improvement, transparency, and stakeholder involvement – reflect the complex, interconnected nature of modern environmental challenges.

The implementation of key EM tools, most notably through standardized systems like ISO 14001, enables organizations not only to mitigate environmental impact and reduce risks but also to unlock new opportunities for innovation, operational efficiency, and enhanced reputation. The future trajectory of environmental management points toward its deeper, holistic integration with quality and occupational health and safety systems, alongside the broader adoption of circular economy principles. This evolution will be crucial in closing material loops and creating sustainable value at every level of organizational management.

LITERATURE

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