



ECOTECHNOLOGIES AS THE BASIS OF A GREEN ECONOMY

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Abstract: The implementation of environmental technologies plays a key role in the development of the green economy. Modern innovations help reduce environmental pollution, improve resource efficiency, and minimize waste. This article explores the main areas of eco-technologies and their impact on sustainable development.

Keywords: eco-technologies, green economy, renewable energy, waste recycling, low-carbon technologies, sustainable development, innovations, water conservation, energy efficiency, environmental safety.

Introduction.

Modern environmental problems require innovative solutions. According to the International Energy Agency, only in 2022 the level of carbon emissions reached record levels [1]. One of the key areas in the fight against environmental pollution is the development of eco-technologies.

Eco-technologies cover a wide range of industries: from renewable energy and waste recycling to innovative methods of water conservation and energy efficiency. Their implementation contributes to the formation of a sustainable economy, minimizing the negative impact on nature.

Main areas of eco-technologies

1. Renewable energy

One of the most important aspects of eco-technologies is the use of solar, wind, hydro and geothermal energy. According to the report of the International Energy Agency, in 2022 the share of renewable energy sources amounted to more than 30% in the global energy balance [1].

2. Waste recycling technologies

Modern waste recycling systems can reduce environmental pollution. Research by Ivanov I.B. shows that the introduction of new methods of plastic recycling has helped to reduce pollution of rivers and seas by 35% [2].

3. Low-carbon technologies

Reducing carbon dioxide emissions is possible thanks to new industrial technologies. For example, the use of carbon capture and storage (CCS) helps to minimize the impact of factories and power plants on the atmosphere.

4. Water-saving technologies

Clean fresh water is becoming a scarce resource. Innovative filtration systems, drip irrigation and desalination of seawater help to solve the problem of shortage of drinking water, especially in arid regions.

5. Energy-efficient building technologies

The use of smart homes, passive construction and alternative materials reduces energy consumption by 50-70%, according to research by Petrov P.P. [3]. Benefits of eco-technologies

- Reduced pollution – eco-innovations help to minimize CO₂ emissions and waste.
- Economic benefits – investments in eco-technologies help to reduce energy and raw material costs.
- Creation of new jobs – according to the World Bank, by 2030, more than 20 million new jobs will appear in the field of eco-technologies.
- Improved quality of life – improving the environment has a positive effect on public health.

Strategies for the implementation of eco-technologies

1. Government support and investment – tax breaks and grants for the development of eco-technologies.
2. Environmental regulation – introduction of energy consumption and emission standards.
3. Development of scientific research – support for innovative start-ups and scientific developments.
4. Educational programs – implementation of environmental education in universities.

Conclusion.

Eco-technologies are the key to a sustainable future. They allow not only to minimize damage to the environment, but also to increase economic efficiency. The development of eco-technologies is the most important direction of the green economy, ensuring harmony between industrial progress and nature conservation

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