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EKOLOGIK INNOVATSIYALARNI TADBIRKORLIK FAOLIYATIGA JORIY ETISHNI RAG‘BATLANTIRISHNING XORIJ TAJRIBASI VA MODELLARI

Ibragimova Ma'mura Muxiddinovna

ЗАРУБЕЖНЫЙ ОПЫТ И МОДЕЛИ СТИМУЛИРОВАНИЯ ЭКОЛОГИЧЕСКИХ ИННОВАЦИЙ В ДЕЛОВОЙ ДЕЯТЕЛЬНОСТИ

Ибрагимова Маъмура Мухиддиновна

FOREIGN EXPERIENCE AND MODELS OF ENCOURAGING ECOLOGICAL INNOVATIONS IN BUSINESS ACTIVITY

Ibragimova Ma'mura Muxiddinovna

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Аннотация: maqolada tadbirkorlik subyektlarida ekologik innovatsiyalarni (eko-innovatsiyalarni) joriy etishni davlat va bozor mexanizmlari orqali rag‘batlantirishning xalqaro tajribasi tadqiq etilgan. Yevropa Ittifoqi, AQSh va Sharqiy Osiyo mamlakatlarida qo‘llaniladigan asosiy modellar qiyosiy tahlil qilingan. Eko-innovatsiyalarni rag‘batlantirishning “turtki beruvchi texnologiya” (technology-push) va “bozor talabi” (market-pull) modellarining samaradorligi baholangan. Tadqiqot natijalari asosida milliy iqtisodiyotda yashil tadbirkorlikni rivojlantirish uchun moslashtirilgan transformatsiya modeli va tavsiyalar ishlab chiqilgan.

Аннотация: в статье исследуется международный опыт стимулирования внедрения экологических инноваций (эко-инноваций) в хозяйствующих субъектах посредством государственных и рыночных механизмов. Проводится сравнительный анализ основных моделей, используемых в Европейском Союзе, США и странах Восточной Азии. Оценивается эффективность моделей стимулирования эко-инноваций «технологический толчок» и «рыночный притяжение». На основе результатов исследования разработана адаптированная модель трансформации и рекомендации по развитию «зеленого» предпринимательства в национальной экономике.

Abstract: the article studies the international experience of stimulating the introduction of environmental innovations (eco-innovations) in business entities through state and market mechanisms. The main models used in the European Union, the USA and East Asian countries are comparatively analyzed. The effectiveness of the “technology-push” and “market-pull” models of stimulating eco-innovations is assessed. Based on the results of the study, an adapted transformation model and recommendations for the development of green entrepreneurship in the national economy are developed.

Ключевые слова: эко-инновации, модели эко-инноваций, зеленое предпринимательство, технологический импульс, рыночный спрос, зарубежный опыт.

Key words: eco-innovation, eco-innovation model, green entrepreneurship, technological impulse.

INTRODUCTION

Today, the new paradigm of global economic development is aimed at achieving growth without harming the environment, that is, building a “green macroeconomics”. The introduction of environmental innovations into business activities plays a central role in this process. Eco-innovations are new products,

processes and business models that not only reduce the negative impact on the environment, but also increase the efficiency of resource use. Global experience shows that entrepreneurs are not always inclined to invest in eco-innovations by themselves, because they require high initial costs and a long payback period. Therefore, in developed countries, specific incentive models and



institutional systems for directing entrepreneurship to eco-innovations have been formed. Studying this foreign experience and transforming it into national practice is important in ensuring the stability of our economy.

LITERATURE REVIEW

Environmental innovations and their incentives have been widely studied by economists around the world. One of the most widely used theories is the Porter Hypothesis, which states that strict but well-designed environmental regulations encourage enterprises to innovate and increase their competitiveness [1].

R.Kemp and P.Pearson classified eco-innovations and proved that they differ from traditional innovations in that they bring systemic social and environmental benefits [2].

Foreign researchers J.Horbach and V.Oltmanns in their work divide the forces driving eco-innovations into three groups (technological opportunities, market demand, and institutional regulation) [3].

However, the question of which model (administrative or market mechanism) is more effective in the context of developing markets remains

controversial in the literature. This article analyzes the integrated system of these models.

METHODOLOGY

The study used methods of systematic logical analysis, benchmarking and modeling based on indicators. Based on the data of the European Innovation Scoreboard and the Eco-Innovation Index, the experience of developed countries was grouped. A matrix model of the tools used by countries to assess the effectiveness of incentive mechanisms was developed.

ANALYSIS AND RESULTS

In world practice, there are two main conceptual approaches to greening entrepreneurship and introducing eco-innovations:

1. "Technology-Push": Direct government funding of R&D and grants.

2. "Market-Pull": Creating demand for eco-products in the market through environmental standards, taxes, green procurement, and shaping a consumer culture. Table 1 below shows the analysis of these models on the example of the world's leading regions and countries.

Table 1.

Comparative analysis of foreign models of eco-innovation promotion

Region / State	Leading model type	Basic incentives	Impact on entrepreneurship
European Union (Germany, Scandinavia)	Integrated (Mixed) model	Extended Producer Responsibility (EPR), Green Public Procurement System, Carbon Tax.	Businesses are transitioning to zero-waste circular business models.
USA	Market and venture model	Support for eco-startups through venture capital, green bonds, and tax credits.	High-tech eco-innovations are developing in the field of energy and IT.
Japan and South Korea	Institutional-technological model	Mandatory Eco-design standards, cooperation between the state and large corporations (Chaebol/Keiretsu).	Resource and energy efficiency have reached the highest level.

Based on foreign experience, the three-stage innovation cycle of successful integration of environmental innovations into entrepreneurship can be expressed as follows:

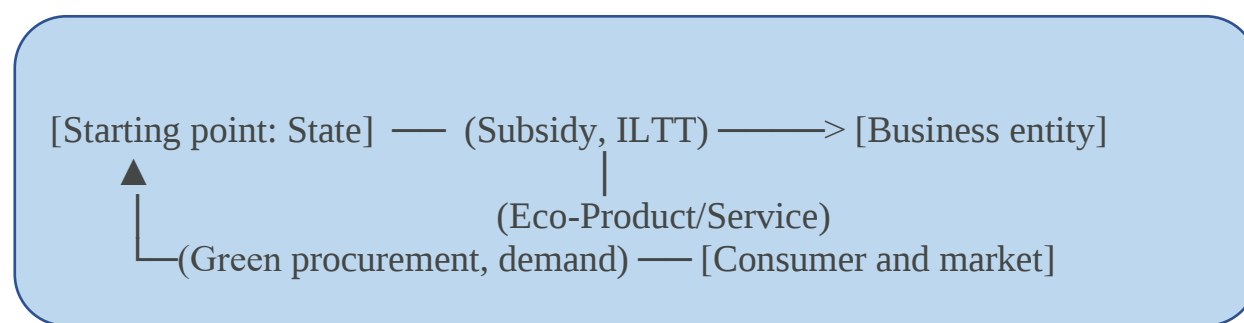


Figure 1. International cycle of promotion and implementation of eco-innovations

This scheme represents a closed and interconnected cycle (system) of development of ecological innovations. Here we show in a simple and understandable way how the three main forces - State, Business (Entrepreneur) and Market (Consumer) influence each other. Let's take a closer look at each stage of this chain and how they work:

1. First stage: Technology-Push from the state to the entrepreneur

The process starts with the state. Typically, entrepreneurs are reluctant to risk their money on new and unknown green technologies. Therefore, the state takes the first step:

- Subsidies: Provides money or tax breaks to entrepreneurs to purchase green technologies.



- R&D: Funds research into environmentally friendly technologies.
- Result: Thanks to this support, entrepreneurs can safely and confidently introduce new eco-innovations into their activities.

2. Second stage: "Offer" from entrepreneur to market

The entrepreneur, who has received support from the state, now abandons traditional (harmful to the environment) products and starts working in a new way:

- Eco-products and Services: Brings energy-saving, waste-free or recycled products to the market.
- Result: The consumer and the market have the opportunity (choice) to purchase environmentally friendly products.

3. Third stage: "Demand and Feedback" from the market to the state (Market-Pull)

When consumers start buying green products, an ecological culture grows in society and the market sends a signal to the state:

- Green purchases and Demand: Consumers (and the state itself as a buyer) begin to demand only green products. The market grows.

- Impact on the state: The state, seeing this positive result in the market, becomes convinced that its environmental policy is correct.

- Result: The state adopts new laws and allocates more subsidies to further support green business.

This cycle is a never-ending cycle. The government provides money and incentives. Entrepreneurs produce green products. The market buys them, expanding the green economy. This encourages the government to further strengthen the system. If any of these three links (for example, buyers or government support) is removed, the cycle is broken and eco-innovations stop.

The effectiveness of eco-innovation promotion in the European Union countries is very high, achieved through a balance of direct state subsidies and environmental taxes. Figure 1 shows the uneven distribution of eco-innovation incentives in these countries.

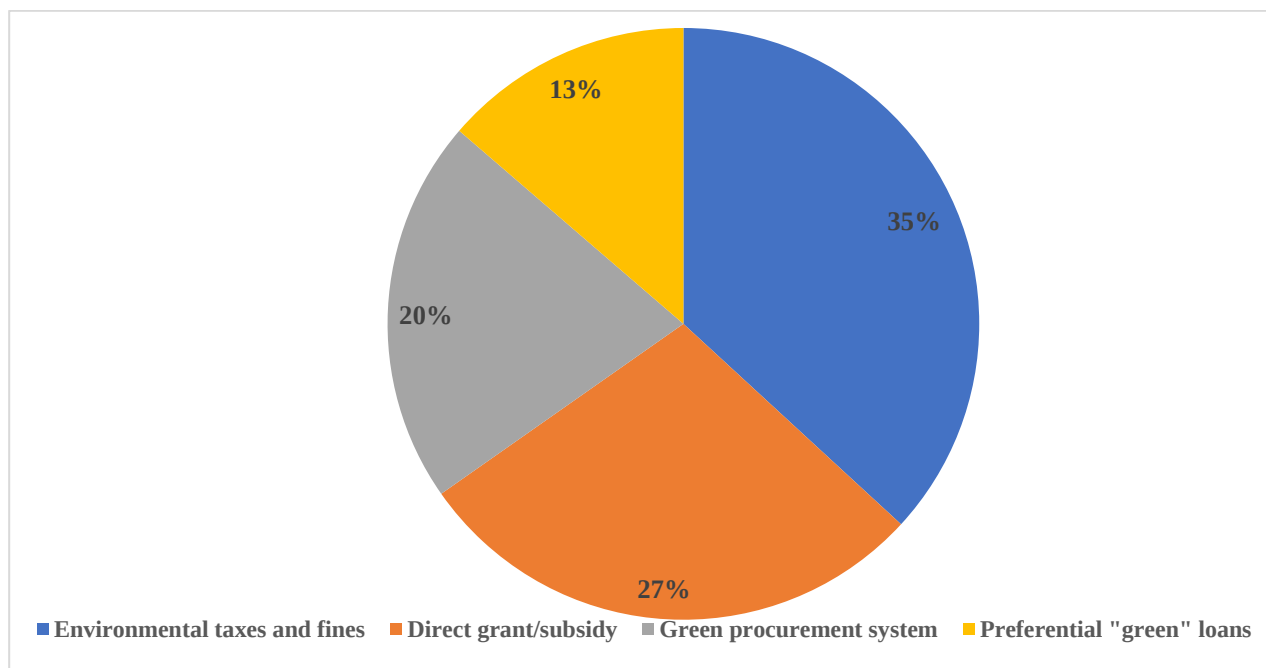


Diagram 1. Effectiveness of incentives for eco-innovation in international practice (in %)

The analysis of the diagram shows that in economically developed countries, administrative coercion (taxes and fines — 35%) and financial support (grants — 27%) complement each other and create the need for eco-innovation among entrepreneurs.

CONCLUSIONS AND RECOMMENDATIONS

Based on a thorough analysis of foreign experience, it is advisable to implement the following model elements to encourage the introduction of eco-innovations by national business entities:

- ✓ Introduction of the "Green Public Procurement" system: When placing government orders, the ecological purity of the product and its production from recycled raw materials should be set as a priority criterion. This will create a ready market (Market-pull) for entrepreneurs.

- ✓ Creation of venture funds for "eco-innovation startups": as in the US experience, providing initial venture capital to entrepreneurs engaged in alternative energy and waste processing technologies in cooperation with the public and private sectors.

- ✓ Combination of "eco-tax" benefits: Temporary (3-5 years) exemption from profit and property taxes or application of reduced rates for enterprises that introduce eco-innovations into production.

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