“Green modernization of Ukraine’s economy: analysis of barriers and drivers based on interviewing of the companies”

AUTHORS	Vyacheslav Potapenko Yevgen Khlobystov https://orcid.org/0000-0002-9983-9062 Robert Kornatowski

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Vyacheslav Potapenko (Ukraine), Yevgen Khlobystov (Poland), Robert Kornatowski (Ukraine)

Green modernization of Ukraine's economy: analysis of barriers and drivers based on interviewing of the companies

Abstract

This article examines the need to design of the questionnaire for interviewing companies for analysis of barriers and prospects for development of green modernization of the economy of Ukraine. An objective of the study is to analyze existing strategies for the greening economy, the small and medium-sized enterprises' awareness and special knowledge on environment. The authors observe that, despite the differences between the economic systems, Ukraine and Armenia, the countries of Eastern partnership, have common features of the post-Soviet management system and normative legislative base. The Government can help small and medium-sized enterprises to change their business practices and adapt to modern requirements, by "greening" the current strategy in the industry and innovation, promoting the concept of eco-efficient businesses and products and supporting the environmental innovation. The results reveal that in order to design a questionnaire for interviewing companies about barriers and drivers of green modernization of the economy, it is necessary to do a prior study on the basis of available data, results of research of international organizations and Ukrainian experts in order to compose a working hypothesis that will be a basis for design of the questionnaire.

Keywords: prospects for development, green modernization, greening economy, greening, the concept of eco-efficiency.
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Introduction

An objective of the study is to design a questionnaire for analysis of barriers and drivers of green modernization of the economy.

In order to design a questionnaire for interviewing companies about barriers and drivers of green modernization of the economy, it is necessary to do a prior study on the basis of available data, results of research of international organizations and Ukrainian experts in order to compose a working hypothesis that will be a basis for design of the questionnaire. Therefore, for achievement of this objective, it is necessary to fulfill a range of tasks:

- analysis of the existing situation with green modernization of the economy;
- analysis of examples of expert studies of the main barriers and prospects for green modernization of the economy;
- design of the questionnaire for interviewing companies for analysis of barriers and prospects for development of green modernization of the economy of Ukraine.

1. Analysis of the existing situation with green modernization of the economy of Ukraine

Since 2011, expert review of issues of green modernization of the economy has begun. Research on green economy began from available experience of experts in the field of sustainable development, environmental safety, cleaner industry, energy efficiency and energy conservation, reduction carbon emission for prevention of climate change and other directions of research.

On the basis of review of UN recommendations and preparation of the Association Agreement between Ukraine and EU, scientific materials in Ukraine, a number of scientific studies were accomplished and published. Among them one can mention a range of monographs on green economy (V. B Bukrinskiy., T. P Galushkina, V. E. Reutov, V. G. Potapenko, V. B Stepanenko-Lipovik).

Research of barriers to green modernization of the economy was held, for example, in the study "Analysis of the legislation of Ukraine on issues having to do with cleaner industry" accomplished in 2013 by the Institute of Green Economy by request of the Center for Resource Efficient and Clean Industry. As it was noted in the study, legal regulation in most cases is provided by regulatory acts rather than laws. This limits capabilities of development of business and protection of rights in the court of law. Research of barriers to development of the green economy accomplished by the Association of Bioenergy in 2013 is also of serious interest.

Vyacheslav Potapenko, Doctor of Economics, Institute of Green Economy, Ukraine.
Yevgen Khlobystov, Doctor of Economics, Prof., Public Institution "Institute of Environmental Economics and Sustainable Development of the National Academy of Sciences of Ukraine", University of Economics and Humanities, Poland.
Robert Kornatowski, Institute of Green Economy, Ukraine.

EaPGREEN Program began to operate in Ukraine as a country of Eastern Partnership since 2013. It was initiated jointly by the Organization of Economic Cooperation and Development and EU delegation to Ukraine, UN Economic Commission for Europe and UN Environmental Protection Program.

Some other studies are also focused on general issues of regional research of green economy in Ukraine as one of the post-soviet countries. Among them, one can distinguish the Study of the World Bank (2013): Uwe Deichmann and Fan Zhang, GROWING GREEN, The Economic Benefits of Climate Action (2013), UNEP report (2012) on organic agriculture as a step towards the green economy in the Eastern Europe, Caucasus and Central Asia region based on case studies from Armenia, Moldova and Ukraine.

In connection to signature of the Association Agreement between Ukraine and EU in March 2014, there was a need to implement a range of regulations including environmental standards. Modernized action plan for environmental strategy of Ukraine also included a procedure and list of legal acts to be developed and approved in connection to enactment of the economic part of the Association Agreement with the EU.

In the field of public administration, due to administrative reform, there was a liquidation of government agencies and divisions involved in green modernization. For example, the Agency for Environmental Investment was abolished, as well as the line department in the Ministry for Economic Development and Trade, environmental divisions were abolished in the National Institute for Strategic Studies under the auspices of President of Ukraine and under the National Security and Defense Council. Government agencies of environmental control were transferred from the Ministry for Environment and Natural Resources to Region State Administrations. Unfortunately, the administrative reform reduced opportunities for active government policy in the field of green modernization of the economy of Ukraine.

On the other hand, changed terms and conditions of supplies of natural gas and crude oil formed new requirements towards energy security of Ukraine. This caused an increase of prices for energy both for the public sector and the industry. It was a powerful impulse for development of energy audit and energy modernization of both industrial and residential and municipal facilities. Energy conservation and energy modernization became economically efficient. This created conditions for their development. There is a wide use of alternative sources of energy, renewable energy also develops. Therefore, both prerequisites and necessary conditions were created for green modernization of Ukraine's economy.

2. Analysis of examples of expert studies of the main barriers and prospects for green modernization of the economy

Study of OECD "Support of greening of activity of small and medium enterprises in Ukraine" (2015) and "Support of greening of activity of small and medium enterprises in Armenia" (2015) are examples closest to the objective of the program for support of green modernization of Ukraine's economy focused on research of business.

Those studies both discovered the main barriers and prospects of green modernization of the economy and surveyed enterprises in Ukraine. In particular, the condition of regulatory and legal framework in the sphere of green modernization of the economy of Ukraine was analyzed, and main trends and barriers were discovered on the basis of a survey of enterprises about development of green business in Poltava region. Survey of small and medium businesses was aimed at finding the main opportunities of greening of SMEs of Ukraine, and, thus, main obstacles.

The survey was held by Ukrainian consulting company Research and Branding (R&B) Group among 410 small and medium enterprises of Poltava region in the period from February to May 2015 in the following sectors:

- agriculture, fishery and forestry;
- mining industry and production from quarries;
- food and non-food industry;
- construction;
- hotel business and restaurants.

Statistical sampling of the survey reflected a proportion of shares of enterprises:

- 73.2% - micro enterprises;
- 17.6% - small enterprises;
- 9.3% - medium enterprises.

SME, especially micro enterprises, often do not understand what it means to conduct environmentally safe business, how to do it and what are the costs associated with it. Going beyond environmental requirements is even more complicated, while the main bottleneck is insufficient awareness about economically efficient opportunities.

In line with the Resolution of the Cabinet of Ministers No.212 dated back to 19 March 2008, all enterprises are characterized by:

- high;
- medium;
- low

degrees of environmental risk on the basis of criteria of treatment of dangerous wastes and overall volumes of emissions into the atmospheric air and discharges of waste waters.

Frequency of audits of high environmental risk facilities may not exceed one visit of the site per year, of medium risk facilities – one site visit biannually, other facilities – one audit in three years. In addition, SMEs enjoy such an advantage as reduced duration of site inspections intended for reduction of the administrative burden of control over observance of requirements: in accordance with the Resolution 2008 of the Ministry for Environment and Natural Resources, duration of the planned audit shall not exceed five working days (in case of other companies – 15 days), and of an ad hoc audit – not more than two working days (in case of other entities – 10 days).

Nowadays (December 2015), audits are suspended due to the government policy of deregulation and support of business development.

According to researchers from OECD, small and medium enterprises that apply green methods of doing business are doing this in three ways:

- introduction of environmental management system (EMS);
- measures for improvement of energy efficiency and resource efficiency;
- manufacturing of environmentally friendly goods and services.

Only 2.5% of interviewed SMEs in Poltava region have implemented EMS certified in accordance with the standard ISA 14001. Slightly more than 10% SMEs apply less burdensome national standard of environmental management. Most of SMEs that did not implement EMS refer to various barriers: lack of information, insufficient capacity and excessive time and cost associated with EMS.

In spite of lack of government incentives, about 75% of interviewed Ukrainian SMEs take certain measures for improvement of resource efficiency, mainly for energy conservation, saving water resources and minimization of wastes, or plan to do it in the future. The main driving factor of such measures is exclusively economical: companies already face growth of prices for such resources and expect their further growth. An important factor is also environmental awareness, especially of medium companies, half of which have mentioned greening as one of their priorities.

Research of barriers and prospects of green modernization of the economy should be appropriately based upon results of analysis of enterprises of Ukraine and other countries of Eastern Partnership that have some common features such as corruption, a substantial share of shadow economy, low efficiency of public administration, domination of administrative regulation over judicial mechanisms of business protection on the basis of the law, etc.

Research of Organization of Economic Cooperation and Development within EaPGREEN program implemented since 2013 jointly with the EU, UN Economic Commission for Europe and UNDP in Ukraine and other countries of Eastern Partnership notes such common features as:

- low resource productivity;
- low energy productivity;
- domination of sectors of economy with low value added.

Governments of all countries of Eastern Partnership recognize the need for structural change promoting diversification of the economy and strengthening of sectors with high value added and understand that this requires innovation and wide introduction of modern technologies, which means policy reform and efforts at the level of individual enterprises. Market signals demonstrate a growing support of objectives of green economy, especially when it concerns tariffs in the field of power and water supply; however, incentives to efficient use of natural resources still remain weak.

As a result of implementation of EaPGREEN program, the main obstacles to success, prospective ways, barriers and drivers of development of green modernization common for Ukraine and other countries of Eastern Partnership were discovered (Table 1 and 2 in Appendix).

The study analyzed incumbent strategies of greening of the economy, possession of special knowledge by small and medium enterprises on environmental protection, as well as government activities to encourage application of systems and standards of environmental management in Armenia. In spite of difference of economic systems, Ukraine and Armenia are the countries of Eastern Partnership having common features of post-soviet management system and regulatory and legal framework.

Small and medium enterprises will be able to use opportunities of "green" growth under condition of introduction of relevant adjustments into their business models. The government is capable of helping small and medium enterprises to change their business practices and adjust to modern requirements by "greening" current strategies in industry and innovations and promoting the concept of environmentally efficient business and production, and by supporting environmental innovations.

By similarity to the 9th Act on Small Business (ASB), an approach of the state is assessed towards support of green growth and strengthening of capacity of small and medium businesses to master and use new information. Only one direction is distinguished in this principle, which includes three indicators:

- "greening" indicator of incumbent strategies in the field of small and medium enterprises, industry and innovations demonstrates whether the issues of environmental efficiency and ecological innovations are included into strategy documents regulating the policy in the sphere of enterprises and innovations. It assesses to what extent these concepts are reflected in principles of national policy;
- indicator "Possession by SME of special knowledge on environmental matters" makes it possible to define if SMEs possess special information and knowledge about the environment;
- indicator "Encouragement of application of systems and standards of environmental management" measures government activities for promotion of systems and standards of environmental management.

3. Design of a questionnaire for interviewing companies

We have prepared a working hypothesis on the basis of analysis of the situation with green economy in Ukraine from expert data, scientific publications, international analytical reviews and results of interviewing of businesses.

Important barriers on the way to green modernization of the economy of Ukraine are:

- lack of government strategic planning and of indicators of success feel green modernization of the economy;
- complicated permit system and burdensome taxation policy of the government in the sphere of green modernization of the economy;
- lack of awareness of opportunities and prospects of green modernization of the economy, advantages of introduction of the environmental management system;
- lack of available green technologies and qualified personnel for their implementation;
- insufficient financial incentives of green modernization of the economy and implementation of the system of environmental management from the part of the state;
- lack of available financial resources for green modernization of the economy.

The main promising directions of green modernization of the economy are:

- development of a government strategy for green modernization of the economy and indicators of its fulfillment;
- improvement of energy and resource efficiency of industry;
- expansion of the market of ecological goods and services;
- introduction of the environmental management system (EMS);
- establishment of expert information sites for support of implementation of green technologies in business;
- publicity of the green image of a brand.

For the purpose of research of barriers and prospects of green modernization of the economy, the method of one-time interview was selected. It was aimed at assessing existing trends among Ukrainian companies. Panel of general managers of industrial enterprises of Ukraine was recommended and used for the survey. It was formed and supported by organizations that have joined the platform of green modernization of Ukraine's economy. Survey panel was built in accordance with the principle: one respondent for one company. During analysis, it is planned to take into account a position of the respondent, whether he or she is a general manager or deputy general manager responsible for innovative development.

The questionnaire consists of 53 questions. Some of them contain several answer options. The questionnaire is to be distributed in the form of electronic letter to several hundreds of companies of Ukraine.

Questions may conventionally be split into several blocks. The first block of questions 0-3 describes a general profile of a company, the number of employees, main directions of activity. The second block of questions from 4 to 25 is about barriers and prospects related to energy and resource

modernization of a company, its office, implementation of alternative and renewable sources of energy.

The third block of questions 26 to 53 is about the introduction of environmental management system, development of the range of green services and manufacturing of goods, barriers in the way to development of green modernization of Ukraine's economy.

Therefore, expected results will make it possible to check a number of hypotheses of development of ecological business and barriers in the way to green modernization of Ukraine's economy on the basis of data about the companies belonging to various regions and sectors of the economy.

4. Business valuation of economical green modernization

Experts from the Institute of Green Economy and Support Program had conducted GIZ survey "green" modernization of the Ukrainian economy among 30 companies from Kyiv, and also Dnipropetrovsk, Sumy, Volyn, Rivne and Chernivtsi regions. It also involved previous 6 profiles, in total, 36 companies.

The first set of questions examines the awareness of companies about "green" modernization of the business. Almost 40% of enterprises (14 companies) do not have enough information on how to make their business more environmentally friendly. The most informative source of knowledge about green upgrades were the local authorities, public and international organizations. Each third receives information from these institutions. Government agencies, private banks and Chambers of Commerce have less demand, their advice using 2 firms (12%). Almost all polled firms (33 firms, 91.6%) believe that getting informational consultations about "green" economic modernization would help them to develop their business.

The second set of questions relates to permits for resource use, waste disposal, emissions into the atmosphere. In percentage terms, permits for resource use, waste disposal, air emissions are obtained by less than one third of respondents, namely 10 firms (27.8%). According to this information, we can conclude that the state system is imperfect, because 7 out of 10 organizations had trouble in obtaining the documentation. In addition, according to statistics, the state has problems with regulatory bodies, as two-thirds of companies do not have any permission.

The third set of questions includes questions of energy efficiency of company. From 36 companies, 29 gave a positive answer to a question about energy efficiency. The most popular measure was the room thermal insulation, and replacing or upgrading equipment placed second. The fastest growing segment is lighting – 8 companies, 22% of all projects related to the replacement of lighting equipment for energy efficiency and measures to control lighting.

The fourth set of questions related to alternative and renewable energy sources, only 4 firms (11%) are using alternative and/or renewable energy at the enterprise. The fifth set of questions was about economy of natural resources. This question was engaged by nearly two-thirds of organizations. These are: minimizing waste and recycling (17 firms, 47%), cost of raw materials (14 firms, 39%) and water (10 firms, 28%).

The sixth set of questions was connected with the introduction of environmental management and green production. About a third of companies has implemented an environmental management system at the enterprise: 10 companies (34%) to improve the company's reputation; 8 companies (26%) due to customers' requirements and 7 companies (24%) to improve the efficiency and competitiveness of the company.

The main reasons that led enterprises to produce/offer environmental goods and services is the foundation of their business (12 firms, 37.5%), of the companies producing environmental products for the company's image (8 firms, 25%), and to increase the competitiveness of the market (7 firms, 21.9%).

The survey showed that only two firms (which is 5.6%) had the experience of receiving concessional financing or investments for "green" upgrades. The first one entered from state agencies, another from an international organization.

Conclusion

The study analyzed existing strategies for the greening economy, the small and medium-sized enterprises' awareness and special knowledge on environment. Despite the differences between the economic systems, Ukraine and Armenia, the countries of Eastern Partnership, have common features of the post-soviet management system and normative legislative base.

Small and medium-sized enterprises will be able to take an advantage of "green" growth, subject to appropriate adjustments in their business models. The Government can help small and medium-sized enterprises to change their business practices and adapt to modern requirements, by "greening" the current strategy in the industry and innovation, promoting the concept of eco-efficient businesses and products and supporting the environmental innovation.

The Government's approach in ensuring the green growth and strengthening the capacity of small and medium-sized enterprises to absorb and use new information is assessed by an analogy with the Act No.9 on small business (AMB). This principle envisages only one direction comprised of three indicators:

- "greening" of existing policies in the field of small and medium-sized enterprises, industry and innovation shows whether the issues of environmental efficiency and ecological innovation were taken into account in the strategic documents regulating policy in the field of enterprise and innovation. The indicator evaluates how the given concepts are reflected in the principles of the national policy;
- "existence of SME's special knowledge on environmental issues" allows to determine the level of SME's expertise and knowledge on environmental issues;
- "promoting the use of environmental management systems and standards" measures the Government actions to promote environmental management systems and standards.

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Appendix

Table 1. The main obstacles to success and prospective ways of development of green modernization common for Ukraine and other countries of Eastern Partnership

The main obstacles to success of green modernization of the economy:	Prospective ways of development of green modernization of the economy:
♦ lack of specialized government policy and special public institutions or coordination bodies in the field of green modernization of the economy; ♦ lack of indicators of green modernization of the economy; ♦ lack of integration of indicators with national policy; ♦ lack of means for implementation, in particular, economic incentives; ♦ lack of information for support of companies and consumers; ♦ lack of broad participation of business in the process of decision making; ♦ lack of financing and investment into research and development and implementation*; ♦ controversial character, and consequently inefficiency of national legislation in the field of regulation of green economy; ♦ lack of coordination between central executive branch agencies and local governments on issues of implementation of green economy; ♦ complexity of adequate assessment of success of greening policy; ♦ lack of interest to sustainable production and consumption from the part of economic agents and consumers; ♦ insignificant scope of investment into innovation, extremely low level of financing of scientific research in the field of environmental protection, ecological investment, disposal, etc. ♦ lack of a comprehensive strategic document defining the strategy of green growth; ♦ lack of a unified coordination center for implementation of green economy, coordination of activities of central executive branch agencies responsible for economic administration, use of natural resources, housing and utility services; ♦ lack of completion of the system of specific indicators of green economy; ♦ weak regulation of participation of local governments in implementation of green economy; ♦ insufficiently developed economic instruments and incentives for sustainable production and consumption; ♦ insufficient economic support, lack of a unified database and information system about state and regional policy, best practices of implementation of green economy and sustainable production and consumption; ♦ insufficient access to green technologies.	♦ development of comprehensive program documents defining strategy of green growth in the national legislation; ♦ establishment of state coordination centers for implementation of green economy; ♦ approval of indicators of sustainable development in the government system; ♦ legislative regulation of participation of local governments in support of implementation of green economy; ♦ regulatory and legal consolidation of economic instruments and incentives for green modernization of the economy; ♦ development of a database and an information system on state and regional strategies and leading methods of implementation of green economy and sustainable production and consumption; ♦ enactment of legal procedures and involvement of the public into management of resources and taking decisions in the field of planning and implementation of principles of green economy; ♦ establishment of scientific-research and venture state scientific-research funds for environmental protection, ecological innovations, disposal etc. ♦ development of specialized strategies and action plans; ♦ establishment of government coordinators; ♦ development, approval and monitoring of indicators; ♦ development of formal procedures of involvement of the public into the process of decision-making; ♦ allocation of government funds for environmental protection, ecological innovations and progressive methods of waste management**; ♦ establishment of programs of concessional lending of green modernization of the economy; ♦ establishment of centers of roll-out of leading green technologies; ♦ establishment of corporate incentives for greening of the economy, including implementation of ISO standards.

Note: *Strategies of sustainable consumption and production in countries of Eastern Europe and Caucasus: review of achievements and directions of further activities. http://www.unep.org/roe/Portals/139/documents/FINAL%20rusSCPreport_lores.pdf
**Strategies of sustainable consumption and production in countries of Eastern Europe and Caucasus: review of achievements and directions of further activities. http://www.unep.org/roe/Portals/139/documents/FINAL%20rusSCPreport_lores.pdf

Table 2. The main barriers and drivers of development of green modernization common for Ukraine and other countries of Eastern Partnership

Barriers	Drivers
of green economy modernization	
Lack of awareness of green modernization of the economy, energy- and resource- efficiency	Information about the green modernization of the economy: - from local authorities - from NGOs - from international organizations - an independent search for information
Outdated legislation and administrative obstacles to the green modernization	Simplification of procedures and the development of the legal framework
The high cost of measures energy- and resource efficiency	The calculation of the expected economic efficiency of measures for energy and resource- efficiency, involving their own reserves and in part attraction of credit funds
Outdated energy- and resource- costly equipment	Application of new technology solutions for implementing energy- and resource efficiency
Leaders does not understand the benefits of energy efficiency	The proof of economic attractiveness and technological feasibility of the project improving energy- and resource efficiency
A long payback period for renewable sources	Plans of concessional lending of business
Lack of experience and skills in implementing environmental management systems	Environmental management training
Lack of interest and lack of knowledge of potential buyers on the environmental goods and services	Informing and advertising
Major costs for financing the production of environmental goods and services	Improving the company image and market extension
Difficulties upon receipt of loans on green upgrades - complicated bureaucracy	Deregulation
Low environmental awareness of staff	Inform the staff, increasing environmental awareness
The absence in Ukraine the processing of certain types of waste	Promoting new technologies for processing waste