РЕГІОНАЛЬНА ЕКОНОМІКА

UDC 332.14

O. Y. Akymenko, Candidate of Economic Sciences, Associate Professor,
A. S. Petrovskaya, Postgraduate,
M. B. Zholobetska, Postgraduate

SYNERGETIC APPROACH TO THE IMPLEMENTATION OF "GREEN" ECONOMY STRATEGIC PRIORITIES

Urgency of the research. *Identification of the "green" economy influence on the stimulation of comprehensive reforms, which are realized at the regional level and established the baseline of sustainable development, is burning issues of modern economic science.*

Target setting. *The most pointed question is a need, an economic and ecological viability of the solid municipal waste (SMW) recycling in Ukraine.*

Actual scientific researches and issues analysis. *The considerable amount of scientists' researches is devoted to theoretical, methodical and applied questions of greening regional development, the embodiment of the principles of sustainable regional development and development of the "green" economy.*

Uninvestigated parts of general matters defining. *Generalization and the analysis of the published works brought us to the conclusion that a problem study on a combination of technological, economic and ecological systems remains understudied and can be a basis for further researches.*

The research objective. *The objective of the article is an economic justification of the importance of solid municipal wastes (SMW) recycling and looking for ways to implement these processes at a growing rate in Ukraine, taking into account the developed system of communications between economic and ecological systems on the principles of synergism.*

The statement of basic materials. *The article generalizes the definition of the "green" economy. The principles of "green" economy forming with determination of the complementarity principle are given here. The article summarizes measures connected with safe storage, utilization and recycling of SMW. Strategic priorities in the sphere of "green" economy and the waste management are proved. The strong case for implementation of the synergy of technologies, economy and ecology in the form of a specialized waste management enterprise foundation is made too.*

Conclusions. *The importance of synergetic approach use is proved in a research of economy, ecology and technology interaction. The top-priority goals of "green" economy projects development are determined which are connected with safe storage, utilization and recycling of the solid municipal wastes (SMW).*

Keywords: *synergy; synergetic approach; "green" economy; principles; solid industrial waste recycling; perspective directions.*

УДК 332.14

О. Ю. Акименко, к. е. н., доцент,
А. С. Петровська, аспірант,
М. Б. Жолобецька, аспірант

СИНЕРГІЙНИЙ ПІДХІД ДО РЕАЛІЗАЦІЇ СТРАТЕГІЧНИХ ПРІОРИТЕТІВ «ЗЕЛЕНОЇ» ЕКОНОМІКИ

Актуальність теми дослідження. *Виявлення впливу «зеленої» економіки на стимулювання комплексних реформ, що реалізуються на регіональному рівні та формують засади сталого розвитку, є актуальними проблемами сучасної економічної науки.*

Постановка проблеми. *Особливо гострим постає питання щодо необхідності, економічної і екологічної доцільності переробки твердих промислових відходів (ТПВ) в Україні.*

Аналіз останніх досліджень і публікацій. *Значний обсяг досліджень науковців присвячений теоретичним, методичним та прикладним питанням екологізації регіонального розвитку, втіленням принципів сталого регіонального розвитку та розвитку «зеленої» економіки.*

Виділення недосліджених частин загальної проблеми. *Узагальнення й аналіз опублікованих робіт дозволили зробити висновок про те, що дослідження проблем поєднання технологічних, економічних та екологічних систем залишається недостатньо вивченим та може бути основою для подальших досліджень.*

Постановка завдання. *Метою статті є економічне обґрунтування доцільності переробки ТПВ та пошуку шляхів прискореного впровадження в Україні цих процесів, з урахуванням сформованої системи зв'язків між економічними та екологічними системами на принципах синергізму.*

Виклад основного матеріалу. *В статті узагальнено визначення поняття «зелена» економіка. Наведено принципи формування «зеленої» економіки, із визначенням принципу компліментарності. Узагальнено заходи, пов'язані з безпечним зберіганням, утилізацією та переробкою ТПВ. Обґрунтовано стратегічні пріоритети у сфері «зеленої» економіки та поводження з відходами. Обґрунтовано необхідність впровадження синергії технологій, економіки і екології у вигляді створення спеціалізованого підприємства з управління відходами.*

Висновки. *Доведено доцільність використання синергійного підходу у дослідженні взаємодії економіки, екології та технології. Визначено пріоритетні напрямки розвитку проектів «зеленої» економіки, що пов'язані з безпечним зберіганням, утилізацією та переробкою ТПВ.*

Ключові слова: *синергія; синергійний підхід; «зелена» економіка; принципи; переробка твердих промислових відходів; перспективні напрямки.*

Urgency of the research. Ukraine, as well as the entire world community, was included into an era when the main attention is paid to survival, ecological laws of life-sustaining activity, ecological inspection of engineering procedures and improvement of the quality of human life. Aiming to satisfy own, promptly increasing interests and requirements, the mankind forgets about the most important -

(cc) BY-NC

about the nature and ecology. The quantity of resource consumption constantly increases, at the same time the quantity of natural resources promptly decreases. The production sphere actively develops, therefore the amount of waste, both household, and industrial also increases. If currently we do not pay attention to an ecological situation, then the planet will remain without natural resources and will wallow in garbage in several decades. Through synergetic approach, having connected economy, ecology and technologies, we will receive the increased effectiveness of their combined actions; we will reach much greater effect.

In general, the synergetics concept (from Greek "synergetikos" - collaborative, approved, acting) is a field of research studying connections between elements of a structure (subsystems) which are formed in open systems (economic and others) through the intensive (streaming) exchange of substances and energy with the environment in nonequilibrium conditions [7].

Synergetic approach is that which provides cumulative effect of the system activity, more, than the amount of effects of the system elements operating independently. When analyzing interconnection of economy, ecology and technology it makes a sense to use the synergetic approach - specific means of a dialectic research method of the economic theory, which is integrally connected with the principles of self-movement, self-organization, systematicity.

Target setting. The most pointed question is a need and economic viability of the solid municipal waste (SMW) recycling in Ukraine. For this very reason the objective of our scientific paper is the economic feasibility of SMW recycling and ways search of the accelerated implementation of these processes in Ukraine, taking into account the developed system of communications between economic and ecological systems on the principles of synergism.

Actual scientific researches and issues analysis. Theoretical, methodical and applied questions of regional development greening, the implementation of the principles of sustainable regional development and development of "green" economy are researched by many domestic scientists, among them there are: Y. V. Aksentiy, S.O. Bila, E. M. Borshchuk, B. V. Burkynskiy, B. Gavrylyshyn, T. L. Galkevych, V. A. Gaychenko, V. S. Zagorskiy, N. P. Zakharkevych, T. V. Zakharova, V. A. Kachalov, O. V. Maley, T. O. Melnyk, V. O. Lukyanikhin, V. I. Savulyak, O. S. Chmyr, and many others [1-6; 8].

Uninvestigated parts of general matters defining. Generalization and the analysis of the published works brought us to the conclusion that a problem study on a combination of technological, economic and ecological systems remains understudied and can be a basis for further studies. There is not enough attention is paid to processes of SMW recycling and calculation of ecological efficiency from its recycling.

The statement of basic materials. The concept of "green" economy became one of search results of ecologically balanced directions of production development in combination with new technological solutions and new tendencies in interaction of production and the nature [8].

Passing an opinion of O. S. Chmyr, N. P. Zakharkevych, the "green" economy should be understood as the system of relations covering production, distribution, exchange and consumption which are based on environmentally oriented activities supporting protection and recovery of the environment and providing minimum a negative impact on it due to development of "green" sectors of economy and reducing "brown", creation of "green" workplaces and production of "green" goods and services [8].

And thus, the purpose of "green" economy is an effective environment forming for economic and social progress based on minimization of negative impact on the environment and effective use of natural resources ensuring high level of prosperity.

"Green" economy is created taking into account a certain system of the principles among which there are: orientation to the future; estimation of social development taking into account an ecological component; orientation to "green" models of production and consumption; employment of the population in "green" sectors of economy; public cooperation; resource efficiency; ecological compatibility; profitability; inclusivity; equality and justice and others [8]. We suggest to add this list to the principle of a complementarity as which we understand achievements of positive effect from implementation of environmentally oriented activities through the synergy of "green production models", effectiveness of resource use (including its recycling) and ecological engineering procedures.

(cc) BY-NC

Ecological researches conducted in recent decades in many countries of the world and in Ukraine show us the ever-increasing volume of solid municipal wastes (SMW) and the need of their further recycling.

Industrial condition connected with the waste management in Ukraine is unsatisfactory that is explained by lack of the proper infrastructure of the separate waste collection, sorting and waste utilization (SMW); illegal waste utilization and illegal dumping; payroll embarrassments, etc.

Practically implementation of the following events is reasonable for the development of the "green" economy projects connected with safe storage, utilization and recycling of the solid municipal wastes (SMW):

- strengthening responsibility of economic entities in regions for unauthorized landfills;
- taking measures aimed at improvement of landfills around the cities in accordance with the European greening standards and SMW management (it should be 1 equipped landfill for SMW storage per 100000 population taking into account safety criteria and ecological compatibility);
- implementation of the separate waste collection system (including rural districts), penalties imposed for violations in this sphere;
- implementation of modern technologies for SWM recycling (including production of the energy and consumer goods);
- introduction of a standard adapted for EU standards of the regulatory support of the waste service licensing in Ukraine;
- involvement of public-private partnership mechanisms during measures implementation for SWM utilization (including attraction of private investors to the construction of the solid waste disposal and recycling plant, expansion of municipal order practice for the private businessmen for waste services) [1].

The choice of solid municipal waste recycling methods should be determined by specifics of the region and the entity. Depending on regional economic development and parameters of the specified technical, economic and ecological indicators the choice of such SWM recycling technologies is possible and perspective: sorting, burning with heat recovery, composting and SWM complex recycling.

The priority development program for Ukraine in the sphere of "green economy" is the Program to support ecological modernization of the Ukrainian economy (Green Economy Program - GIZ) [9]. This Program, which objective is a reorientation of the economic system taking into account ecological aspects, is realized by the German Federal Ministry for Economic Cooperation and Development (BMZ) and the Ministry of Economic Development and Trade of Ukraine. There is a hope that implementation of this Program and implementation of "green" economy mechanisms will become the instrument of modernization of the economy and attraction of new technologies, will allow providing new employment opportunities, attract necessary investments and reduce a negative impact on the environment.

The National Waste Management Strategy for Ukraine (draft) was developed and implemented by the German Organization for Technical Cooperation in Ukraine (GIZ) GmbH in framework of this Green Economy Program financed by the German Federal Ministry for Economic Cooperation and Development (BMZ) [10]. Strategy expresses the concept on improvement of public health care and the environment quality in Ukraine improving waste management.

Lack of proper infrastructure on separate collection, sorting and utilization of solid municipal wastes (SWM); systemacity in the sphere of waste management regulation became the reason of the National Waste Management Strategy development (draft) which shall be based on the standards and approaches of the EU provided by the EU Association Agreement. The main strategic objectives which shall be reached during the planned period are:

- risk reduction of the negative impact on public health and the environment in Ukraine at early stages, bringing improvements in practice of the waste management, based on hierarchy principles and assumption criteria;
- optimization of opportunities for the new waste generation and the minimization of the available;
- increase in quantity of waste aimed at recycling, reutilization and recovery proceeding from economic benefit and financial implementation;
- increase in volumes and improvement of waste collection quality;

(cc) BY-NC

- opportunities development for waste remediation, recovery and utilization according to the latest technical standards;
- risk reduction of public health threat and environment security from expansion and/or generation of illegal dumping;
- provision of the strong framework legislative justification which will correspond to obligations before the EU specified in the Association Agreement;
- growing influence of institutes which are responsible for the waste management at the national, regional and local levels;
- to provide the comprehensive information concerning waste production, remediation and recycling;
- increase in volumes of sectoral investments and expansion of principle use “extended producer responsibility" and “polluter pays”;
- increasing public awareness and level of involvement of society, the efforts directed to the problem resolution, connected with waste management within the country [10].

The prospective line of the Strategy and the option of implementation of synergy of technologies, economy and ecology is a foundation of a compact specialized waste recycling plant (WRP). It can be the construction of MRF (material recovery facility) or the mini-waste recycling plant which will be more attractive than an ordinary large waste recycling plant (due to a lower construction cost and larger profitability). The construction of this plant will positively affect an ecological situation due to the latest technologies, and by doing so improve an economic situation due to profit earning. So, the construction of waste recycling plant (WRP) with a capacity of 150 000 tons of waste per year, to the value of 35 million euro is already planned in Chernihiv.

Conclusions. Considering nature of a global for society problem, our country shall create socially adequate system of waste management, but, being in a grip of economic crisis, it isn't able to make considerable initial budgetary financing to the sphere of waste management. We hope that implementation of National Strategy of integrated legislative control of a situation in the market of waste will be an essential step for attracting investment for potential investors.

Preparation of the specified Strategy of the waste management is the main step in development of Ukraine on the way to adaptation of policy, principles, objectives and tasks regarding improvement in health care and quality of the environment in the EU for the last twenty years.

References

1. Bila, S. O. «Zelena» ekonomika: stratehichnyi priorytet reform na rehionalnomu rivni [Green” economy: strategic priority of reforms at the regional level]. Retrieved from : http://oaji.net/articles/2016/1900-1469373612.pdf [in Ukrainian].

2. Burkynskiy, B. V. Galushkina, T. P. Reutov, V. Y. (2011). «Zelena ekonomika» kriz pryzmu transformatsiinykh zrushen v Ukraini [“Green economy” through a prism of transformational shifts in Ukraine]. Odessa – Saky: Institute of market problems and economical and ecological researches of National Academy of Sciences of Ukraine - PE “Company “Phoenix”, P. 324 [in Ukrainian].

3. Gavrylyshyn, B. Stratehiia staloho rozvytku ta yevropeiska model “Ekosotsialnoi rynkovoi ekonomiky” yak osnova konkurentozdatnosti Ukrainy v suchasnu epokhu [Sustainability development strategy and the European model of “Eco-social market economy” as a basis of competitiveness of Ukraine in the modern age]. Retrieved from: http://www.greenkit .net [in Ukrainian].

4. Zakharova, T. V. Zelenaia ekonomika kak novyi kurs razvitiia globalnyi i regionalnyi aspekty [“Green” economy as new course of development: global and regional aspects]. Online magazine “Local sustainable development” Retrieved from : http://sun.tsu.ru/mminfo. [in Russian].

5. Lukyanikhin, V. O. (2002). Ekolohichnyi menedzhment u sy-stemi upravlinnia zbalansovanym rozvytkom [Ecological

Література

1. Біла, С. О. «Зелена» економіка : стратегічний пріоритет реформ на регіональному рівні [Електронний ресурс] / С. О. Біла. – Режим доступу : http://oaji.net/articles/2016/1900-1469373612.pdf.

2. Буркинський, Б. В. «Зелена економіка» крізь призму трансформаційних зрушень в Україні: монографія / Б. В. Буркинський, Т. П. Галушкіна В. Є. Реутов. - Одесса-Саки : ІПРЕЕД НАН України – ПП «Підприємство «Фенікс», 2011.- 324 с.

3. Гаврилишин, Б. Стратегія сталого розвитку та європейська модель “Екосоціальної ринкової економіки” як основа конкурентоздатності України в сучасну епоху [Електронний ресурс] / Б. Гаврилишин, В. Вовк // Аналітична записка та рекомендації новій владі. – Режим доступу : http://www.greenkit.net.

4. Захарова, Т. В. "Зеленая" экономика как новый курс развития: глобальный и региональный аспекты [Електронний ресурс] / Т. В. Захарова // Электронный журнал "Местное устойчивое развитие". – Режим доступу : http://sun.tsu.ru/mminfo.

5. Лук’яніхін, В. О. Екологічний менеджмент у системі управління збалансованим розвитком: монографія / В. О. Лук’яніхін. — Суми : ВТД “Університетська книга”, 2002 — 314 с.

6. Малєй, О. В. Аналіз ефективності діючого економічного механізму у сфері поводження з відходами /

(cc) BY-NC

management in the sustainable development management system]. Sumy: Publication and Trade House “University book”, P.314 [in Ukrainian].

6. Maley, O. V. (2012). Analiz efektyvnosti diiuchoho eko-nomichnoho mekhanizmu u sferi povodzhennia z vidkhodamy [Efficiency analysis of the current economic mechanism in the sphere of the waste management]. Management, marketing and the intellectual capital in the global economic space. Kharkiv: Kharkiv Polytechnic Institute, pp. 551-569. [in Ukrainian].

7. Osnovni poniattia zahalnoi teorii system ta systemnoho analizu [Basic concepts of the General System Theory and System Analysis]. Retrieved from: http://eco.com.ua/sites/eco.com.ua/files/lib1/-navch_mat/sa_t1.pdf [in Ukrainian].

8. Chmyr, O. S., Zakharkevych, N. P. (2013). «Zelena» ekonomika: sutnist, tsili ta bazovi pryntsypy [“Green” economy: essence, objectives and principles]. Economical Journal of Donbass, No. 3 (33), pp. 54-62 [in Ukrainian].

9. Prohrama spryiannia zelenii modernizatsii ukrainskoi ekonomiky (Prohrama zelenoi ekonomiky) [Program to support ecological modernization of the Ukrainian economy (Green Economy Program)]. Retrieved from : http://platforma-msb.org/wpcontent/uploads/2016/12/1-Green-Economy-present_for-East-Invest-Event-28_11_16-ukr.pdf. [in Ukrainian].

10. Natsionalna stratehiia povodzhennia z vidkhodamy dlia Ukrainy (proekt) [National Waste Management Strategy development (draft)]. Retrieved from : http://www.menr.gov.ua/press-center/news/123-news1/5635-opublikovana-tekhnichna-redaktsiia-proektu-natsionalnoi-stratehii-povodzhennia-z-vidkhodamy [in Ukrainian].

Менеджмент, маркетинг та інтелектуальний капітал в глобальному економічному просторі : монографія / под. ред. д. е. н., проф. П. Г. Перерви. – Харків : ХПІ. – 2012. – С. 551-569.

7. Основні поняття загальної теорії систем та системного аналізу [Електронний ресурс]. – Режим доступу : http://eco.com.ua/sites/eco.com.ua/files/lib1/-navch_mat/sa_t1.pdf.

8. Чмир, О. С. «Зелена» економіка: сутність, цілі та базові принципи / О. С. Чмир, Н. П. Захаркевич // Економічний вісник Донбасу. – 2013. – № 3 (33). – С. 54-62.

9. Програма сприяння зеленій модернізації української економіки (Програма зеленої економіки) [Електронний ресурс]. – Режим доступу: посиланням : http://platforma-msb.org/wp-content/uploads/2016/12/1Green-Economy-present_for-East-Invest-Event-28_11_16-ukr.pdf.

10. Національна стратегія поводження з відходами для України (проект) [Електронний ресурс]. – Режим доступу : http://www.menr.gov.ua/press-center/news/123-news1/5635-opublikovana-tekhnichna-redaktsiia-proektu-natsionalnoi-stratehii-povodzhennia-z-vidkhodamy.

Received for publication 23.01.2017

Бібліографічний опис для цитування :

Akymenko, O. Y. Synergetic approach to the implementation of “green economy” strategic priorities / O. Y. Akymenko, A. S. Petrovskaya, M. B. Zholobetska // Науковий вісник Полісся. – 2017. – № 1 (9). ч. 2. – С. 19-23.

(cc) BY-NC