

**Perga T.Y.\***,Ph.D. in History, Senior researcher,  
State institution «Institute of the World History  
of the National Academy of Sciences of Ukraine»,  
Kyiv, Ukraine. pergatatiana@gmail.com**ECOLOGICAL MODERNIZATION:  
THEORETICAL AND PRACTICAL DIMENSIONS**

**Abstract.** An analysis of the main approaches in the scientific discourse on the theory of environmental modernization is made. It is proved that in scientific thought there is absent the unified view of the essence of the concept of «environmental modernization», and, accordingly — actors, tools and ways of its development. At the same time, the view is prevailed upon environmental modernization as an economic category. It was clarified that the aggravation of the global ecological crisis actualizes the development of an integrated approach to modernization, which should cover not only the economic sphere, but also other spheres of social development, including environmental, cultural, educational and institutional changes. The main stages and directions of ecological modernization are analyzed. It is concluded that the theory of ecological modernization creates the general framework and directions of ecologization of modern development; the development of specific models and mechanisms relies on countries. At the same time they must not only rely on a positive world experience, but also take into account national imperatives. Based on the existing theoretical work, recommendations for the development of the main directions of ecological modernization in Ukraine are made — from introduction of scientific innovations, development of education, engagement for solving the problem of the government, business structures, civil society to development of international cooperation in this sphere.

**Key words:** ecological modernization, ecological thinking, ecological consciousness, Ukraine

**Анотація.** Зроблено аналіз головних підходів наукового дискурсу до теорії екологічної модернізації. Доведено, що в науковій думці відсутній єдиний погляд на сутність поняття «екологічна модернізація», а відповідно — акторів, інструменти і шляхи її розвитку. Водночас превалює погляд на екологічну модернізацію, як економічну категорію. З'ясовано, що загострення глобальної екологічної кризи актуалізує розробку комплексного підходу до модернізації, яка має охопити не лише економічну сферу, а й інші сфери розвитку соціуму, включаючи екологічну, культурну й освітню та інституційні зміни. Проаналізовано головні етапи та напрямки розвитку екологічної модернізації. Зроблено висновок, що теорія екологічної модернізації створює загальні рамки і напрямки екологізації сучасного розвитку; вироблення конкретних моделей і механізмів покладається на країни. При цьому вони мають не лише спиратися на позитивний світовий досвід, а і враховувати національні імперативи. Спираючись на існуючі теоретичні напрацювання, зроблено рекомендації щодо розвитку головних напрямів екологічної модернізації в Україні — від впровадження наукових інновацій, розвитку освіти, залучення до розв'язання проблеми уряду, бізнес структур, громадянського суспільства до розвитку міжнародного співробітництва у зазначеній сфері.

**Ключові слова:** екологічна модернізація, екологічне мислення, екологічна свідомість, Україна.

**Аннотация.** Проанализированы главные подходы научного дискурса к теории экологической модернизации. Доказано, что в научной мысли отсутствует единый взгляд на сущность понятия «экологическая модернизация», а соответственно — актеров, инструменты и пути ее развития. В то же время превалирует взгляд на

\* Перга Т.Ю., кандидат історичних наук, старший науковий співробітник, ДУ «Інститут всесвітньої історії НАН України», Київ, Україна. pergatatiana@gmail.com  
ЕКОЛОГІЧНА МОДЕРНІЗАЦІЯ: ТЕОРЕТИЧНИЙ І ПРАКТИЧНИЙ ВИМІР

экологическую модернизацию, как экономическую категорию. Выяснено, что обострение глобального экологического кризиса актуализирует разработку комплексного подхода к модернизации, которая должна охватить не только экономическую сферу, но и другие сферы развития социума, включая экологическую, культурную и образовательную и институциональные изменения. Проанализированы основные этапы и направления развития экологической модернизации. Сделан вывод, что теория экологической модернизации создает общие рамки и направления экологизации современного развития; выработка конкретных моделей и механизмов возлагается на страны. При этом они должны не только опираться на положительный мировой опыт, а и учитывать национальные императивы. Опираясь на существующие теоретические наработки, сделаны рекомендации по развитию основных направлений экологической модернизации в Украине — от внедрения научных инноваций, развития образования, приобщения к решению проблемы правительства, бизнес структур, гражданского общества к развитию международного сотрудничества в данной сфере.

**Ключевые слова:** экологическая модернизация, экологическое мышление, экологическое сознание, Украина

**Formulation of the problem.** At the end of the twentieth century, the world has undergone radical political, economic, social and environmental changes. Globalization has put on the agenda a number of problems; environmental problem occupy an important place among them. As the experience of recent decades has shown, attempts of the international community to solve it with the help of modern technologies did not bring the expected results. Therefore, today becomes actual the task of finding new and the most comprehensive approaches to developing benchmarks and ways of human development in the twentieth century. One of them is environmental modernization.

**Analysis of previous studies and publications.** Despite the large number of theoretical research existing in this area, one can state that among scientists *does not exist common* view on the essence of the concept of «environmental modernization», and, accordingly, on the actors, tools and methods of its implementation. The widespread view consider environmental modernization an economic category (M. Jonich, G. Monch, T. Ranneburg and W. Simmonis, etc.). For example, D. Huber and A. Mol suppose that the main actors of environmental modernization are economic actors (corporations and companies, business structures, enterprises and entrepreneurs). This opinion is supported by a number of Ukrainian experts. Indicative example is the definition of environmental modernization done by V. Shevchuk, who states it is a system ecologization of all components of production, that is, the control system, technological processes, economic and investment activity of enterprises. [1] Recently have appeared a number of studies which authors argue that the aggravation of the global ecological crisis actualizes the development of an integrated approach to modernization, envisaging changes in all spheres of social development, including environmental policy (A. Wil, S. Bochmer-Kristiansen and Weidner, A. Gouldson and J. Murphy), cultural politics and discourse (M. Heyer and J. Drusek), institutional changes (A. Mol, G. Spagarin and F. Buttel). Some Ukrainian scientists (L. Amajadin, A. Moki, V. Burega etc.) point out on the importance of developing ecological consciousness, which is considered by them an important tool for implementing environmental modernization. Thus, historiography on the issues of the theory of ecological modernization points to a broad scientific discourse that continues in modern society. The ideas offered by its participants indicate the ways of

introducing elements of environmental modernization, which is of considerable practical interest to Ukraine.

Therefore, the **purpose of the article** is to study the main directions of the development the theory of environmental modernization, which will allow to form a number of practical recommendations for Ukraine.

**Main results of the study.** The theory of ecological modernization originated in the Westerns scientific research within the framework of an environmental sociology. It focuses on the investigation of changes in social practices and discourse, institutional development and reforms related to changing of the environment. It corresponds such ecosocial theories as the human ecology of R. Park, the theory of the ecological complex of O. Duncan and L. Schnore, the theory of the millstone production of A. Schneiberg, the new environmental paradigm of R. Dunlap and V. Kutton; and is part of the sociological discourse on the nature of Modernism. The theory of environmental modernization tries to explain modern social processes in the context of natural objects and phenomena, to outline ways out of the ecological crisis, to harmonize the existence of humanity.

The rethinking of the «human-nature» relationship began in the 1960s, when the environmental effects of intensive economic development became tangible. The discussion on this scientific problem started in the early 1980's by activist of the German ecological movement J. Huber. He understood under the ecological modernization the overcoming of negative influences on the environment from the side of industrial society by the way of transforming the industrial society, using it for the development of the latest technologies. The scientist wrote that a dirty, terrible industry is transformed into an ecological butterfly. In the mid-1980's he was supported by some environmentalists, initially by M. Jonic from Germany, and later by A. Mal from Netherlands. In these two countries the concept of environmental modernization became the basis of the state environmental policy, however its supporters believed that environmental problems can be solved by the help of superindustrialization, which involves the development and introduction of new modern technologies [2, c.93]. Since the early 1990's the theory of environmental modernization has become part of a broad scientific debate on global and regional socio-environmental problems and ways of their solving.

Scientists in different ways interpret the process of environmental modernization — or as an economic, associated with economic dynamics, which brings improvements of the environment; or as a socio-political one, in which operate social and political actors who make conservation an important part of society's life. At the same time all researchers support the opinion that at this stage of social development the impact of the economy on the environment is dominant, therefore the elimination of the direct dependence of environmental degradation on the economic development becomes one of the main tasks of environmental modernization.

A more profound analysis of the main approaches in the scientific discourse deals with the theory of environmental modernization can reveal the main actors and understand the main trends of its development at the beginning of the twenty-first century.

J. Huber and A. Moll found the main effect of environmental modernization in replacing existing industrial technologies by the new resource-saving which less

destructive for nature, human health and its environment. Business is considered to be the main actor of environmental modernization [3, p.71; 4, p.325]. M. Jonicke put on the central place of ecological modernization the state policy on the restructuring of the national economy aimed to preserve the environment and public health. Scientist calls the state its main actor [5, c.46]. A. Weale [6, c.111], R. Welford and A. Gouldson [7, c.62] understand environmental modernization as a social process of the state environmental policy, which is built on the basis of experts' conclusions and implemented by executive bodies and business managers. The main actors of environmental modernization in this model are experts, state and business. M. Hajer [8, c.115-117] and J. Druzek [9, p.25-29] understand ecological modernization as cultural policy and discourse. They transformed the idea of environmental modernization from the political, economic and social spheres into the sociological and philosophical area. On their view, the most important political achievements are the result of the work of the main discourse constructs, and therefore, in order to achieve ecological modernization, it is necessary to create a new attractive discursive construct of ways of development. Political elites adapt and use environmental modernization for communication, seeking to preserve their domination and privileges in a social and ecological resource crisis.

Accordingly, they consider the main actors of environmental modernization those who form the appropriate discourse. U. Beck, E. Giddens, S. Lash [10, p.41-47], G. Spaargaren [11, c.21] and A. Mol [4, c.329] analyze ecological modernization in the context of institutional reflexivity, in particular the relevant changes. By this they try to compensate the environmental impact of the crisis. In this model of environmental modernization the environment becomes the main factor of decision-making. The main actors of environmental modernization are seen the state and business. P. Christoff [12, c.476-500], D. Gibbs [13, c.8-13], J. Murphy [14, c.2-8], M. Cohen [15, c.230-238], L. Lundqvist [16, c.21-32], P. Leroy [17, c.49-52] adhere to the view that ecological modernization is represented by social restructuring in the form of a reflexive reorganization of industrial society in an attempt to confront the ecological crisis, which is steadily approaching.

In this context, environmental modernization contributes to changing the role not only of the state and business, but also of non-governmental organizations (NGOs). In particular, increases their role in developing the state and business environmental policy, which expands their influence on all social and natural processes. The main actors of environmental modernization are state, business, NGOs. I. Kulyasov [18, c.3], J. Kotilainen [19, c.15-20] conclude that in the case of severe anthropogenic pollution, natural objects act as primary actors of environmental modernization and their modified form and properties contribute to the formation of ecological consciousness, ecological discourse and ecological practices of the secondary actors — state, business, NGO, specialists, mass media, population. Their set represents a network of actors of environmental modernization, which in each case is represented by various socio-natural systems. Including to the network of actors of environmental modernization of the media and population is justified by their activity in the development of society. This also applies to natural objects that have a great potential of influence on a person.

Thus, the deterioration of the natural objects becomes a reality that contributes to the formation of environmental consciousness, which appears firstly to experts who

explore natural objects, and to local population who is one of the main users of natural objects. In this situation, the media are included in the intersectoral dialogue on discussing socio-environmental issues, playing the role of a catalyst for the environmental consciousness.

This approach reveals the connection of ecological modernization with ecological consciousness and allows us to go beyond the purely economic understanding of the process of its development. Thus, it can be argued that environmental modernization contributes to the formation of a new personality, a person as a carrier of environmental consciousness. One of the ways of this process is the ecologization of the discursive and everyday practices of small social groups (families and local communities — communities at the level of several houses, and at the level of large settlements). Specifically, it is possible to draw a conclusion on the important role of such mechanisms of formation of ecological consciousness as education and schooling, which should propagate ecological values. They contribute to the formation of environmental thinking, which can be characterized as the level of knowledge and culture that guide citizens in their everyday life and in their professional activities.

At the level of ordinary citizens, it means overcoming the consumerism and individualism ideology and understanding the need to care for both individual and neighboring households, future and existing generations. This implies the introduction of specific practices (such as garbage sorting, energy conservation, participation in various environmental actions and initiatives aimed to improve the environment and preserve flora and fauna). At the level of decision makers, ecological thinking should be manifested in the global vision of the world and understanding the reasons of the emergence the environmental problems, the ability to predict future demographic, socio-economic, climatic, resource challenges and assess changes in the needs of the state, responsibility for the consequences of the decisions. In this context, environmental consciousness influences the development of economic consciousness and the political responsibility of business and political elites.

**Conclusions.** The analysis of scientific achievements in the theory of ecological modernization allows to distinguish a number of main theses concerning its development.

1. Economic modernization is an objective historical process, driven by the growth of economic development and anthropogenic pressure on the environment. Its development has hampered by a number of socio-economic and mental impediments. First of all this is a mentality of consumerism, a low level of ecological consciousness and culture, a priority of economic interests, a lack of understanding the danger of an environmental catastrophe at the level of ordinary citizens, and at the level of legislative and executive power.

2. An important element of implementation the environmental modernization is innovation and education, because improvements, limitations and changes in models of economic development and social life should been scientifically argued. As V.I. Danilov-Danylyan states, from all spheres of the state activity the most knowledge-based is the protection of the environment and the provision of environmental safety [2, p.95].

3. Ecological modernization requires not only the continuation of theoretical developments and their discussion within the framework of wide scientific discourse, but also continuous training and exchange of experience, testing and implementation of the latest achievements. Accordingly, countries that are only embarking on environmental modernization should prioritize the investigation of positive experiences, while leading countries — to expand their assistance to these countries. Governments, businesses, civil society, various social groups and individuals should be involved in the process of environmental modernization in all countries. The result of environmental transformations and the resolution of environmental problems depends on their interaction. The political will to move towards sustainable development and the high ecological mobilization of society in the United States and in many European countries demonstrate the effectiveness of this approach.

4. Environmental modernization requires multilevel and multivector international cooperation at the global, regional and national levels. Currently, many different structures and actors are involved directly or indirectly in this process. Using the theory of network development of society, I.P.Kuliasov points on the important role of intersectoral interaction of the state, business and NGOs, which, according to the scientist, have the greatest potential in the implementation of environmental modernization. He notes that at the international (global) level today there are a number of powerful NGO networks — the World Wildlife Fund, Forest Guardian Council, Greenpeace, the Alliance for the Protection of Forests, etc., which institutionalize the practices of sustainable use of nature and tested in the West social technologies.

These networks are developing socio-economic and environmental standards and designing environmentally sensitive markets. At this level, there are networks of financial and trade-industrial business such as the World Alliance for the Sustainable Forestry Production, the Global Forest and Trade Network, such large financial corporations as World Bank and City Group, trade corporations, as «Ikea» and «Home Depot», etc., which enter into partnerships with international NGOs. They also cooperate with states that are interested in developing such partnerships [1, c.112]. Under this scheme, the interaction of the main actors of environmental modernization at other levels is taking place. Through various social and environmental initiatives, more and more ordinary citizens are involved in this process, which promotes the spread of environmental awareness among the general population.

5. At the moment, the main directions of environmental modernization are economic, institutional and political, and cultural-discursive. The theory of ecological modernization creates only the general framework and formulates the main directions of ecologization of modern development, but concrete models and mechanisms made by the countries on the ground of investigation and critical rethinking of the best world experience and local needs.

Based on the existing theoretical work, it is advisable to identify the main directions of the development of environmental modernization for Ukraine. In our view, the first step should be the development of a comprehensive strategic document such as a roadmap outlining the stages and main directions, priorities and indicators of environmental transformations in the economy and public life in the long run. It should be supplemented with a system of legislative changes and environmental

motivation for the development of green and low-carbon economy, implementation of technological innovations in order to modernize the industry of Ukraine and providing the structural changes that will meet the needs of sustainable and eco-balanced development of Ukraine. This activity should be accompanied by a system of motivations and incentives for ordinary citizens, a broad company dedicated to the development of ecological culture and lifestyle. Equally important is the development of a long-term system of continuous environmental education and upbringing, which will contribute to the formation of ecological consciousness among Ukrainians and the reorganization of daily life on the basis of environmental values.

## **REFERENCES**

1. Shevchuk, V.Ya., Satalkin, Yu.M., Biliavskiy, H.O., & others (2004). *Ecological management*. Kyiv: Lybid (in Ukr.).
2. Matsa, K.A., & Karpenko, M.M. (2005). Ecological modernization: essence, main trends. *Visnyk ekonomichnoii nauky (Bulletin of economic science)*, 1, 93-97 (in Ukr.).
3. Huber, J. (1991). Ecological modernization. Away from scarcity, soberness and bureaucracy. In A. Mol, G. Spaargaren, & A. Kalpxijk (Eds.), *Technologie en milieubeheer* (pp. 12-41). Den Haag: SDU.
4. Mol, A. (1992). Sociology, environment and modernity: ecological modernization as a theory of social change. *Society and Natural Resources*, 5, 323-344.
5. Jonicke, M. (1985). Preventive environmental policy en ecological modernization find structural policy. In *Discussion paper* (pp 46-59). Berlin.
6. Weale, A. (1992). *The New Politics of Pollution*. London: Univ. Press.
7. Welford, R., & Gouldson, A. (1993). *Environmental Management and Business Strategy*. London: Piman Publishing.
8. Hajer, M. (1995). *The politics of environmental discourse. Ecological modernization and the policy process*. Oxford: Clarendon Press.
9. Dryzek, J. (1997). *The Politics of the Earth: Environmental Discourses* Oxford: Univ. Press.
10. Beck, U., Giddens, A., & Lash, S. (1994). *Reflexive Modernization*. Cambridge: Polity Press.
11. Spaargaren, G. (1996). *The Ecological Modernization of production and consumption*. Ph. D. Thesis. Washington: Wageningen Univ.
12. Christoff, P. (1996). Ecological Modernization, Ecological Modernities *Environmental Politics*, 5(3), 476-500.
13. Gibbs, D. (2000). Ecological modernisation, regional economic development and regional development agencies. *Geoforum*, 31, 9- 19.
14. Murphy, J. (2000). Ecological modernization. *Geoforum* 31, 1-8.
15. Cohen, M. (2001). *Ecological modernization and its discontents*. NJ: Univ. Heights.
16. Lundqvist, L. (2000). Capacity building or social construction? Explaining Sweden's shift towards ecological modernization. *Geoforum* 31, 21-32.
17. Leroy, P., & Tatenhove, J. (2000). Political modernization theory and environmental politics. In G. Spaargaren, A. Mol, & F. Buttel (Eds.). *Environment and global modernity* (pp.48-67). London: Sage.
18. Kuliasov, I.P. (2005). *Ecological modernization: theory and practices*. St.-Petersburg: St.Petersburg State University (in Rus.).
19. Kotilainen, J. (2002). The Theory of Ecological Modernization. In J. Kortelainen, & J. Kotilainen (Eds.), *Environmental Transformations in the Russian Forest Industry: Key Actors and Local Developments* (pp. 15-20). Joensuu: Univ. Joensuu, Karelian Inst.

## ЛІТЕРАТУРА

1. Екологічне управління: підручник для студ. екологіч. спец. вищ. навч. закладів / В.Я. Шевчук, Ю.М. Саталкін, Г.О. Білявський та ін. — Київ: Либідь, 2004. — 432 с.
2. Маца К.А. Екологічна модернізація: сутність, основні напрямки / К.А.Маца, Н.Н.Карпенко // Вісник економічної науки України. — 2005. — №1. — С.93-97.
3. Huber J. Ecological modernization. Away from scarcity, soberness and bureaucracy / J. Huber // Technologie en milieubeheer / Ed. by A. Mol, G. Spaargaren, A. Kalpxijk. — Den Haag: SDU, 1991. — P. 12-41.
4. Mol A. Sociology, environment and modernity: ecological modernization as a theory of social change / A. Mol // Society and Natural Resources. — 1992. — Vol. 5. — P. 323-344.
5. Jonicke M. Preventive environmental policy en ecological modernization find structural policy/ M.Jonicke // Discussion paper. — Berlin, 1985. — P. 46 — 59.
6. Weale A. The New Politics of Pollution / A.Weale. — Manchester: Univ. Press, 1992. — 227 p.
7. Welford R. Environmental Management and Business Strategy / R.Welford, A.Gouldson. — London: Piman Publishing, 1993. — 224 p.
8. Hajer M. The politics of environmental discourse. Ecological modernization and the policy process / M.Hayer. — Oxford: Clarendon Press, 1995. — 332 p.
9. Dryzek J. The Politics of the Earth: Environmental Discourses /J.Dryzek. — Oxford: Univ. Press, 1997. — 220 p.
10. Beck U. Reflexive Modernization /U.Beck, A.Giddens, S.Lash. — Cambridge: Polity Press, 1994. — 228 p.
11. Spaargaren G. The Ecological Modernization of production and consumption. Ph.D. Thesis./G. Spaargaren. — Wageningen Univ., 1996. — 150 p.
12. Christoff P. Ecological Modernization, Ecological Modernities / P.Christoff // Environmental Politics. — 1996. — Vol. 5, No. 3. — P. 476-500.
13. Gibbs D. Ecological modernisation, regional economic development and regional development agencies / D.Gibbs // Geoforum. — 2000. — Vol 31. — N 1.— P. 9- 19.
14. Murphy J. Ecological modernization / J. Murphy // Geoforum. — 2000. — Vol 31. — N 1.— P. 1- 8.
15. Cohen M. Ecological modernization and its discontents / M.Cohen. — NJ: Univ. Heights, 2001. — 584 p.
16. Lundqvist L. Capacity building or social construction? Explaining Sweden's shift towards ecological modernization // Geoforum. — 2000. — Vol 31. — N 1.— P. 21-32.
17. Leroy P. Political modernization theory and environmental politics / P.Leroy, J.Tatenhove // Environment and global modernity / Ed. by G. Spaargaren, A. Mol, F. Buttel. London: Sage, 2000. — P. 48-67.
18. Кулясов И. Экологическая модернизация: теория и практики / Ред. Ю. Пахомов (предисловие). СПб. : НИИХ СПбГУ, 2004. — 156 с.
19. Kotilainen J. The Theory of Ecological Modernization // Environmental Transformations in the Russian Forest Industry: Key Actors and Local Developments / Ed. by J. Kortelainen, J. Kotilainen. Joensuu: Univ. Joensuu, Karelian Inst., 2002. — P. 15-20.