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## FORMATION OF COUNTRY'S ECONOMIC MODEL IN CONDITIONS OF MODERN INNOVATIVE-INFORMATIONAL IMPERATIVE

**Abstract. Introduction.** In conditions of uncontrollable horizontal chaos fuelled and promoted within the informational nets and linkages, the innovative-informational imperative of economics may be developed on creative, destructive, zero or ground main-streams of chaos. **Results.** In the research innovative-informational imperative vectors basing on creative and destructive main-streams of chaos in the age of informational society with technological revolution and ecological challenges are specified. The choice of imperative's vector is an important precondition for future states' economic model forming in the period of the state's economic and technological transition to the sixth technological mode. The authors have deduced the types of energy sources in the economies as those with a direct influence on the economic model of capitalism in different states. Peculiarities of various energy usage in the EU and other regions of the world from the position of green, law-carbon, sustainable economics development on the informational base, which represents a creative mainstream in conditions of chaos, are analysed, and the vectors for further changes in favour of such economic model realization are promoted. The direction of such approach introduction in Ukraine is shown. It is **concluded** that the national capitalism model needs conscious differentiation and qualitative evaluation of innovative technologies introduced in society in order of basic values preservation together with successful change of the technological mode.

**Keywords:** innovative-informational imperative; economic model; technological mode; chaos; national capitalism; alternative energy; law-carbon economy.

**JEL Classification:** E13, E17, E60, O11

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### **ФОРМУВАННЯ ЕКОНОМІЧНОЇ МОДЕЛІ КРАЇНИ В УМОВАХ СУЧАСНОГО ІННОВАЦІЙНО-ІНФОРМАЦІЙНОГО ІМПЕРАТИВУ**

**Анотація.** В умовах некерованого мережевого хаосу, поширення якого стимулюється і просувається через інформаційні мережі та взаємозв'язки, інноваційно-інформаційний імператив економіки може розвиватися на креативному, деструктивному, нульовому мейнстрімах хаосу чи мейнстрімі дна. У статті визначено вектори інноваційно-інформаційного імперативу, що базуються на конструктивному або деструктивному мейнстрімах хаосу в добу інформаційного суспільства, інноваційного прориву та екологічних викликів. Вибір вектору імператива є важливою передумовою формування відповідної економічної моделі в період економічного і технологічного переходу країни до шостого технологічного укладу. Авторами виявлено типи енергетичних джерел у народному господарстві як чинники прямого впливу на економічну модель капіталізму різних держав. Проаналізовано особливості використання різних типів енергоресурсів в ЄС та інших державах світу з позицій розвитку стійкої зеленої, низьковуглецевої економіки на інформаційно-технологічній базі, що репрезентує креативний мейнстрім хаосу. Визначено напрями змін, необхідних для впровадження такої моделі економіки в Україні. Зроблено висновки щодо необхідності свідомого диференційованого підходу і якісної оцінки інноваційних технологій у моделі суспільства народного капіталізму, щоб зберегти його базові цінності і одночасно здійснити успішний перехід до шостого технологічного укладу.

**Ключові слова:** економічна модель, інноваційно-інформаційний імператив, технологічний уклад, хаос, модель народного капіталізму, альтернативна енергетика, низьковуглецева економіка.

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### **ФОРМИРОВАНИЕ ЭКОНОМИЧЕСКОЙ МОДЕЛИ СТРАНЫ В УСЛОВИЯХ СОВРЕМЕННОГО ИННОВАЦИЙНО-ИНФОРМАЦИОННОГО ИМПЕРАТИВА**

**Аннотация.** В условиях неуправляемого сетевого хаоса, распространение которого стимулируется и продвигается через информационные сети и взаимосвязи, инновационно-информационный императив экономики может развиваться на креативном, деструктивном, нулевом мейнстрімах хаоса или мейнстріме дна. В статье определены векторы инноваци-

оно-информационного императива, которые базируются на конструктивном или деструктивном мейнстримах хаоса в эпоху информационного общества, инновационного прорыва и экологических вызовов. Выбор вектора императива является важной предпосылкой формирования соответствующей экономической модели в период экономического и технологического перехода страны к шестому технологическому укладу. Авторами выявлены типы энергетических источников в народном хозяйстве как факторы прямого влияния на экономическую модель капитализма разных государств. Проанализированы особенности использования разных типов энергоресурсов в ЕС и других государствах мира с позиций развития устойчивой зеленой, низкоуглеродистой экономики на информационно-технологичном базисе, который репрезентирует креативный мейнстрим хаоса. Определены направления изменений, необходимых для внедрения такой модели экономики в Украине.

Сделаны выводы относительно необходимости сознательного дифференцированного подхода и качественной оценки инновационных технологий в модели общества народного капитализма, чтобы сохранить его базовые ценности и одновременно осуществить успешный переход к шестому технологическому укладу.

**Ключевые слова:** экономическая модель, инновационно-информационный императив, технологический уклад, хаос, модель народного капитализма, альтернативная энергетика, низкоуглеродистая экономика.

**Introduction.** The world's economy transition to the state of chaos demands change of basic strategic imperative. The imperative itself will determine the character of nations' future economic models. Today well-known algorithms of mass industrial economy being built on constantly increasing amounts of human and natural resources usage are overtaken by the new paradigm. In this situation the role of human capital in production increases rapidly, and it is important to orient it towards creative intellectual dimension, as it is the core condition for further innovativeness of society. Formation of self-renewable ecologically friendly economic and social systems is on the way. Information technologies continue to reshape both global and national economic and political environment, introducing new adjustments to the economic laws. The centre of the new imperative should be a person who is a creator by its nature, but not a destroyer. This strictly corresponds to the ideas of chaos mainstreams conception, where the development of states and national economies in conditions of high uncertainty is represented at both positive and negative chaos flows [1]. In this research the main vectors of the new innovative-informational imperative formation are represented from the position of non-linear economic development in the context environmentally friendly society creation.

**Brief Literature Review.** Theme of current work is connected with the researches of such influential scientists, as J. Schumpeter, R. Ackoff, I. Ansoff, C. Freeman, M. Hirooka, P. Krugman, E. M. Rogers, E. B. Swanson, M. Ruch, J. Stiglitz, Randall D. Harris, Russian economists N. Kondratiev, L. Abal-kin, S. Glaziev, A. Akaev, D. Halturin, A. Korotaev, S. Kurdiumova, O. Kniazeva, Ukrainian economists V. Heiets, A. Halchynskiyi, etc. One of the first who stated theoretical bases of the theory of chaos was American mathematician-economist E. Peters (1996). In the book «Chaos and Order in the Capital Markets» he made an attempt to analyze cycles, prices and exchange rates of the stock market from the positions of nonlinear economic dynamics. Ori Brafman and Judah Pollack (2013) in their new book «The Chaos Imperative: How Chance and Disruption Increase Innovation, Effectiveness, and Success» show the ways of being creative and innovative for the both large and small businesses in conditions of chaos.

At the same time, the problems and opportunities to form the innovative-informational imperative of state's development, and particularly Ukraine, in new, chaos conditions, have not been explored.

**Purpose** of the article is to outline the vectors of the innovative-informational imperative formation for a state, basing on the chaos mainstreams theory approaches in conditions of global economic, technological and environmental shift.

**Results.** Today, the global economy surged another wave of the financial-economic crisis. If the first wave, that started in 2007 in the USA, where mortgage market had begun to collapse, was associated with the financial and banking sector, than the second wave is characterized by falling in the areas of traditional material production. That's why to talk about the end of economic crises is too early, as far as it is connected with deep technological changes in world economy as a whole, but not only its financial architecture.

We can already conclude that the economic crisis is not a spontaneous, but cyclical phenomenon that corresponds to a descending stage of N. Kondratiev's (1928) long cycle (wave). The action of this phase began in 2007 and will have been lasting at least next 25 years. As it is known, the long cycles (waves) have a duration of an average of 50-60 years, consisting of two stages (ascending and descending), each of which, in turn, is divided into two phases: the ascending phase of recovery and growth, and the descending phase of decline and depression (stagnation) [2]. Based on N. Kondratiev's theory, we can claim that the active process of transition to the sixth technological mode has begun.

The world scientists proved that the period of each technological mode actual dominance (from the first to the fifth one) took approximately as much time as the duration of the long waves of Kondratiev's economic cycle. The mode's lifetime consists of two key parts: the first one is its formation in the period of the previous mode crisis, and the second one is its growth as a result of structural reorientation of economics.

Each new technological mode makes economic interconnections more complicated and strengthens their non-linear character, enhancing the way of material production and the sphere of services transformation. The transition to a new mode is a period, which brings total changes of values, means of production, and functions of the capital, new needs and requirements to the quality of the production etc. Quintessence of the 6th technological mode is transition to an alternative economic development model, which will be based not on extensive methods of production providing usage of such traditional types and sources of energy, as: coal, oil, natural or shale gas, atomic energy (the technologies of the 3rd, 4th and 5th modes), but on intensive methods, which require the usage of alternative, renewable sources of energy, that won't damage the environment, as well as informational technologies (IT) as a new separate factor of production (the sixth technological mode).

New branches of the 6th technological mode is sun, wind, water, biological and wave energy, biotechnology, cell biology, aerospace, nanotechnology, new materials, optoelectronics, system of artificial intelligence, microelectronics, photonics, microsystems mechanics, information superhighways, software and simulation tools, molecular electronics, new personnel management systems, computerization of services etc.

Powerful process which was allocated at the beginning of the XXI century is the crisis of strictly determined vertical hierarchy of public administration. The system of national economies is increasingly attracted to the horizontal network of chaos, economic atomization, which provides self-organization, self-employment and planning.

Under the outlined trends the part of uncontrollable chaos (which is always present to some extent in economics) grows essentially, and uncontrollable influences on the future development of both global and national economic systems become more active.

It is necessary to consider that in space of the uncontrollable chaos function different *mainstreams* (a term by which the main direction in the certain sphere is determined) which have qualitatively different characteristics, namely:

- *Creative mainstream*, where structuring of life-giving forces, growth and prosperity takes place.
- *Zero mainstream*, where energy of development is in a condition of zero potential.
- *Destructive (necrophilous) mainstream*, where destruction and disintegration forces dominate.
- *Ground state mainstream*, which is the situation of rest and absence of enterpreneurial activity.

During the crisis and post-crisis period noted mainstreams of chaos in the different countries exist in different ratios, but for the further development it is important which will finally overbalance. Thus, the actual availability of the mainstream in the space of chaos establishes the possibility of multivariate development. Chaos promotes the formation of horizontal net systems instead of vertically hierarchical systems. Under these conditions the role of state regulation increases, it means external management of process of organization, self-organization and destruction.

Countries which enter the course of a creative mainstream in the period of growth and enlargement of an area of chaos, with the help of adapted and transformed state regulation model, are able to qualitatively upgrade and transform the economic model making it adequate to the new imperatives of global and national needs, so that to go out on new paths of development, providing impulse for the development of higher (fifth and sixth modes) economic and technological structures [1].

Innovations are the force of state's economic and technological transition to new technological mode. Information technologies have become a driving force and, at the same time the fuels for the engine of changes. They reconstruct the core of business and governing processes; change the relation towards humans and machines, nature and living environment.

In the conditions of horizontal chaos, fuelled and promoted within the informational nets and linkages, it is important to understand that neither information, nor technologies themselves are the essence of the new order, but an attitude towards their usage is what forms the innovative-informational imperative. This imperative, as well as the technological paradigm, may be developed on creative, destructive, zero or ground mainstreams of chaos in the economies.

#### **Innovative-informational imperative on the creative mainstream of chaos**

Innovative-informational imperative formation on the positive mainstream is desirable, from our point of view. It is realised nowadays through connection of innovative and informational technology with the ideas of green, low-carbon, sustainable development. The vector of this approach realisation is represented hereafter.

Development of the 6th technological mode is connected with a new lifestyle paradigm in the developed countries, new ways of doing business in society, settling of new ecological-economical balance of interests among national governments, citizens, small and medium businesses and multinational companies. The process of international interaction to transition to the ecologically oriented capitalism model is taking place within the frameworks of organizations and working groups in structure of the UN, OSCE, OECD, APEC, and many others. As the result of expert's and governor's interaction, the national and regional concepts of transition to updated renewable economics have been forming.

Human civilization has started moving away from the approach of mega-cities building, which systems of management provide negative impact on environment. The utmost attention is given nowadays to the regional potential development and the communal systems of smaller scale promotion.

It has been proved in the world practice that society etatization reached its peak in development and stops working, and this fact calls a need for deetatization to be made with the purpose to give more power to local governments. Combination of the strengths of local governments, territorial communities and the new technological mechanism is a powerful and efficient symbiosis to address issues of development, and in the first place an introduction of a new energy policy and environmental regeneration.

The European Union is the main political subject concerned with abovementioned challenges. It has already implemented 6 overwhelming Environmental Action Programs and the 7th one is targeting the 2030 prospect. Its coverage includes global and European biodiversity, energy, industry, agriculture, transport, health technological footprint dimensions [3]. The problems of ecological and social innovation management, regional and personal initiatives inclusion are also in scope of this initiative. Its aims show the commonness in understanding of potential environmental, technological, economic and social risks in the context of the descending stage of the 5th technological mode overcoming in favor of the sixth one development, as we have shown above.

The current crisis has proved that the means of the economy's industrial development are run dry and not capable of providing competitive, safe progress. Realizing this, the advanced countries, and by their example other states, began mass exploration the ways and mechanisms to introduction of the new, innovative-investment model of economic development and usage of alternative energy sources (solar, hydropower, wind, biomass energy branch). Now it becomes a priority for economic development of every economy.

Thus, within the mechanism of technical assistance ELENA (created in 2009) is planned to mobilize more than 1.3 billion euro of investments into sector of the EU cities energy efficiency. There are special programs for reduction the usage of energy for electricity, private and municipal buildings maintenance, heat delivery costs lowering. In Latvia, Germany and Austria the first successful project in so-called green construction (green building) were realized. All-in-all, more than 700 EU municipalities have been participating in the initiative of green construction. In May, 2010, mayors of 500 European cities signed the Convent of Mayors (a common initiative of the European Commission, the Committee of Regions and the Parliament of the EU) in accordance to which they took a goodwill obligations to reduce carbon emission in their cities for 20% until 2020, and to promote alternative energy and energy efficient way of life among the inhabitants. Abovementioned initiative has been supported so far by another 2100 cities in 36 European countries, as well as by 100 regions representing 125 millions of people [4]. Apart this, the EU plans to reduce by 2020 the carbon emission amount in its member states for 20% in comparison to 1990 and to shorten total energy supply for 20% from the forecasted for 2020 level [5].

In 2009 in the EU 19.9% of produced electric energy came from renewable sources. In 2020 it is planned to increase this amount to 23-25%. To meet such a target, the EU has introduced a number of programs of priority sectors investment support, namely: 1. «Energy Recovery Program» (with a budget of 2 billion Euros per year since 2009). 2. The world's largest research on the possibilities of wind power integration to the common European grid, which involves 26 energy companies from 11 member states (the EU allocated to it 60 million Euros), the development of the «Twenties» project tasks is scheduled for the end of 2013. 3. Financial instrument «NER300» for investment in low-carbon economics and alternative energy of the EU (it is planned to accumulate 4.5 billion Euros) [4].

The European Commission has also developed in 2008 a number of specific initiatives that address the environmental impacts of products during their life cycle, with an objective of the greener products development promotion among the material industries. These initiatives are the building blocks of the European Union's policy on sustainable consumption and production, which includes [6]:

1. Integrated Product Policy (IPP). It is an approach that seeks to reduce the environmental impacts of products throughout their life cycle (from the mining of raw materials to production, distribution, usage and waste management). The intention is to address potential environmental impacts at each stage of the life cycle. It consists of 2 phases. Phase 1 is Environmental Impact of Products study (EIPRO), which identifies the products with the greatest environmental impact during their life cycle. Phase 2 is Environmental Improvement of Products measures (IMPRO), which identifies the possible ways to reduce the life-

cycle environmental impacts for some of the products that are among those with the greatest environmental impacts. The IMPRO first considers improvement potentials that are technically feasible. Following this, the associated socio-economic impacts are being considered and analyzed. IPP is aimed at keeping technologies in strong interconnection with the European environmental goals providing the common framework to the material production standards.

2. Thematic Strategy on the Sustainable Use of Natural Resources. The objective of the strategy is to reduce the environmental footprint of resources usage in a growing economy as it is a decisive factor of sustainable development achievement in the EU.

3. Thematic Strategy on Waste Prevention and Recycling. This is a long-term strategy, which claims to transform Europe into a recycling society that seeks to avoid waste production without recycling and applies waste as a resource.

4. Eco-Management and Audit Scheme (EMAS). This is a reliable management instrument provided by the EU for companies and other organisations for evaluating reporting and improving their environmental performance.

5. Ecolabel Scheme. This is a voluntary marking scheme designed to encourage economic entities to market and promote products and services that are friendlier to the environment and for the consumers, making it easy to identify them.

6. Environmental Technologies Action Plan (ETAP). A number of actions to promote eco-innovation and the transition to environmental technologies that has been implemented since 2004 and directly addresses the three dimensions of the Lisbon strategy: growth, jobs and the environment.

7. Green Public Procurement (GPP). This is a public approach and a collection of promoted social and business attitudes in a huge market to reduce the environmental impact related to the production, transportation, usage and disposition of goods and related services.

8. Eco-design of Energy Using Products Directive (EuP). It is a conception of the environmental considerations integration at the design phase of the products and goods, which is essentially the most effective way to improve the environmental performance of products. The environmental impacts of energy-using products take various forms, such as energy consumption and related negative contribution to climate change, consumption of materials and natural resources, waste generation and release of hazardous substances. EuP helps to reduce such undesirable consequences at the very beginning of a product's or technology's life cycle.

9. European Compliance Assistance Programme (Environment & SMEs). The European Commission has proposed a Programme to make it easier for the small and medium-sized enterprises (SMEs) to comply with their obligations and improve their environmental performances within the environmental legislation of the EU, creating to them adequate environment and providing with assistance, so that they can perform as well as their larger market counterparts [6].

Abovementioned institutional instruments to provide common standards, approaches, assistance and practical tools to achieve the politically stated targets of both ecological and economic development in the European economic model will lead to its actual transition towards innovative 6th technological mode. These experiences are vital to Ukraine as it aspires to become a part of the common European market and, as the result, an economic model oriented on eco-friendliness.

#### **Innovative-informational imperative on the destructive mainstream of chaos**

Such innovations are widely regarded to be a part of unbreakable growth for traditional industrial societies, where a significant part of new investments is still going to the branches of lower technological modes, among them are Ukraine, Russia, Belarus, China, India and others. Such innovations are strongly linked with high level of ecological and social developmental risks being not taken into account in favour of short-term plans fulfilment. The declamation of sustainable development and higher standards of life providing to wider social groups is often used by both authorities and large business representatives in

this context. Among the innovative-informational imperative realization on necrophilous mainstream of chaos we may specify over-virtualizing of reality, game obesity, personality control systems, informational and cyber wars and terrorism in informational sphere; genetically modified food, unsafe medicines and different kinds of human and environmentally unfriendly technologies etc. Important characteristic of economic model's imperative creativity or destructiveness is an attitude towards energy technologies as it is shown below.

Talking about the prospects of human ecological footprint reduction, we can not, nevertheless to avoid several serious dangers that the EU and the rest of the world are facing. We would like to concentrate here at such unsafe energy resources which boost the economy though damage in real terms or potentially the world's eco-system as nuclear power and the shell natural gas production, which we consider to be the examples of innovations of the destructive chaos mainstream from the prospect of sustainable development.

Nuclear power. In the EU countries 143 nuclear power plants are operating (representing 13.5% of the EU energy consumption), and most of the states still have no plans to abandon nuclear energy. Despite being equipped with modern passive safety features, the new generation of nuclear reactors in Europe are recognized by the experts still basically the same «old-fashioned light-water reactors with solid-fuel cores that are cooled and moderated by water» [7], which means the same high level of environmental risks of exploitation and further conservation.

Though after the crucial events in Japan's Fukushima coast, Swiss and German initiatives to close their atomic power stations supporting by an attitude of another 11 EU states, as well as Australia and the New Zealand, there is a rare opportunity to review energy policies in the whole energy segment, as today 40 countries (mainly in the Middle East and Asia) have announced the building of their atomic power plants, either creating or expanding own nuclear capacity. For example, China has 32 new reactors under construction, which will add 70 GW of nuclear capacity by 2020. Russia is building ten new reactors and India seven. The Great Britain is about to start work on its first nuclear reactor since 1995 in collaboration with China. While 8 of its 9 nuclear plants now reaching the end of their exploitation period, Britain plans to build about 12 new ones by 2030 [7]. The GB is, like Japan, an island state, and its nuclear facilities are hardly as well protected as Japanese ones. Its current nuclear approach is out of the common European context and may be extremely dangerous if to take into account tragic Japanese experience.

The main slogan of a new model of economic development is that people should not leave behind a single kilogram of waste in any form. The economy should be aimed at restoring of the ecological environment suitable for safe social life. This economic model is an alternative to the existing, traditional industrial model, in which natural resources are used inefficiently. Today, any country can afford such an approach, as Earth's ecosystem is overloaded and unable to withstand the fierce pressure from the industrial environment. The report, released in September 2013 at a meeting of the United Nations International Panel on Climate Change (IPCC), confirmed that the cause of irreversible environmental change with the probability of 95% is anthropogenic human activities in the XX-XXI centuries [8].

For Ukraine, an urgent task is to move to a new economic innovation technological model with using of alternative energy sources. But to become really independent state and build a model of capitalism of technological innovation type, our country should by all means to become self-reliable in energy sector, overcoming its strong dependence from the Russian Federation in that issue. There are two variants of solution to this problem.

*The first option* proposed by the ruling financial corporate groups in Ukraine is to join efforts with the multinational corporations, such as «Chevron», «Shell», «ExxonMobil», which offer to produce shale gas in our territory by hydraulic fracturing. It is widely regarded to be a very dangerous technology with unpre-

dictable environmental consequences. Especially dangerous is the fact that shale gas production will take place particularly in the Carpathian Mountains, bordering with Poland and relatively tectonically unstable areas, as well as in eastern part of Ukraine. This traditional way, though makes it possible to increase an amount of gas supplies, provides quite unfavourable results for the country, taking into account that we have already had repeatedly suffered from irresponsible applying of energy innovative technologies. We are referring to particularly havoc of the Dnipro river by building in the Soviet times the electric power plants cascade that has proven over years being economically and ecologically neither efficient, nor prospective. As the result, huge agricultural territorial arrays were graved under water. Short-sighted decision was also the construction of nuclear power plants that harm the natural environment. The catastrophe at the Chernobyl Nuclear Power Plant has caused an enormous damage to our country, its environment, Ukrainian's health, led to premature deaths of thousands of people. The consequences of Chernobyl still have not been overcome both in Ukraine and by the European continent in general. Shown examples highlight the general authoritative approach towards the national development and deep problem of insufficient responsibility and competency among the governing elite of Ukraine either in Soviet epoch or in independent realities. It reveals the base for worrying concerning the next risky energy technology, which is the shale gas production, to be implemented in Ukraine by MNCs in collaboration with local clan-oligarchic groups.

It should be noted that in the EU, unlike Ukraine, an organizing of shale gas technological processing is prudent, precise, detailed and gradual, with all effort to not harming local ecosystems. There is a package of legislations which state the rules and clarify proper procedures in this business. The first of them is Hydrocarbon Directive, which permits companies to mine and produce energy resources, in particular the shale gas, at the EU territory [9]. The second document is the Water Framework Directive [10], aimed at direct protection of water resources during the production of fuels. The third document is Directive on Waste Arising during the Development of the Field of Energy Resources [11]. Another important instrument of ecological protection is the Directive on the Protection of Wildlife [12], the main task of which is to maintain a safe level of biological diversity existing in nature, especially in the animal world. In the same direction is the Directive on Wild Birds Protection. Equally important is the application of the Directive on the Environmental Impact Assessment [13], which has also been implemented in the European Union. It states that all information related to extraction of energy resources and its impact on the environment must be in the public access. Another important document, on which companies operating in this sector are oriented, is the Directive on Liability for the Environment [14]. It is mainly applied in the cases of damage to the environment.

It is known that the largest deposits of shale gas are located in the territory of France, Poland and Norway, where there are also national legislation and appropriate institutions that regulate mining and production in these countries in addition to the common EU regulations.

In Ukraine, there is no relevant legislation base, also have not been conducted thorough researches on the possibilities and consequences of shale gas production, which can cause irreparable damage to the flora, fauna, population and affect a number of other aspects (like, for example, in France, where such governmental initiative has been launched).

Moreover, in Ukraine already many problems associated with the production of traditional energy sources exist, such as coal and other fossil resources. Due to outdated technology for their production, over many Ukrainian cities like Dnipropetrovsk, Dniprodzerzhynsk, Zaporizhzhia, Kryvyi Rih, as well as Kalush and Stebnyk in western Ukraine, an ecological collapse has threatened. Therefore, the decision on shale gas conditions, which now develops Ukraine, cannot be implemented without the risk of catastrophic results caused by either technology itself or by improper central and local administration regulation.

The second option is implementation in Ukraine a new economic model of innovation type, which makes it possible to effi-

ciently use alternative environmental sources, benefit from their energy and process huge mass of biological waste. This waste is produced massively in our agriculture and through various types of human activity. Therefore, it is high time to construct biological mass converting stations, to use biotechnology, to switch onto bio-fuels. This is the path that allows us to maintain ecological environment, make its renovation, and to introduce massive usage of new technology and development sources, including alternative energy resources.

**Conclusion.** Innovative-informational imperative vectors basing on different mainstreams of chaos in the age of informational society with ecological context are under process of implementation and in a complicated contrariety to each other. The economic models transformations are dependent from the imperative's vector choice and strong devotion to its realization on governmental, business and social levels. Growing non-linearity of economic processes and increasing of personality role in the countries with the national capitalism economic model concludes that these are national bourgeoisies (productive middle class) who can and have to make ultimate change in their life-style, so that to realize the creative innovative-informational imperative. Otherwise, the shifts of the 6th technological modes may lead to destruction of the national capitalism basic values and growing base.

Highlighted creative vector of economic development is a part of natural realization of the European model of the national capitalism worked out by Dr. Oleh Soskin for Ukraine, taking into account the peculiarities of its development. Bringing this model into life is the best background for Ukraine's transformation into strong, competitive state, able to lift its citizens to qualitatively new level of life and solving the challenges faced today by the human civilization. The detailed conception, represented in current research is also applicable to every country aimed at overcoming old technological modes destruction in both financial stagnation and economic chaos circumstances.

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