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**TERRITORIAL AND INDUSTRY ANALYSIS OF THE FULFILLMENT OF  
ZAPORIZHIAN REGIONAL PROJECTS**

**Gudz Petro Vasilovych**

*Dr. of Economics, Professor, Head of Management Department,  
Zaporizhzhya National Technical University, Ukraine*

*The subject matter of the regional project in the context of regional and inter-regional influences has been determined. A comparative analysis of the economic potential of Dnieper economic region has been held. Characteristics and the purpose of major regional projects in Zaporizhzhya region have been established. Tendencies of the regional programs and projects use in the context of the fulfillment of the regional territory development strategy have been determined.*

**Keywords:** *economy of region, regional project, industry, ecology.*

**Introduction.** The study of problems of the effective management of the regional projects fulfillment has quite applied meaning, since is directed on the infrastructure development, on social, environmental, economic objects, systems etc. Therefore, the decision-making, the productive administration of the life cycle of projects should be preceded by the evaluating function at all its stages – from the development to the full implementation and evaluation of its comprehensive efficiency.

From the standpoint of the system approach the project can be defined as the process of the transition from the initial state to the final result, involving of a number of

limitations and mechanisms.

**Analysis of recent publications.** Scientists I.Mazur, V.Shapiro N.Olderohhe define the project as some targets with certain initial values and necessary outcomes (ends) which determine the methods of solution [1, p.13]. According to ISO 21500, the project is a unique set of processes that are composed of coordinated and managed targets with initial and terminal dates which are executed till achieving the goal. The achieving the goal of the project needs achievement of the results which correspond the predetermined requirements, including limitations on receiving the results, such as time, money and resources [2].

**The purpose of the article** is carrying-out the territorial-sectoral analysis of the fulfillment of Zaporozhian regional projects.

**The presentation of research results.** The management of regional projects should be considered as project management of the permanent facilities creation and development of transport, energy and engineering infrastructure and the management of build-operate-transfer projects with regional or interregional importance. However, in a given context, other types of projects, such as social, cultural etc, which also require investments and are of regional and interregional importance, will not be taken into account.

Under the regional project it is understood the reasonable by design and plan, investment-secured economic activity of entities of the region's economy with the purpose a specific targeted territory organization that due to cumulative effects can give a regional and inter-regional socio-economic and environmental effects. The project management at the regional level allows to coordinate the activities of executive authorities, municipalities, other participants of the investment process and to achieve synergistic effect from fulfillment of mutually supportive, investment, innovative and other events.

Zaporizhzhya region is among the "powerhouse" regions of economic development. Zaporozhye region is located in the south-eastern part of Ukraine in the South East European Plain at black soil steppe, borders with Kherson, Dnipropetrovsk and Donetsk regions. Its southern border is washed by the Azov Sea

which coastline exceeds 300 km. within the region. Territory of the region is 27.2 thousand sq. M. km., representing 4.5% of Ukraine [3-5].

By 01.01.2012. the economy of Zaporizhzhya region was invested 975.7 million dollars of foreign investments (9 place beyond the Ukrainian regions) or 546.3 dollars. per one citizen of the region (6 place). According to the Regional State Administration in 2012, the Zaporizhzhya region took the third place upon indications of the investment attractiveness [4, p. 7].

Zaporizhia region is among the Dnieper economic region in the structure of which the industrial production is 62.3%; agriculture is 9.8%; building is 3.3%; transport and communications are 6.7%; distributive industries are 4.6%; socio-cultural field is 3.8%.

Industry is the main economic branch of economic complex of the economic region. This sector employs about 31% of total employment in the economy of the region. It produces 46.3% of iron (11.9 mln. tons) to the volume in Ukraine, steel – 46.2% (14.7 million tons), finished steel – 52% (11.7 million tons). steel pipes – 76% (174 mln. m), iron ore mining – 88.4% (49.4 mln. tons), tradable manganese ore – 100% (2.7 million tons). [5-8].

The region is specialized by major industrial sectors: electricity, engineering and metalworking, construction materials producing industry. In the structure of the industry (in terms of production) leading place belongs to ferrous metallurgy, engineering, metalworking (Table 1).

**Table 1. Territorial – sectoral structure of industry of Dnieper economic region and Zaporozhye region in 2013**

| Industry branch                       | Territorial structure of regions (a part in terms of Ukraine, %) |                |                    | Branch structure, % |                |                    |
|---------------------------------------|--|----------------|--------------------|---------------------|----------------|--------------------|
|                                       | Ukraine  | Dnieper region | Zaporizhian region | Ukraine             | Dnieper region | Zaporizhian region |
| Whole industry                        | 100  | 25,4           | 8,7                | 100                 | 100            | 100                |
| Electricity                           | 100  | 21,3           | 12,5               | 12,2                | 10,2           | 17,6               |
| Fuel industry                         | 100  | 6,1            | 1,3                | 10,1                | 2,4            | 1,5                |
| Ferrous metal industry                | 100  | 54,6           | 14,7               | 27,4                | 58,7           | 46,3               |
| Non-ferrous metal industry            | 100  | 51,0           | 42,7               | 2,5                 | 5,0            | 12,3               |
| Chemical industry                     | 100  | 16,6           | 1,3                | 5,8                 | 3,8            | 0,9                |
| Engineering and metalworking industry | 100  | 20,2           | 9,7                | 13,2                | 10,5           | 14,7               |
| Woodworking industry                  | 100  | 4,3            | 0,0                | 2,3                 | 0,4            | 0,0                |
| Construction materials                | 100  | 9,5            | 2,0                | 2,6                 | 1,0            | 0,6                |
| Consumer goods industry               | 100  | 5,8            | 1,1                | 1,6                 | 0,4            | 0,2                |
| Food industry                         | 100  | 10,1           | 2,2                | 17,4                | 6,9            | 5,6                |

As can be seen from the analysis of the data in table. 1, the structure of the steel industry, the ferrous metallurgy has a significant advantage. It includes: the extraction and enrichment of ore for the steel industry, the open mining of ferrous metals, the manufacture of ferrous metals, the production of pipes, electro-ferroalloy production, chemical-recovery industry, the production of refractory materials and secondary working of ferrous metals. Thus, projects, which are developed and implemented by enterprises of ferrous metallurgy: MC "Zaporizhstal" MC "Interpaystal" MC "Dnepropetrovsk Metallurgical Plant. n.a Petrovsky etc, predominate among the regional industrial projects region. The majority of investment and innovative projects in the field of steel except MC "Zaporizhstal" also implemented by PC "DSS", PC "Zaporizhia Ferroalloy Plant" in the Zaporizhian region. But the majority of these projects are aimed to reconstruction and development of production, although they parallelly have

both environmental and infrastructural aspects, and therefore they can also be considered as regional.

Thus, during 2011-2012. MK "Zaporizhstal" was holding restructuring of the organizational structure of enterprise management, staff replacement and improvement recruitment policy. Since August 2012 MC "Zaporizhstal" resumed the implementation of the program of the modernization and reconstruction of the production. In December 2012 a major project of the basal coal commissioning was completed in the complex of the setting to inject the pulverized coal in blast furnaces. The full amount of investments in the project constitutes to about \$ 1 billion. UAH. This gave the plant a significant energy-efficient effect – the rejection from the natural gas in blast furnace technology more than 300 mln. cum. per year.

Project has a significant environmental impact – the reducing the cost of coke allow plant to reduce greenhouse gases emissions into the atmosphere about 300 thousand tons

per year, in conversion to CO<sub>2</sub> [9].

The construction of a new sinter machine №1, with the setting of high-technology gas purification began at the plant as part of the environmental program in August 2012. The commissioning of the complex of the sintering machine and electrical filter allows the plant to reduce emissions of air pollutants by 10%, thus reducing technogenic burden on the environment of the region. Investments in the project amounted to about 240 mln. UAH. In 2013 the plant invested about 450 mln. UAH in modernization and reconstruction of production capacity (65% of this amount was invested in the period of August-December 2013), for comparison, in 2012 investments amounted to about 300 mln. USD.

In 2013 the implemented environmental project PC "DSS" on the creation of modern gas purification systems had total price of 10 mln. USD. In non-ferrous metallurgy Zaporozhye region the most advanced are aluminum industry, rare metals and semi-metals industry (including extraction and enrichment of ore of rare metal), titanium-magnesium industry. The structure of mechanical engineering and metalworking in the Zaporozhye region in terms of production output are: aviation industry, electrical machinery, devices equipment, and articles for production purposes, the repair of railways equipment, agricultural and tractor machinery, machine tools and tool industry, metallurgical engineering, production forge stamping equipment. During 2008-2012., branch of mechanical engineering is in a hard condition, new projects practically isn't implemented, orders of the international market are gotten lost because of the deteriorating of market conditions and a

significant increase in competition. However, in 2012, on the basis of PC "Motor Sich" a regional project of the development and manufacture of aircraft engines of new generation for aircrafts AN-148 (158, 168, 178), BE-200, ARJ-2 was implemented, which will allow to involve human resources of engineering and metallurgical industries of the region during the next thirty years (15-17 thousand. people). The total project cost is 358 million. dollars. (70% of the state budget). The expected income from the project is 5-7 bln. dollars [4].

PI "Ivchenko-Progress" takes part in the implementation of a number of regional and national projects of "Modernisation of gas pipeline network of Ukraine using a gas turbine engine AI-312", which will provide a economy of natural gas in the amount of 1.3 billion cubic meters. per year, create around 7,000 jobs, reduce air pollution of CO<sub>2</sub> (7.5 million tons per year) and implement additional incomes to the budget in the amount of 200 mln. USD.

The energy sector Zaporozhye region is represented by the hydroelectric power station, the nuclear power plant, the network of cogeneration stations. Most of landscape in Zaporozhye region is plain that allows to actively implement alternative energy projects – solar and air energy projects, and it possible to develop electrics, which use tidal energy of the sea. Thus in 2011 the Azov district administration and "Eurosare Ukraine I Ltd. » signed an investment agreement about the construction of the track of wind power plants (WPP). The document provided the establishment of 180 turbines with a capacity of 2.5 MW of each near the Dairy estuary.

Energy Projects about building in Zaporozhye region WPP implements the

Ukraine's largest energy holding, a structural unit of FIG "SCM" ,the company "DFPC" (Botiyevska WPP with constituent power of 200 MW) [10, 11]. Today construction projects of five solar power stations (SES) and four WPP have also been implemented in the Zaporozhye region. Total investment amount in this project is more than 1 bln. Euro.

In 2013 a group of Spanish companies «HERA» began to proceed four projects in energy branch about waste control and utilization of biogas at landfills of household

solid wastes for further power generation. The total amount of its three projects (Berdyansk, Energodar and Melitopol) is 41.5 mln. The cost of the project in the Zaporozhye hasn't been determined yet. The implementation of projects is calculated till 2030. Resulting thr implementation of the project, the reduction carbon dioxide emissions is 14 tons per year [10].

The analysis of "clean energy" projects are presented in Table 2.

**Table 2. Information on the regional projects of "clean" energy in Zaporizhia region from 2013**

| Project | The area of the implementation (territory)                  | Investor (power)  | Cost                   | The beggining / term of implementation |
|---------|---|---|------------------------|--|
| SES     | Tockmack region   | LLC «Tockmack Solar Energy» (9 MVt)   | not available          | 2012                                   |
|         | Prymors`k region  | 1. LLC «Ukrhelious»<br>2. LLC «Manages-Solarpark Prymorsk»  | not available          | 2015                                   |
|         | Melitopol` region   | LLC «Manages-Solarpark Prymorsk»  | Is in discussion       |  |
| WPP     | Berdyansk region (Novopetrivs`kiy local council) (11,5 ha ) | LLC «WindPower» DFEC(150 MVt)   | 170 mln. Euro          | 2015                                   |
|         | Melitopol` region   | LLC «Eurocape Ukraine I» (50 MVt)   | 60 mln. Euro           | Not available                          |
|         | Prymorsk region   | LLC «WindPower» DFEC (150 MVt)  | Not available          | Not available                          |
|         | Azovian region  | 1. LLC «Eurocape Ukraine I» (400 MVt)<br>2. LLC «WindPower» DFEC (200 MVt)<br>3.PJSC The company «National deu Ron» (100 MVt) | Overall– 800 mln. Euro | The first line – 2012                  |
| HSW     | Zaporizhzhya  | HERA  | Is in discussion       |  |
|         | Berdyansk, Energodar, Melitopol`                            |   | 41,5 mln. UAH          | 2013                                   |

Constructive materials industry is represented by cement production ,the industry of precast structures and articles, by the industry of aggregates and wall building

materials. Asphalt production, natural stone-type material working of industry is developed. Projects about the construction of new industries, with high productivity

and ecological safety for the environment are also developed and implemented in the construction industry of Zaporozhye region.

There are significant agricultural lands in the Zaporozhye region (2244 thousand Ha or 5.4% of agricultural Ukraine), 2289 farms within which also carried out some projects of regional importance, including foresight projects [4, p. 6]. The agriculture in the region in the national division of labor is specialized in the production of plant growing, particularly commodity grain, sunflower, vegetable crops and vegetable products suburban vegetable-milk-white and poultry production unit.

Agriculture employs 18.6% of workers and concentrate 14% of the funds of the economy of the region. The part of gross value added of agriculture in the country is 12.5%. Production of sunflower seeds is 35% in terms of Ukraine, 17% is grain, vegetables are over 15%. The livestock production in the region consists of: meat – 13%, milk 10%, eggs – about 11% of production in Ukraine. The part of the region in terms of the food industry production in Ukraine is 3.2%. The structure of the food industry is: oil and baking industry, oil and fat industry and alcoholic beverages industry, beer, meat and milk industry.

Authorities of territorial form of government of Zaporozhye region in conjunction with the business developed

twenty-seven regional projects of creation of the industrial zones on land stations such as "greenfield" and "brownfield". In 2012-2013, works on the devoting of ground area carried out within five projects:

- Vasilevsky region – the construction of the greenhouse complex "Stepnogorsk" (31.1 hectares);

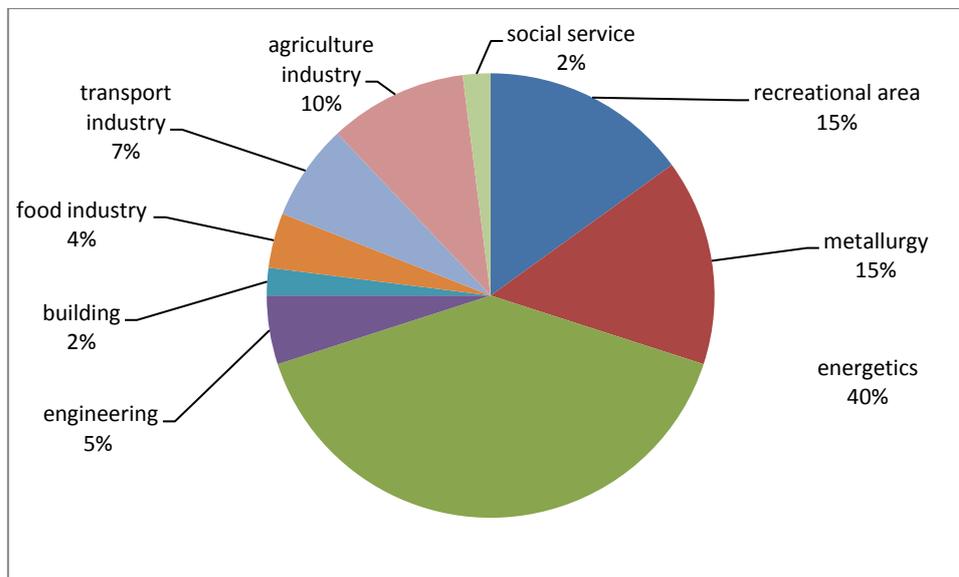
- Berdyansk – creation of an industrial zone called "Technologically-friendly enterprises" (22.6 hectares);

- Tokmak – the creation of an industrial zone (5 hectares);

- Veselivsk region – building the enterprise for the storage and processing of agricultural products (4.5 hectares);

- Tokmaky region – the creation of an industrial zone in the city. Molochansk (6 hectares) [4, p. 17].

This research allows to offer a graphical representation of industry particles in their regional projects in terms of total number of projects in 2013 (Fig. 1). An analysis of Fig. 1 shows that energy sector prevails by the index number of projects of regional projects, it is also the leader in terms of the cost of projects, but due to lack of data about expenditure on other projects, it is impossible to display it graphically. Recreational and steel industry take second place by the number of projects, but total value of projects in industry is much higher.



**Fig. 1. Industry structure of the number of regional projects in the Zaporozhye region in 2013**

Further, agriculture, takes third place by the number of projects, on fourth place is transport; on the fifth is engineering, which, as noted earlier, connected with the general economic contraction. The smallest number of regional projects in the Zaporozhye region is implemented in the social sector and building.

Within the development strategy of the Zaporozhye region till 2025 it is provided the development and implementation of regional projects and programs to:

- improve the environmental situation in the region (the program of solving the ecological crisis of Zaporizhzhya region, the regional program of the environmental protection, natural resource management and environmental security);
- develop historical-cultural and cultural – touristic importance of the region as a center of national and international importance;
- increase the investment attractiveness of the region.

**Conclusion.** The results of the analysis of territorial and sectoral implementation of

regional projects in the Zaporozhye region can be summarized:

– first, despite the general deterioration of the economic situation in the global and national economy, there are various regional projects of development of territories and industries of Zaporozhye region, they are effective and contribute the improvement of the economic situation;

– all projects, which are implemented in Zaporizhzhya region, are correlated with the priorities of the overall strategy of Zaporizhzhya region development;

– territorial structure of regional projects exists on the basis of the location of resources (mineral, climatic, recreational, human): steppe zone is the "green" electricity; coastal zone is the development projects of recreational potential, "green" energy, the development of transport infrastructure; city – the development of industry and improvement of environmental protection facilities (purification, wastewater treatment, etc.);

– branch structure of regional projects corresponds to the list of industries

(metallurgy, energy, machine building and others.) which are located in the region, with a clear predominance of ecologically oriented projects and the search of alternative renewable energy that can be

explained by global trends and desires of Ukraine to reduce dependence on suppliers of imported energy commodities, and to increase its own production of energy.

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