

ECOLOGICAL AND ECONOMIC PROBLEMS OF THE INTRODUCTION OF POWER-SAVING TECHNOLOGIES IN UKRAINE

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Summary. Problems of municipal services from the ecological point of view are covered: conditions and possibility of an effective use of power-saving technologies, problems of financing the ecological energy-efficient investment projects and the potential loan sources are considered.

Key words: housing and communal services, power savings, power efficiency, ecological investment projects, ecological safety of the Autonomous Republic of Crimea.

The share of emissions of polluting substances in surrounding atmosphere of the enterprises and objects of power system is about 60 %. But the cited data are far from the real scale of environmental problems because nowadays in most cases the control and management of wildlife management in the country is carried out on the basis of the influence on environment declared by the enterprises and organizations and the declared influence is generally considerably below the actual one.

Sharp deterioration of a financial and economic condition of the enterprises and absence of interest in the local governments in their support have led to the ageing of the fixed capital of the branch. Inadequate financing of works on major repairs of constructions and networks makes it practically impossible to continuously provide high quality service for consumers and it is the reason for an increase of the number of failures at objects and occurrence of emergency situations.

Investment requirements of housing and municipal sector for the building and reconstruction of objects of a municipal infrastructure are comparable with the requirements of other monopoly branches.

According to expert estimations, in order to normalize the situation in housing and communal services, only in the Autonomous Republic of Crimea about 1,5 billion grivna is needed within the next 5 years, that is 38 million dollars per year.

Tariffs for heat and water, as a rule, do not include a component of ecological expenses. Moreover, absence of the water drain in some settlements leads to pollution by sewage systems of a superficial drain and the storm water drain, and also the top horizons of the ground waters which are quite often used as a source of city water supply.

The municipal service is extremely inefficient from the ecological point of view. In the conditions of deterioration of a financial position of enterprises the building of new ecologically effec-

tive equipment stops and the strengthened operation of old capacities accompanied by growth of volumes of emissions of polluting substances at the background of production decline proceeds.

Set of technical, financial, organizational, environmental problems, peculiar for the municipal enterprises - monopolists leads to unreliability of service and, as a consequence, to a dissatisfaction of consumers and to financial instability of the enterprises of a municipal infrastructure.

All these circumstances cause unreasonably big ecological damage and lead to unacceptable size of risk of threat to population health.

Questions of ecological safety and environmental protection influence our life more and more.

Increasing pollution of the environment, infringement of the thermal balance of the atmosphere leading gradually to global climate changes, and also deficiency of energy and limitation of fuel resources with more increasing sharpness have shown the inevitability of progress towards non-conventional alternative energy sources.

Questions of power savings, sources of alternative mineral energy, heat saving technologies, use of low-energy methods in national economy branches have been discussed from the first day of our state independence. Work activation in the given direction is extremely important for Ukraine. Thanks to efforts of some enthusiasts, enterprises and support of corresponding authorities the development has started of wind-power engineering, bioenergetics, solar power and other sources of heat generation - straw, tree waste, fire wood, etc., however the level of development of non-conventional power is still low enough.

It is well-known that traditional hydro carbonic minerals are not renewed and soon they will be exhausted completely. Their obtainment is more expensive every year and more and more efforts are required for environmental protection during the use of these power resources.

According to the present situation in the world it is quite expedient to consider the problem of power resources supply. Usually, the position of the country in the world is characterized by the energy power supply factor representing relation of its own manufacture of power resources to their consumption. If the factor is less than a unit - the country satisfies the requirements at the expense of import of power resources. If the factor is greater than a unit - the country exports the resource. In compliance with the operative data of security, power resources factor of the countries called the "Big Eight" looks as follows: Canada - 1,5; France - 0,5; Germany - 0,4; Italy - 0,16; Japan - 0,2; Great Britain - 1,2; the USA - 0,74; the Russian Federation - 1,6, and in Ukraine the power security factor is 0,77.

Today the share of fossil fuel in the world power consumption makes 82-85 % of the general power consumption, of atomic energy - more than 6 % and renewed energy sources about 15 %, but without taking into account large Hydroelectric Power Stations it is 12 %. So, due to the importance of atomic engineering, its share is more than twice lesser than the share of renewed power. The present condition of objects of the enterprises of housing and communal services demands considerable investments.

Existing and potential initiators of ecological projects in housing and communal services are the enterprises of heat and water supply and water drain.

From the economic point of view actions and projects of an ecological orientation can be divided into two categories: expenditure and payback. Projects of a natural and social orientation concern the expenditure category - (gardening, restoration of bio-resources, ecological education); ecological effect of such projects in the conditions of the current legislation cannot be expressed economically. The pay back projects involve projects directed on the maximization of "ecological benefit / economic expenses" factor. Ecological benefit of such projects is expressed in the estimated cost, owing to the present economic conditions.

Pay back investments now are those which are focused on the reduction of the influence of polluting substances on the health of people. These are projects with the short period of capital

investments return as well as the projects on power resource saving, introduction of small-waste technologies and the ones changing the structure of fuel consumption in municipal power system.

Payback ecologically effective projects are first of all the projects in the sphere of municipal infrastructure, demanding, as a rule, considerably less expenses in comparison with projects introducing ecologically effective technologies at the industrial enterprises.

In my opinion, the main aspect of municipal power is the ecological one, because the excavation of organic fuel resources on the Earth and, as a consequence, exponential increase of catastrophic changes in the atmosphere and planet biosphere have led to the fact that the traditional power existing today is deadlock and for high-grade evolutionary development of the society it is necessary to begin gradual transition to alternative energy sources.

In the decision of problems concerning the investment financing projects, of the utmost importance are the above-mentioned issues of obtainment of the sufficient internal resources for housing and communal services enterprises as well as the stimulus to effective resource-saving nature protection investments. Therefore, the priority problem is an increase of resources and the expansion of a circle of ecological actions cofinancing sources.

Financing of ecological actions and projects in Ukraine is carried out from different sources: means of the budget and ecological funds, own means of the enterprises, bank credits, etc. Now budgetary financing of ecological actions constitutes no more than 0,5 % of the Gross National Product (in well-developed, industrialized countries - 2-3 % of the GNP (Gross National Product)).

Thereupon it is necessary to notice that the basic place in the growth dynamics of expenses of the municipal enterprises is occupied by expenses for energy carriers. For example, the growth of the tariff for the electric power reaches 4-5 kopecks per one kw monthly, making it 25-40 % per year. Thus, the tariff for the electric power is established and affirmed by the state structures and is introduced immediately without any coordination either with local authorities or with any other structures in general. At the same time, modification of the tariff applied by the municipal enterprises, according to the existing regulatory legal acts takes at least three months and sometimes as long as a year.

Considering the above-stated facts, it is necessary to urgently make changes and additions to current Laws and the Regulatory Legal Acts of Ukraine controlling the order of tariffs formation and the order of powers of local governments stating the tariffs for communal services, thus considering the possibility of an investment component in the tariff.

The major source of investments for financing the ecological investment projects, including the field of housing and communal services, is the bank sector. However, now this part of bank activity has developed poorly and that is explained by both the current state of bank system and the situation on the credit market.

Unfortunately, now the work of banks with the enterprises and the organizations of housing and municipal sector is of a limited character. A prevailing special-purpose designation of granted loans is focused on the replenishment of circulating assets, on the covering of cash rupture purposes, on the operational expenditure of the municipal enterprises. For supplying credit, banks accept guarantees of valid authorities stated as the separate item in the local budget. Besides, the credit contract, as a rule, provides that the bank has the right to write-off the means from the account of the financed enterprise without the order of the owner, for realization of the payments on repayment of the credit and paying the percent.

The basic problems connected with crediting of objects belonging to housing and municipal infrastructure are: low solvency of the enterprises of housing and communal services; problems of security of credits for projects within housing and municipal infrastructure; absence of the credit history of potential borrowers allowing to estimate risks of credits granting; absence of methodological base for evaluation of the risks of investment in the sphere of housing and municipal infrastructure:

absence of the bank resources necessary for granting the long-term credits. On the other hand, the problems of attraction of extra resources by the municipal enterprises are caused by the following factors: the existing system of tariff regulation, as a rule, does not give possibility to the enterprises to generate necessary volume for realization of the investment projects financing; in most cases the system of contract relations of the municipal enterprises with consumers is imperfect; the system of mutual relations between the enterprises and local governments in general allows to substitute economic influence levers by administrative one, which creates additional risk for the potential investor.

Priorities in the sphere of perfection of the system of prices/tariffs regulation for services of the centralized water supply and water removal should be the following:

1. Reduction of the standards in the following Laws of Ukraine "About housing and municipal services", "About a heat supply", "About electric power industry", "About potable water and drinking water supply", "About local state administrations", "About local government in Ukraine", "About the prices and pricings", "About natural monopolies" in conformity with one another, in particular regarding powers of bodies which carry out regulation of the prices/tariffs, and as well the definition of procedures of the statement of the prices/tariffs for housing and municipal services;
2. Modification of the Laws of Ukraine "About housing and municipal services" and "About natural monopolies" concerning application of alternative methods of prices/tariffs regulation and determination of the debit items which should be necessarily considered in the prices/tariffs;
3. Stage-by-stage replacement of privileges and subsidies for the reimbursement of the expenses of services by addressing monetary payments to the population;
4. Improvement of the order of tariffs formation;
5. Definition of criteria according to which the estimation of economic validity of the prices/tariffs is made, at the stage of their establishment and application, taking into account the level of social and economic development of a particular region as well as the technical possibilities of subjects of housekeeping:
 - maintenance of the separate account of incomes, expenses and financial results by each kind of activity of housekeeping subjects which are subjected to regulation;
 - the account of an investment component for realization of investment projects confirmed in the established order;
 - introduction of expenditure and expenses regulation of resources which would stimulate optimization of expenses of housekeeping subjects providing the housing and municipal services;
6. Working out the prices/tariffs order of updating, particularly for the cases of price changes for the energy carriers and the minimum wages;
7. Working out the order of carrying out recalculation of a payment for the housing-and-municipal services which were not provided or partial services whose quality did not correspond with standard requirements;
8. Establishment of profitability level for housekeeping subjects taking into account expenses on capital investments;
9. Working out the compensation order between the confirmed prices and economically well-grounded expenses on their manufacture;
10. Introduction of the mechanism of an endorsement of new prices for energy carriers being a component of the price for housing and municipal services, not earlier than in 30 days after their promulgation in mass media;
11. working out the regulatory legal act about the order of organization of the public hearings concerning the prices/tariffs changes for the services of the centralized water supply and water removal and about information for the consumers on the list of services, their cost

- and structure, norm of consumption, the order of offered services, validity of expenses and so forth;
12. Increasing the responsibility of consumers for untimely payment for the received services;
 13. Definition of the main principles of application of account means and consumption of services;
 14. Working out mechanisms of the account during the price formation corresponding to the quality of services provided to the consumers;
 15. Introduction of the automated monitoring systems of granting to the consumers of services of the centralized water supply and water removal.

The above-considered valid problems of financing the ecological investment projects in the field of municipal infrastructure demand a complex solution. During the working out of the most realistic under our conditions variants of the financing system of infrastructural ecological projects, it is necessary to consider both the existing requirements of project initiators and the existing possibilities of their financing in view of all the accessible sources.

First of all, it is necessary to limit the circle of possible ecological investment projects by which the realization of the offered system of financing should be guided. Investment projects should be understood as ecological projects in municipal economy, namely: projects on clearing of household sewage, potable water quality improvement, removing and processing (recycling) of a household waste, increasing the efficiency of power resources use in systems of the cities heat supply etc. The given projects, besides the expressed ecological effect, have an identical economic nature and the same risks of investment which allows for the development of the same schemes of their financing as well as the same general approach to their estimation.

The basic idea of the created system of financing is that the projects of the given type should be financed, first of all, at the expense of the extra means involved under market rates. Besides, it is necessary to leave a possibility of addressing gratuitous support for projects. Thus gratuitous (budgetary) financing should be considered not as an alternative, and as an addition to external financing. Hence, initiators of projects should have stimulus to finance the given projects first of all at the expense of extra means.

The carried-out analysis of possible sources of financing of the above-described projects shows that today they, as a rule, cannot be realized at the expense of possibilities existing on the market of commercial banks loans. In particular, high interest rates and small terms of the credits given by the Ukrainian commercial banks do not satisfy the requirements of the given projects. In turn, the impossibility of granting long-term loans outside the commercial banks is defined by the absence of long-term credit resource base.

Nowadays, the work on perfection of budgetary process concerning housing and communal services reform is being carried out, the increase in the openness and the transparency of activity of local governments, their financial condition, perfection of system of payments for housing and communal services should become the result of that.

A strategic line of reforming the housing and communal services is the transfer of the municipal enterprises on market functioning bases. Thereupon, the scheme of granting the credits to directly municipal enterprises looks more preferable. As the positive moments of the given variant it is possible to name:

- presence of the worked-out methods of an estimation of solvency of the organizations and procedures of registration of credits;
- more operative registration of the credit;
- maintenance of the current control over the course of the project realization;
- possibility of maintenance of the credit by the liquid equipment which is in the enterprises' possession;

- possibility of the reference of collecting on such maintenance at a credit non-return

The fund created in Ukraine on protection of the surrounding environment urged to promote improvement of a condition of the surrounding environment in the territory of our country by realization of ecologically focused projects in the field of housing and communal services (water supply, sewage treatment, heat supply, export and recycling of household waste etc.). For the achievement of the specified purpose it is necessary to solve the following primary goals:

1. Formation of the market of long-term credits which are given out by commercial banks for financing of projects in housing - municipal branch, having an ecological orientation. Thus, the organization of a market system of financing the infrastructural ecological projects with participation of banks is assumed.

Considering that the main terminators of participation of banks in crediting the projects of municipal enterprises are high risks of crediting and the absence of long-term resources providers, for an achievement of the specified purpose it is necessary to solve the following basic problems:

- decrease in investment risks at crediting of ecological projects;
- creation of the financial conditions for crediting by the banks of the long-term projects.

The decision of these problems would promote an increase of interest of banks in an activity concerned with the crediting of ecologically focused projects of housing and municipal infrastructure. Standardization and unification of procedures concerning crediting of ecological projects in the sphere of municipal infrastructure is indispensable. It is necessary to introduce and develop coherent standards of crediting. Support of interests of participants in the market of project crediting in the housing and communal services sphere by the representative and executive powers at the state, regional and local levels is vital.

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EKOLOGO-EKONOMICZNA PROBLEMY ZASTOSOWANIA ENERGOOSZCZĘDNYCH TECHNOLOGII NA UKRAINIE

Streszczenie. Rozpatrywane problemy gospodarstw komunalnych z punktu widzenia ekologii rozpatrzono warunki i możliwości wykorzystania energoefektywnych, energooszczędnych technologii, problemy finansowania ekologicznych energooszczędnych projektów i opracowania systemów finansowania i brania kredytów.

Słowa kluczowe: mieszkaniowa gospodarka, energooszczędność, efektywna energetyka, inwestycyjno-ekologiczne projekty, bezpieczeństwo ekologiczne