INTERNATIONAL EXPERIENCE IN DEVELOPMENT OF ENERGY EFFICIENCY PERFORMANCE CONTRACTS

Currently, Kazakhstan is paying special attention to energy saving and energy efficiency issues in all economy sectors, according to the Review of International Experience in Development of Energy efficiency Performance Contracts (EEPCs) prepared for the United Nations Development Program/Global Environmental Facility Project by the international expert Bernard Jamet, Econoler, Canada.

Analyzing the situation in our country, the expert states low energy efficiency (EE) of the centralized heat supply system - heat losses reach 50% of initial energy caused by high level of heat loss, use of obsolete equipment and insufficient technical maintenance of heating networks. Bernard Jamet positively assesses government initiatives such as adoption of the 2015 National Energy Saving Program and a new Law of the Republic of Kazakhstan on Energy Saving and Energy Efficiency, the 2011-2020 Housing and Utilities Modernization Program, which is also aimed at upgrading the systems of centralized heat supply of residential buildings.

The Review states that many private companies in Kazakhstan operating in the energy supply area show interest in improving energy services through active participation in heat and energy losses reduction in centralized heat supply systems at the stages of development, transportation and heat consumption. The UNDP/GEF Project is considering the model of Energy Service Company («ESC») that may be attractive for owners of buildings, since investments made into energy saving of buildings are repaid in form of saved heat. The United Nations Development Program and Karaganda oblast governorate have jointly established the first private ESC in Karaganda. The review states that in spite of extensive interest in the ESC model and positive results achieved in the first two years of Karaganda

ESC's operation, some barriers have not been eliminated in establishing and developing ESC, as well as in the use of EEPC. Among such barriers Bernard Jamet mentions legal and regulatory barriers, lack of information and experience in the establishment and operation of ESC, development of EEPC, business plans and financing of energy service activity.

Currently, ESC model is widely used throughout the world to save energy, including heat supply. Different countries differently approach the development of ESC industry. Multiple factors and different market forces influence results of EE activity. Analyzing the situation of ESC in different markets, the expert says that not all states referred to in the Report immediately succeeded in ESC industry development. For example, Poland was called «the best example of unsuccessful ESC market development in Eastern Europe». The unfitness of Polish market to that, which is offered by ESC, is identified as the main reason.

Polish clients are not interested in the guarantee of EEPC. The guarantee means expenses for clients, for which the owners/ managers of facilities are not ready to pay. Polish municipal and industrial sites employ qualified energy economy managers who worked in the previous planned economy conditions and many other employees have good engineering experience. Customers have necessary internal experience, which ESCs try to sell, they understand the meaning of audit and can make investment decisions.

There are currently two private ESCs in Rumania: one specializes in electric power, the other - in heat supply, one more company of ESC type basically deals with heating-power station projects. Also Rumania has several regional ESCs, which offer energy supply contracts. In Hungary, according to the Energy Center Register, there are around 30 ESCs or ESC-type companies. But five or six companies cover 80% of the whole market. In Slovakia, regular clients of ESCs are municipal buildings, schools, banks and hospitals.

Outsourcing in industry and private facilities is gathering way. For the moment there are 3 active ESCs in Ukraine operating along with several dozens of local engineering-consulting companies of ESC type. Some foreign ESCs have also tried to enter the ESC market of the country. But no ESC has managed to provide a full range of EE services in accordance with traditional definition of ESC. The ESC market in Russia is still being shaped. The ESC concept is new and has not received wide recognition. As a rule, ESCs provide consulting services and are not ready to bear investment risks. The leader of ESC development among European countries is the Czech Republic, although its market is believed to be at the initial stage of development.

People were first informed on EEPC in 1992, which is recognized as a mechanism helping to save energy. The most widespread form of contractual relations is guaranteed savings. The first EEPC in the Czech Republic was the project of hospital heating supply system rehabilitation in Bilovec. Around 70 projects were implemented through EEPC and 30% were conducted by one energy service company alone.

Thus, concludes Bernard Jamet, relying on available data, SF may be attractive. But, the expert warns, there are two main barriers to the ESC development. First, ESCs are not interested in focusing exclusively on financial services, since they do not have relevant basic capital. Second, potential clients of ESCs may attract a number of other sources of financing, since the Government has developed some other schemes available for energy efficiency projects in the past 15 years. ESCs are basically classified by four categories based on their structure and type of property.

Independent ESCs do not belong to electric power or gas economy, to manufacturer of equipment/monitoring and controlling devices or to an energy supply company.

Manufacturers of construction equipment or of monitoring and controlling devices are owners of this type of ESC, many of them have wide network of branches.

Utility enterprises are regulated either by state electric power or gas enterprises.

Energy/engineering companies are owned by international oil and gas companies, by unregulated energy suppliers or by large engineering companies.

To a certain degree, ESCs may be differentiated based on their marketing approach:

- technology (boilers, monitoring and controlling devices, lighting, etc.);
- approach to sales;
- vertical market (schools, hospitals or steel casting factories, etc.);
- supplier of utility services (electricity, heating/cooling or compressed air, etc.).

The review states that except for very large markets such as the USA and China, ESCs are rarely confined to narrow markets in any country. ESCs are more likely to focus on regions than on markets. In emerging ESC markets, creditability of ESCs and trust relations with end energy users are key elements of confidence necessary both for end energy users and ESCs themselves if they want to enter a new type of long-term contract, which may become a legal precedent.

Bernard Jamet believes that a critical factor in determination of creditability of end energy users is ability of ESCs to convince international financial institutions in allocating funds for their purposes. In the countries subsidizing energy prices it is practically impossible to determine profitable projects in energy efficiency, which, consequently, leads to the failure of attempts to establish ESCs.

Similarly, sometimes conditions of local markets may not be interesting to international financial institutions that can or are willing to reasonably finance energy efficiency projects. Besides, to ensure its efficient operation, ESC has to develop its own creditability and quickly expand its relations with potential end energy users. The expert points to the need for local

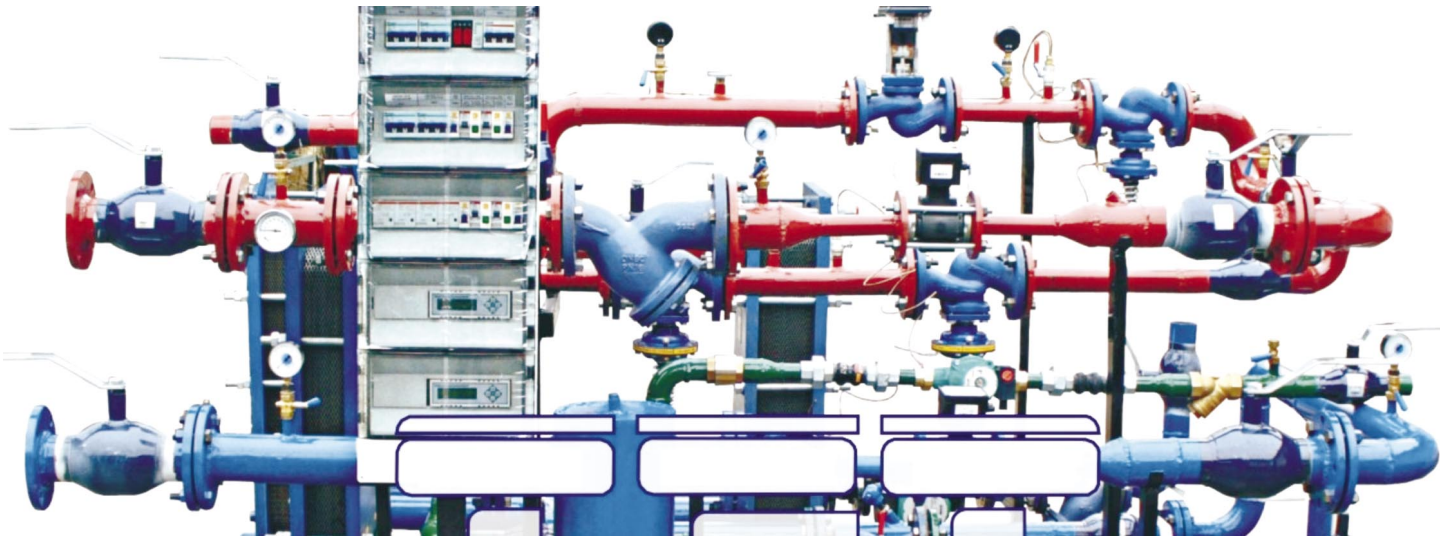
highly qualified specialists capable of conducting the ESC core business (energy audit, design of EE and financial engineering). We mean special skills required for operating the result-based ESC model. It requires staff with advanced experience in technical, financial and legal aspects of sales, structuring, financing and implementation of energy saving projects. In the developed ESC markets (the U.S., some countries of the European Union and Canada), customer or ESC pays for energy audit services in advance.

Conditional grants or forgivable loans are another type of mechanisms aimed at helping ESCs and EE projects developers to pay for energy audit cost. According to Bernard Jamet, a main barrier for implementation of EE projects by the end energy users is unwillingness to use their funds or encumber themselves with loans for financing EE projects.

The Review states that ESC or movers of EE project may have sufficient internal funds for self-financing and may cut down expenses on payment of interest rate. EE projects may be financed by capital borrowed directly by ESC or by project developer from private financial institutions. An example of state third party financing is IDAE, a Spanish model, which finances Renewable Energy projects in Spain since the late 1980s. IDAE considers a project, provides capital to the developer for construction (or for installation of new energy saving equipment) and gets back its investments plus cost of services when producing energy or energy saving. In «Revenue sharing» section of the Review of International Experience in Development of Energy Efficiency Performance Contracts the author concludes that the model of savings sharing is a primary business model of ESC, which is a success in Eastern Europe. The model of guaranteed savings is basically used by ESCs in North America, where the vast majority of end energy users under energy efficiency performance contracts are represented by governmental organizations and institutions, which are ready to borrow loan funds for payment to third parties, who, in their turn, can get access to cheap financing for the whole project. Initiatives related to the development of ESCs market in East European countries and the CIS have been carried out since the 1990s, which is explained by that ESCs and EEPCs are considered as important tools for improvement of stable use of energy through advancement of EE and RES. Besides, ESCs and EEPCs help overcome investment financial restrictions, as well as pay for initial costs by saving on energy expenses as a result of reducing energy consumption.

The analysis shows that in the most thoroughly analyzed countries of Eastern Europe and the CIS, the ESCs market still encounters barriers balking its development. The UN expert, Mr.Bernard Jamet names such barriers as managerial skepticism about investments into EE and EEPCs; lack of consumption interest in EE due to insufficient knowledge about benefits from ESCs. Poor understanding of the concept itself also produces negative impact, let alone complicated procedure of state purchases; sectoral difficulties in acceptance of ESC model due to insignificant amounts of savings in comparison with their total operational expenses.

Certain role is also played by lack of information on the EEPC model, on financial aspects of this type organization, which makes potential customers unwilling to accept SF. Lack of internal experience of banks in assessment of EE projects also becomes as a rule an obstacle (consequently they are not ready to finance projects based on reliability of investments



and perspectives of energy saving since they are still using traditional financing based on assessment of assets and assess creditability of client). The expert mentions as a barrier the banking sector's limited understanding of mechanisms for financing EE projects. Consequently, banks consider such projects as risky, which affects credit conditions that may be unacceptable for developers of an ESC project. Given all this, ESCs are forced to set up larger ESCs, which can finance own activity. All this also hampers mid-term growth of the sector.

There are cases when industrial/ commercial sites and buildings have no detailed billing systems and pay average monthly invoices not based on actual consumption. Despite the above mentioned barriers, relevant and specific political initiatives may help develop ESCs sector in this market, concludes the expert in Review of the International Experience in Development of Energy Efficiency Performance Contracts. Reliability of the market and relations, as well as financial capacity are main reasons for success of ESCs. In order to develop ESCs market in Kazakhstan, it is required to consider initiatives in development of the ESCs market in developed states of Eastern Europe and the CIS to further apply it in the country, Bernard Jamet believes.

PROJECT EVENTS CALENDAR

One of Almaty residential buildings with the assistance from «Maksat» Cooperative of Apartment Owners (CAO) is implementing a project on energy conservation using the financing model «All settlements through the CAO». In February, its progress was presented at a district Akimat (administration) of Almaty.

To implement this model, an agreement was concluded between «Maksat» CAO and «Almaty Heating Supply Networks» JSC for centralized (via «Maksat» CAO) payments for consumed heating energy by the dwelling house. After installing a heating unit in the building and putting heating meters into operation, «Maksat» CAO will pay to «Almaty Heating Supply Networks» for the energy consumed in accordance with meter readings. The apartment owners will pay to «Maksat» CAO as before by the tariff rates established by «Almaty Heating Supply Networks» until the upgraded equipment of the heating unit is paid off. Funds saved will be accumulated on a special account of «Maksat» CAO and used for other measures to improve energy efficiency at the house dwellers' discretion.

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UNDP / GEF Project teams on energy efficiency in Central Asia, Caucasus, Ukraine and Russia: Energy, Infrastructure, Technology and Transport met in Turkmenistan in February.

Within the framework of the meeting, an introductory seminar on «Improving Energy Efficiency in Residential Buildings in Turkmenistan» was conducted presenting the Project's design, goals, objectives, budget and duration. International consultants Jiri Zeman and Marina Olshanskaya gave recommendations on the management, auditing and monitoring of the Project. Experience in similar Projects on energy efficiency in other countries was also presented.

Alexander Belyi, Manager of the UNDP/GEF Project «Removing Barriers to Energy Efficiency in Municipal Heat and Hot Water Supply» (Kazakhstan), shared on his experiences and lessons learned from implementation of the UNDP/GEF pilot projects on energy efficiency in Kazakhstan.