

- project office - division accumulating information on the implementation of projects and coordinating activities of project managers to meet the Company's management formed the business requirements;

- project management methodology - the standard for all involved, the regulatory role in the project, business processes, project management, document templates for project management;

- information system of project management- tool intended to automate the project activity.

The introduction of the Corporate project management system allows the company to improve manageability project activity of the company through the introduction of organizational, methodological and informational resources, formalize and support the project management processes; use relevant information about the status of projects for the control of project activities and to make decisions about significant changes on the basis of operational data for all projects; use a single effective approach to managing projects with a clear separation of powers and responsibilities of the roles in project management; accumulate historical information - knowledge base of project - for future projects; improve the efficient use of company resources, including simplifying the procedure of "joining in the work of" a new project manager; to strengthen quality, time and budget projects control.

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Қазіргі ұйымдардың көпшілігі жобаларды іске асыруы арқылы дамиды. Бірақ жобалардың ерекшеліктеріне қарамай шешім қабылдайтын тұлғаларға осы жобалар бойынша ахуалды және сенімді мәліметтер жедел жеткізілуі қажет. Яғни ұйымдағы жобаларды басқаруының процестері және жобалардың бағалау белгілері жүйеленген және бір қалыпқа келтірілген болу керек. Қазіргі тәжірибеде ұйымдастыру, әдістемелік және ақпараттық құралдарды енгізуіне байланысты жобаларды басқаруын жоғарылатуға мүмкіндік беретін жобаларды басқару корпоративтік жүйені қолданады.

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Большинство современных организаций развиваются через реализацию проектов. Но вне зависимости от специфики проектов информация по ним должна оперативно доводиться до лиц, принимающих решения, быть актуальной и достоверной. То есть процессы управления проектами в организации и критерии оценки проектов должны быть систематизированы и унифицированы. В современной практике используется Корпоративная система управления проектами, которая позволяет повысить управляемость проектной деятельности компании за счет введения комплекса организационных, методических и информационных средств, формализующих и поддерживающих процессы управления проектами.

*R. Danabayeva*

## **THE IMPORTANCE OF SUSTAINABLE ENERGY DEVELOPMENT IN KAZAKHSTAN**

Kazakhstan, which occupies a vast area of some 2,724,900 square kilometers in the center of Eurasia, is distinguished by a very vulnerable natural environment. It has almost every type of topography found in the world — from subtropics and scorching deserts to alpine tundras and glaciers. The unique inland Caspian and Aral Seas, as well as Lakes Balkhash, Zaisan, and Alakol, exist in an environment marked by distinctly continental conditions. Kazakhstan has a rich store of biological resources, with Caspian sturgeon supplying up to 90 percent of the black caviar on the world market.

At the same time, Kazakhstan has a wealth of mineral and raw material resources and fuel reserves. These vast mineral resources led to the rapid development of extractive industries. Under socialism, the development of the economy followed an extensive path, without consideration for its impact on the environment. Energetic efforts were made to expand existing towns and to build new ones, and vast pasture lands and fertile soils encouraged the expansion of animal husbandry and the development of virgin lands. Immense areas were set aside for military bases, the Baikonur space center, and testing grounds for modern weapons, including nuclear weapons.

Kazakhstan is rich with fossil fuel resources. As such, the low price of electricity creates a barrier for the development of renewable energy resources. However, Kazakhstan also has a plentiful supply of hydro, wind, solar, biomass, and geothermal energy.

Climatic conditions are favorable for solar throughout Kazakhstan, with the highest potential is in the southern region and in the regions near the Aral Sea and Lake Balkhash. High speed wind locations are in the southeast in mountain passes leading to China, in the Alytau mountain regions in the center of the republic, and in the southwest on the Caspian seaboard. Wind development has been slow due to the low tariffs (around 3 US cents/kWh).

The Republic's geothermal resources have been explored as a result of oil and gas exploration and production. The hottest and most extensive geothermal reservoirs were found in the south and southwest of Kazakhstan. Due to its large agricultural base, Kazakhstan has significant theoretical potential for biomass energy resources. However, the large area of the country may limit the practical applications of biomass utilization to small systems.

Hydro is of significant importance to Kazakhstan in that it provides for over 12 percent of the country's electrical capacity. Greater hydro utilization is possible given interest from regional authorities in small hydro, the privatization of the power sector, and the availability of state short-term credits to private investors. Financing, however, does not appear to be available to the other renewable technologies. Combined with a power sector transitioning to private holdings, the low price of electricity and a general lack of awareness towards renewables (with the exception of hydro) the environment is not friendly to development of renewable energy.

Although Kazakhstan has huge renewable energy potential, particularly wind, it is almost completely untapped; at present, renewables only represent about 1 percent of Kazakhstan's energy balance.

Coal dominates Kazakhstan's energy mix, and coal-fired plants generate some 45 percent of Kazakhstan's total GHG emissions, which are expected to reach their 1990 level (100 million tons of CO<sub>2</sub> equivalent) by 2012.

Renewables are therefore featuring prominently in discussions about reducing energy intensity and pollution. The national programme for transition to sustainable development calls for increasing renewable share in Kazakhstan's energy balance to 5 percent by 2024. Wind power could play a particularly important role here: in a number of Kazakhstan's regions, average annual wind speeds exceed 5 metres per second, quite high by international standards.

Expert assessments also indicate that Kazakhstan's wind power potential exceeds 1.8 trillion kilowatt hours (kWh) per year. Up to now, the absence of appropriate legal and regulatory frameworks for renewable usage on power market was a major barrier to exploiting this.

The two classic mechanisms for promoting renewable sources such as wind are feed-in tariffs and renewable energy certificates. Feed-in tariffs are common worldwide, and guarantee an artificially high price for the individual producers who sell to the electricity distributors. However, given Kazakhstan's large size (9th largest country in the world), numerous electricity distributors and low population density, it is difficult to spread these higher costs across users in areas far from where wind turbines might be located.

In contrast, with renewable energy certificates, electricity distributors or users must document that a certain share of the electricity they purchase is generated from renewable sources. This is done via a system of trading renewable energy certificates that register the production, consumption, and source of the "clean" electricity. This spreads the additional costs of renewable energy across all users and makes the increase in electricity tariffs for any given user negligible.

With the support of REEEP, the UNDP and the Global Opportunities Fund assisted the Kazakh government in drafting the Renewable Law with a certificate system. After discussion and debates around the complexity of implementing a certificate system in Kazakh conditions, the government also decided to include feed-in tariffs in the RES regulation.

The new law allows the state to:

- align the expansion of renewable sector according to state plan for renewable usage;
- attract private investment to renewable energy production by reserving land, by obliging electricity transmission companies to allow renewable to connect to the grid, and by concluding long-term contracts for covering the transmission losses at prices grounded in feasibility studies provisionally adopted by authorized government bodies.

Kazakhstan's only significant renewable energy source at present is hydropower, accounting for 3 percent of total energy consumption in 2006. At a June 2008 meeting of the Foreign Investors' Council, Kazakh President Nursultan Nazarbayev called on the Kazakh Government to address the need for the development of renewable energy, taking into account the country's wind and solar resources. Initiatives proposed by the government have the potential to help certain localities address existing electricity deficits and could provide economic incentives for blending gasoline and diesel with more eco-friendly bio-fuels. Renewable energy initiatives in Kazakhstan are very modest in scope, however, and the main focus of the country will continue to be on the development of hydrocarbons.

Under this sort of economic management, it was not long before the ecological situation in Kazakhstan was pushed to the brink of crisis. The country ran up against serious ecological problems, especially in areas with a high degree of industrial development and a heavy dependence on mineral extraction activities. It has become necessary to resolve these problems, but solutions are not possible without the assistance of other states and without taking part in international commitments in the area of environmental protection.

As of now, Kazakhstan has signed the final documents of the United Nations Conference on Environment and Development (Rio-92), it has approved the decisions of the Lucerne (1993) and Sofia conferences on environmental protection in Europe, and it has joined the most important international conventions on combating desertification, preserving biodiversity, and climate change.

The transition to ecologically sustainable development has been identified as one of the key goals in the long-term strategy for Kazakhstan's development up to the year 2030. Therefore, by order of the President, the Concept of Ecological Safety, which outlines the key elements of environmental policy for the coming years, was approved in 1996. The Council on Sustainable Development was created. A Republic of Kazakhstan Government Decree "On Approval of an Action Plan for Implementation of the Concept of Ecological Safety" was issued on February 3, 1997. The development of a National Environment Action Plan for the Sustainable Development of the Republic of Kazakhstan (NEAPSD) was identified as the first phase of the country's long-term strategy (up to the year 2000).

A shortage of resources requires that attention be focused mainly on the most important problems. Furthermore, a lack of clearly defined and sound priorities leads to an inefficient expenditure of funds, a significant reduction in the effectiveness of efforts, and lack of coordination and duplication of work being done. Therefore, the selection of top-priority environmental problems is important for defining strategy not only at the national level, but also at the departmental and regional levels. The Ministry of Ecology is the primary agency responsible for the development and management of environmental protection activities. A lack of priorities and objective criteria and methodologies for establishing them, however, hindered the development of programs and activities to resolve the most pressing problems. A new structure had to be created which would aid in organizing efforts to identify top-priority ecological problems and to plan projects, the implementation of which will allow for the most rapid resolution of these problems possible.

#### **Hydropower Initiatives**

Kazakhstan's five hydropower plants produce about 12 percent of the country's electricity, while coal-fired plants account for over 80 percent of electricity generation. The government is

planning to construct a number of large and small hydropower stations in the Almaty region. A major ongoing project is the 300 MW Moinak hydropower station, which is estimated to cost about \$300 million, including a \$200 million credit from China's Development Bank.

#### **Bio-fuel Initiatives**

Kazakhstan's bio-fuel sector is in its infancy, and new legislation in the works will for the first time outline the scope of state regulation of this sector. The Kazakhstan Bio-Fuels Association was founded only in 2007. The Ministry of Agriculture is expected to present technical standards in 2009 for gasoline and diesel blended with up to 7 percent bio-fuel.

Kazakhstan has the potential to produce 300,000 tons of bio-diesel a year and export half of the output, according to the Ministry of Agriculture. Kazakhstan, the largest producer of wheat in Central Asia, started to grow rapeseed in its northern provinces not long ago. In 2007, Kazakhstan was the third largest non-EU exporter of rapeseed to the EU, after Ukraine and Russia. Kazakh federal authorities posit that surplus farm crops could be used in the production of bio-ethanol and bio-diesel. Bio-fuel production costs in Kazakhstan may be 50 percent lower than those in the EU and the United States, according to various estimates.

The Biohim company uses non-food quality wheat and grain waste to produce ethanol for domestic use. The company sells a five-percent ethanol-blended gasoline in Almaty, with plans to reach out to other major cities. Biohim consulted with Germany's BASF to ensure the quality of its bio-fuel. The company plans to boost bio-ethanol production to over 50,000 tons a year and is interested in exporting bio-ethanol to the European Union, Russia, and China. In addition to the Biohim plant, three more plants are planned in 2009 for the production of bio-fuel from wheat and other crops.

The draft law on "State regulation of production and turnover [sales] of bio-fuel" was approved by the Kazakh government in May 2008 and submitted for consideration by the Parliament in June 2008. The Agrarian Committee is expected to provide its comments on the draft law by the end of January 2009. The draft law seeks to create incentives for the development of a bio-fuel sector. To this end, the state is willing to fund bio-fuels research and assist with "organization of lease deliveries of machinery and equipment for participants in the bio-fuels market." This might include assistance with the leasing and financing of imported equipment. In order to manage the impact of the bio-fuel sector on the state-regulated grain market, the Government is going to set caps on bio-fuel production and levy quotas on the amount of raw materials that can be used to produce bio-fuel. Moreover, construction of any bio-fuel plant in Kazakhstan will require approval of an authorized government body charged with reviewing and evaluating an investor's business plan, granting or denying a construction permit, and closely monitoring bio-fuel producers for compliance with regulations. Kazakh companies are likely to increase production of oilseeds and import more foreign equipment for production of bio-fuels as high value-added products both for domestic use and export.

#### **Wind Power Initiatives**

Kazakhstan also has abundant wind resources. A joint three-year project between the United Nations Development Program (UNDP) and the Kazakh Ministry of Energy and Natural Resources produced in 2006 a "Kazakhstan wind atlas," with at least 20 prospective sites for possible construction of large wind farms. In 2007, the project produced a draft national program for the development of wind power in Kazakhstan until 2015. The draft program aims to install wind energy capacity up to 300 MW by 2015 (at an estimated cost of \$375 million), with increases up to 2 GW by 2024 through domestic and foreign investment, including public-private partnerships. A pilot project to build a five-megawatt wind power plant has already been launched. A number of wind-power feasibility studies recently prepared by the UNDP Kazakhstan Initiative could be of interest to investors.

The execution of the wind power program will depend upon passage of a new draft law "On Support for the Use of Renewable Energy Sources." This draft law seeks to create a renewable energy certificate program and enhances the economic incentives for investing in renewables. The draft law is scheduled to be sent to the lower house of the Kazakh Parliament this fall.

### Solar Power Initiatives

Kazakhstan has a number of projects to foster the development of the country's photovoltaic sector. For example, the German company Thyssen Krupp Mannex is a supplier of plant and technical equipment for a project to build the country's first silicon metal plant in Karaganda. Silicium Kazakhstan LLP is the operator of this export-oriented project. In addition, the state-owned Investment Fund of Kazakhstan and the state-owned Development Bank of Kazakhstan have agreed to finance construction of a polycrystalline silicon plant in the Astana industrial park. Their partners are Lancaster Industrials and Kun Renewables LLP, which is also the operator of this \$390 million project. Siemens technology will reportedly be used in production, which is expected to start in 2010. Kazakhstan's research institute Hidropribor is also cooperating with Russia's scientific and industrial enterprise Kvant in a joint project to produce solar batteries. Foreign-produced solar-powered light posts have already been installed in Almaty.

Kazakhstan is taking its first important steps towards the creation of conditions conducive to the development of the renewable energy sector. New legislation pertaining to bio-fuel projects will soon be debated in the parliament. Other legislative actions aimed at attracting investment in renewables are likely to follow.

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Мақалада ҚР экономикасының энергетикалық секторының тұрақты дамуының мәселелері мен негізгі сұрақтары қарастырылған. Соңғы кездері тұрақты даму экологиялық шектемелерді есепке ала отырып, ел экономикасының тұрақты өсуімен немесе тұрақты жағдайымен сипатталуда.

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В этой статье рассмотрены вопросы и проблемы устойчивого развития энергетического сектора экономики в РК. В последнее время устойчивое развитие отождествляют со стабильным состоянием или устойчивым ростом экономики страны, подчеркивая при этом необходимость экологических ограничений.

*С.Қ. Қондыбаева*

### ҚАЗАҚСТАНДАҒЫ ТҮРҒЫН ҮЙ САЛАСЫНЫҢ ОРНЫҚТЫ ДАМУЫНЫҢ МЕМЛЕКЕТТІК САЯСАТЫ

#### **Жалға беру нарығы тұрғын үй ұсынысын өсірудің перспективалы бағыты ретінде**

Қазіргі уақытта тұрғын үймен қамтылу мәселесі ипотекалық несиелеу қызметін және тұрғын үй құрылысының қорын пайдалануға мүмкіндігі жоқ төмен табысты азаматтар үшін өзекті сұрақ болып табылады. Осыған байланысты, тұрғын үй саласындағы жалға беру секторын дамыту мәселесіне ерекше назар аудару қажет.

Шет елдік тәжірибе бойынша тиімді тұрғын үй нарығы үш компоненттен тұрады: жеке меншіктегі тұрғын үйден; коммерциялық немесе қоғамдық меншіктегі жалға берілетін тұрғын үй; және мемлекеттік, яғни муниципалды тұрғын үй.

Атап кету қажет, шет елдерде жеке меншіктегі тұрғын үй табыстары тек орташа және жоғары азаматтарға ғана жетімді. Дамыған мемлекеттердің өзінде жеке меншіктегі тұрғын үйлер үлесі орташа 50 % (Германияда-40 %, Швецияда- 43%, Голландияда- 45%), қалған 50% жалға берілетін үйлер құрайды [1, б. 9].

Батыс мамандарының ойынша, табысты үйлер икемді еңбек нарығының дамуына, сонымен қатар жалға берушіден өз мүлігін сақтау, оның құнын жоғарлату және күту міндеттерін алып тастауға септігін тигізі алады [2, б.14].

Қазақстанда жалға берілетін тұрғын үй деп пәтер иесімен жалдауға берілетін тұрғын үй түсініледі. 1997 жылдың «Тұрғын үй қатынастары туралы» заңында «жалдауға берілетін үй» және «аренда» түсініктері бірдей болып берілген. Осы саланы реттейтін баптарда тек «жалдау» және «жалдаушы» сөздері қолданылады. Сондықтан да жалға берілетін тұрғын үй