

**UNITED NATIONS DEVELOPMENT PROGRAMME  
GLOBAL ENVIRONMENT FACILITY**

**Project of the Government of the Republic of Kazakhstan**


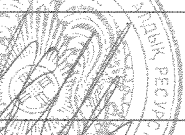

**PROJECT DOCUMENT**

**Project number:** KAZ/00/G31/A/1G/99  
**PIMS number:** 125  
**Project title:** Kazakhstan – Wind Power Market Development Initiative  
**Estimated start date:** July, 2004  
**Estimated end date:** June, 2007  
**Executing agency:** Ministry of Energy and Mineral Resources  
**Project site:** Kazakhstan  
**Focal Area:** Climate change

<b>UNDP and Cost-Sharing</b>	
<b>GEF:</b>	US\$2,550,000 (excluding US\$350,000 for PDF)
<b>Co-/Leveraged Financing:</b>	
Kazakhstan:	24 million Tenge (about US\$ 164,000 as of Aug. 28, 2003)
Private Sector:	US \$ 4,560,000 (estimated)
<b>Total :</b>	<b>US\$ 7,274,000</b>

**GEF Programming Framework:** Promoting the Adoption of Renewable Energy by Removing Barriers and Reducing Implementation Costs, Operational Program #6.

**Brief Description:** The objective of the project is to promote the development of the wind energy market in Kazakhstan by: (a) assisting the Government to formulate a National Program on Wind Energy Development; (b) providing information for and building the local capacity to develop wind energy projects in Kazakhstan and to organize financing for them (including site “mapping” and expansion of the wind speed measurement program); (c) facilitating the construction of the first 5MW wind farm to prepare ground for and reduce the risks of further investments; and (d) monitoring, analysing and disseminating the experiences and lessons learned during the implementation of the project.

<b>On behalf of:</b>	<b>Signature</b>	<b>Date</b>	<b>Name/title</b>
Ministry of economy and budget planning		19.07.04	Khamzin R. N. Director of Department
Executing agency: Ministry of energy and mineral resources		23.07.04	Shkolnik V. S. Minister
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## LIST OF ABBREVIATIONS

GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gases
KAZNIIMOSK	Kazakhstan Scientific Research Institute for Monitoring of Environment
KEGOC	Kazakhstan Electricity Grid Operation Company
ME&BP	Ministry of Economy and Budget Planning
MEMR	Ministry of Energy and Mineral Resources
MEP	Ministry of Environment Protection
NEAP	National Environment Action Plan
NGOs	Non-governmental organizations
PDF	Project Development Facility
PIU	Project Implementation Unit
PSC	Project Steering Committee
TATEK	Taldy-Korgan region electricity distribution company
VAT	Value Additional Tax
UN FCCC	United Nations Framework Convention on Climate Change

Explanation to the title-page:

### **“Co-/Leveraged Financing:**

Kazakhstan: 24 million Tenge (about US\$ 164,000 as of Aug. 28, 2003)

This is recognized, that according to the Government Resolution #857 dated 25 August 2003, the Ministry of energy and mineral resources of PK attracts off-budget funds in a sum of 24 (twenty four) million Tenge (about US\$ 164,000 as of Aug. 28, 2003) for elaboration of the Wind Power Development Program and technical and scientific maintenance of the project as commitment of Kazakhstan to the project.

## A. CONTEXT

### 1. Description of Subsector

#### *General Information*

The Republic of Kazakhstan is located in Central Asia within 39°59' - 55°49' N and 46°28' - 87°18' E, bordered by the Russian Federation in the north, China in the east, Kyrgyzstan, Uzbekistan and Turkmenistan in the south, and the Caspian Sea in the west. The total land area is 2,756 million square kilometers.

The population of Kazakhstan is about 15 million people. Due to extensive land area, Kazakhstan is one of the most sparsely populated countries in the world, with an average density of 5.7 inhabitants per square kilometer. The distribution of the population is very uneven. While the population density in the southern areas is 15.5 people per square kilometer, in central parts it is about 1.48 only.

Kazakhstan is rich with natural resources and has developed mining and heavy industries. Kazakhstan is an exporter of gold, iron ore, copper, aluminum, chrome, tungsten, zinc and energy resources such as coal and oil. Oil industry is a new, rapidly developing sector of the economy. Oil reserves are estimated at 12 billion barrels. Annual extraction of oil and condensate was 35 mln tons in 2000 and the plan is to reach the production of 100-150 mln tons per year by 2030.

Agriculture is a traditional and important economic sector in Kazakhstan. The country is a significant producer of agricultural products such as grain, meat, etc. In 1990, the share of agriculture was 34% of the GDP. However, due to collapse of the Soviet Union and economical crisis, at the present time it is about 9%.

Kazakhstan, like all the other Republics of the former Soviet Union has been undergoing a drastic restructuring of its economy. The transition to the market economy was entailing significant decline of the economy during 1990's, but since 2000 Kazakhstan has experienced a rapid growth of the GDP driven by the investments in the oil and gas industry. In 2002, the growth rate of the GDP was 9.6%.

Fixed capital investment in 2002 were 19.0% of the GDP. Investments in the oil and gas sector hold the biggest share increasing in 2002 to 53 % from 41 % in 2001 of the total investments. Transport and communications and manufacturing were also important investment destinations, accounting for 11.0% and 8.4%, respectively, of total investment. Domestic private investment continued to be the largest source of investment at 67% of the total, while foreign and public sector investment accounted for 25.0% and 8.0%, respectively.

The Government has developed a "Strategy for Development of Kazakhstan up to the year of 2030". It is planned to create a sound basis for the development of all economic sectors in Kazakhstan based on economic and political reforms. During the last years, the Kazakh economy is observed to be more brisk, mainly in oil and gas, mining and metallurgical industries.

### ***Energy sector of Kazakhstan***

Energy sector is one of the most developed economic sectors in Kazakhstan. Kazakhstan is rich in fossil fuel resources, which are sufficient to meet the domestic needs as well as for exporting to other countries. In 2000, the total output of the natural energy sources in Kazakhstan amounted to 96.52 million toe (tons of oil equivalent). Of this amount, the share of the coal was about 59%, oil 36.5% and natural gas 4,5%. The domestic consumption of primary energy resources constituted 41.16 mln. toe., of which 67% was covered by coal, 21% by oil and 12% by natural gas.

Kazakhstan possesses significant renewable energy resources, such as hydro, solar and wind energy. Hydro potential is estimated as 27 billion kWh per year, wind potential – as 1820 billion kWh per year, but apart from a small amount of hydropower, these resources have not really been utilized until now.

The main consumer of primary energy resources is the heat and power sector. In 2000, the power plants consumed 28,49 mln. toe, or 49% of total consumption of primary resources. The share of the coal in the fuel balance of the thermal power plants is about 73%. The total installed power generation capacity of Kazakhstan is about 18 GW, of which 15.4 GW or 87% was thermal power plants. The share of hydropower is about 12%. The CHP plants constituted some 38% of the total capacity.

In 1990, the total power production in Kazakhstan was 87,38 billion kWh and the power consumption 104,72 billion kWh. As a result of the economic crisis, the power consumption has decreased significantly from the 1990 level being 48 billion kWh or 45% lower in 2001 compared to 1990. During the same time, the power production fell by 32 billion kWh. During the last few years, however, a tendency for growing power consumption and production is observed due to the economic improvement. In 2001, the power consumption grew more than 4% and the power production by 7,4 % compared to the earlier year. The 1990 level in power production is expected to be reached after 2010, which would require the construction of new power generation capacity as many of the existing plants are outdated and worn-out.

In 1999, the Government of Kazakhstan developed the Energy Sector Development Program until 2030. A more detail description of this program is presented under section “Host Country Strategy”.

### ***Greenhouse gas emissions of the energy sector of Kazakhstan***

Kazakhstan is the largest emitter of greenhouse gases (GHG) in Central Asia. According to the First National Communication of Kazakhstan to the Conference of the Parties of the United Nations Framework Convention of Climate Change (UNFCCC), the total GHG emissions were estimated at 319 mln. tons of CO<sub>2</sub> equivalent in the year 1990. The energy sector contributed about 95% of the total emissions, of which the share of the fossil fuel power plants (power and heat production) constituted about 35 %, or 111,6 mln. tons of CO<sub>2</sub>.

The economic collapse in Kazakhstan during the 1990's has resulted in the consequent decline of the energy consumption and the corresponding greenhouse gas emissions. In 1999, the overall GHG emission constituted 153 mln. tons of CO<sub>2</sub> equivalent, or 42% less than the level in 1990. Due to the high energy intensity of the economy and the prevailing use of coal in energy production, it is expected, however, that the recovery of the economy

will result in rapid increase of GHG emissions. According to the 1993 data of the International Energy Agency (IEA), Kazakhstan was the largest emitter of energy related CO<sub>2</sub> per GDP in the world and 13<sup>th</sup> largest emitter per capita. It is expected that by the year 2011, Kazakhstan could reach the GHG emission level of the year 1990.

## **2. Host country strategy**

During the market transition period, the energy sector of Kazakhstan has changed significantly. About 80% of the energy production facilities were privatized or transferred for private sector management. The state National Electricity Grid Operator Company (KEGOC) was formed with the purpose to operate the high voltage electricity grid connecting the different regions of Kazakhstan. At the regional level, regional distribution companies are established. Most of them are privatized or transferred under private sector management. The “Law on Energy” was adopted. According to the law, the electricity is to be considered as a commercial commodity and the relations between the producer(s) and consumers are to be regulated by business agreements. Wholesale power market is established and measures for regional market establishment are undertaken.

The main goal of the “Energy Sector Development Program until 2030” is to achieve power independence of Kazakhstan based on the use of the existing energy resources, by reconstructing and modernizing existing plants and by constructing and commissioning new power plants serving exclusively to replace import. In that context, the plan is also to introduce increasingly renewable energy resources into the country’s energy balance. The key strategic directions of the Program are listed below:

- establishing a common energy system of Kazakhstan;
- restoring the parallel operation with the common energy system of Russia and those of the other Central Asian Republics;
- developing an open, competitive power market;
- maximizing the employment of existing energy resources, their reconstruction and modernization;
- commissioning new capacities, serving exclusively to replace import;
- improving the structure of power production by means of non-traditional (renewable) energy resources;
- rehabilitating and modernizing the existing systems with combined generation of heat and power.

The total amount of investments required to implement the Program has been estimated at USD 12 billion, reflecting the estimated additional capacity demand of 320 MW, 1900 MW, 1200 MW and 4300 MW by the year 2005, 2010, 2015 and 2030 respectively. Of these amounts, the estimated additional capacity needs in the south-eastern part of the country have been estimated at 70 MW, 150 MW, 420 MW and 2600 MW, respectively, of which 500 MW is foreseen to consist of wind power. The Ministry of Energy and Mineral Resources intends to elaborate National Program on Wind Energy Development.

## **3. Prior and On-going assistance**

The energy sector in Kazakhstan is an important part of the economy. The industrial base in Kazakhstan is directed towards heavy industry and processing of raw materials, which require

significant amount of energy. The effective development of the energy sector is therefore considered as vital for the Kazakh economy.

The energy sector consumes significant amount of primary energy resources, causing considerable environmental pollution, including GHG emissions. Over the past years, a number of international organizations have provided assistance to the Government of Kazakhstan for improving the environmental situation and for reducing the GHG emissions.

With the support from the U.S. Country Study Program, Kazakhstan conducted in 1993-1996 a GHG inventory, a vulnerability and adaptation analysis to climate change as well as identified several GHG mitigation options for the actual reduction of GHG emissions. The improvement of energy efficiency and increasing the use of renewable energy resources were listed among the main mitigation options.

Under support of the “Netherlands’ Climate Change Studies Assistance Program”, the Initial National Communication of the Republic of Kazakhstan under the UN Framework Convention on Climate Change was prepared.

In 1996-1998, Kazakhstan participated in the US Country Study “SNAP” Program, with the focus on developing a national action plan to address climate change and its adverse impacts.

In 1999-2000, the USAID and EPIC provided technical assistance to Kazakhstan for studying the different aspects of GHG emission reduction and the possibility of Kazakhstan to join the Annex 1 Parties of the UN Framework Convention on Climate Change.

In 1994-1995, a project of the USAID to evaluate the energy saving potential of Kazakhstan and to develop a National Program on Energy Saving was implemented.

In 1995-1996, a number of feasibility studies for increasing the energy efficiency and for reducing the environmental impacts of the existing thermal power plants in Kazakhstan was financed by the USAID, EBRD and ADB.

In 1995-1997, the EU/TACIS and USAID provided support for the Government on the legal and regulatory aspects in transforming the energy sector towards the market economy.

In 1997-1998, the Government of Netherlands provided financial assistance for the implementation of the project “Wind Energy in Kazakhstan”, with an objective to evaluate the potential for wind energy development in Kazakhstan. As a conclusion, Kazakhstan was determined from the wind resources point of view as one of the most appropriate countries in the world to develop wind energy.

In 2001, EBRD funded a study for the tariff regulation in energy and heat sector of Kazakhstan with the focus on designing an incentive-based “forward looking” regulatory regime.

Since 2002, the Asian Development Bank has been carrying out a project to support energy supply for the rural areas of Kazakhstan with focus on using renewable energy sources.



The project under consideration is building on the results of the UNDP/GEF project preparatory (PDF B) phase “Removing Barriers to Wind Power Production in Kazakhstan”, the implementation of which started in 1997 under an initiative of the Ministry of energy and mineral resources and was completed in 1999. As a part of the PDF B phase of the project, a detailed wind resource assessment was made for two specific sites in the south-eastern part of the country, namely Djungar Gate and Chilik Corridor. On the basis of the measured wind regime, the average generation costs for wind power were estimated at 3.5 cents per kWh in Djungar Gate (with 8% discount rate and “turnkey” investment costs of US\$ 1100/kW) and at around 5 cents per kWh in the Chilik corridor. The results indicate that wind power generation, especially for remote places with the wind conditions similar to the Djungar gate, could provide already now a very cost effective complementary source of electricity to conventional power production technologies, resulting in various environmental benefits with no or very small “incremental” costs. Another advantage with wind power plants is that their construction time is considerably shorter than with big hydro or thermal power plants, thereby providing more flexibility for the planning and a shorter response time to the growing demand.

Another UNDP/GEF project preparatory (PDF B) phase «Removing Barriers to Energy Efficiency in Municipal Heat and Hot Water Supply in Kazakhstan» is currently under implementation and the project brief for the next phase is currently being finalized.

#### **4. Institutional framework**

The legislative and the institutional framework in Kazakhstan has undergone significant changes since the country became independent.

The Ministry of Energy and Mineral Resources is the government body responsible for the energy sector strategy development and for regulatory functions.

In 1998, the Government of Kazakhstan elaborated and adopted the program "Kazakhstan - 2030" that indicates the marked oriented reforms in Kazakhstan and determines Kazakhstan's integration into the world economy as the main priority of country's development in the future. As a part of the same process, the Ministry of Energy and Mineral Resources elaborated and adopted the Energy Sector Development Program until 2030.

For attracting investments for the development of the priority branches of the economy, the Law of the Republic of Kazakhstan “On Investments” was adopted in January 2003 (see Annex IX) , replacing the old “Law on Support of Direct Investments”. The energy sector is listed as one of the priority branches. In accordance with the Law, privileges can be provided by the Government to the investors such as state grant for land use or state property, exemption from land tax, property tax, privileged income tax. These privileges can be provided to investors on the basis of a contract, which is to be signed between the Government and investor. In order to get such a contract, the investor has to submit an application associated with a concrete investment project to authorized Government body for consideration.

The Ministry of Environment Protection has developed a National Environmental Action Plan (NEAP), defining a strategy for environmental protection and the sustainable use of natural resources, as well as for facilitating the coordination of environmental actions and measures in Kazakhstan.

The new laws being drafted and adopted include, *inter alia*: the law “On Electric Energy” and the law “On Energy Saving”. In both laws, the support for the development of renewable energy resources is mentioned, but at the moment there are no specific and concrete privileges or incentives to support the RES development in Kazakhstan.

The new “Law on Air Protection” was adopted by the Government of Kazakhstan in 2002, with one of the main objectives of the law to protect the air from the industrial air pollution.

For preparing the joining of Kazakhstan into the Kyoto Protocol, an Interagency Committee was established in 1999. The Kyoto protocol was signed by Kazakhstan in 1999 and in 2001 a decision was adopted by the Conference of the Parties (CoP) of the UNFCCC to include Kazakhstan as an Annex 1 Party for the purposes of the Kyoto Protocol, after the Kyoto protocol has been ratified by Kazakhstan and it has entered into force. For the purposes of the Climate Change Convention, Kazakhstan continues to be a non-Annex I Party.

The “Coordination Center on Climate Change” was established by the Ministry of Natural Resources and Environment Protection in 1999 with the purpose of preparing ground for the implementation of GHG emission reduction projects by using flexible mechanisms of the Kyoto protocol.

## **B. PROJECT JUSTIFICATION**

### **1. Problems to be addressed**

Possessing fuel and other resources, Kazakhstan could be self sufficient in its energy supply, but the vast territory and the integration with the energy transportation and transmission system of the former Soviet Union has resulted in significant regional imbalance in the national supply and demand of energy. While having surplus of generating capacities in some regions, in other regions energy has to be transported from remote power sources or imported from neighboring countries. In this regard providing energy independence of Kazakhstan is defined as a strategic goal of energy sector development.

Large generating capacities locate close to the coal fields and huge territory of the country has resulted in the necessity to have extensive power lines (about 450 thousand km) and significant power losses during transportation. It has been estimated that the overall power losses constitute about 15% of the consumption. For remote consumers, the losses can reach 25-30%. The maintenance of extensive power grids with small transmission capacity has generally become non-profitable. This creates a problem for the power supply for remote villages and settlements. In this situation, a more decentralized energy supply concept based on the increasing use of the local renewable energy sources could become a feasible alternative, in particular in the areas that are already now suffering from power deficit. Eighty-seven (87) per cent of the power generation capacity of Kazakhstan are

coal-fired power plants. Most of them are located near to large industrial cities. Without sufficient flue gas treatment, the plants are causing major pollution in the surrounding cities and other areas.

Kazakhstan possesses significant renewable energy resources that could be successfully utilised for more decentralized power supply. From the geographical and meteorological point of view, Kazakhstan is one of the most appropriate countries in the world to develop wind energy. The availability of cheap coal, the tradition of centralized, fossil fuel based power generation and the current low tariff levels have so far, however, prevented the utilisation of the available wind resources.

Liberalization of the power sector has resulted in hard competition on power market. Combined with the possibility to use cheap domestic coal with no major environmental investment requirements for fuel gas cleaning and the fact that most currently operating power plants have been inherited from the Soviet time, for which no capital costs or future rehabilitation costs are currently accounted, the tariffs have remained low. The average end user price is at around 2,3 US cents per kWh with max 3,5 US cents per kWh in some regions.

Taking into account the future rehabilitation needs, the average power generation costs of rehabilitated coal power plants (using cheap local coal as fuel) have been estimated at about 2,2-3,5 US cents per kWh, while the generation cost of the new fossil fuel and hydro power plants have been estimated at 4 - 5 US cents per kWh. In addition, the transmission and distribution costs can add significantly to the final costs of the power. In the Dutch funded study “Wind Energy in Kazakhstan”, the real costs of transmission and distribution (including the losses) were estimated to range from 1.5 cents to 5 cents per kWh.

Based on the forecasted growth of the power demand and the aging of the existing power plants, it is expected that the electricity tariff will increase up to 4-5 c/kWh in remote regions reflecting the shortage of supply and the marginal costs of the new power generation capacity. This would already present wind power as commercially competitive alternative, eventually starting with small remote settlements, which do not have reliable power supply now. According to the study “Wind Power in Kazakhstan”, there are some 5,000 such settlements. Based on the estimate of the local institute “KazSelenergoProject”, the total capacity demand of these settlements would be 80 MW. The average generation costs for wind power have been estimated to range from 3,5 US cents to 5 US cents per kWh depending on the location and with the turnkey investment costs of a wind farm at about US\$1100/kW.

There is also some local cost reduction potential for wind turbines in Kazakhstan by involving local manufacturing and assembling. Kazakhstan has well developed machinery building industry, used to the large extent in the Former Soviet Union for military purposes. The Government of Kazakhstan tries to convert this industry to civil goods production. It has been estimated that in co-operation with western producers at least some of the former machinery plants could be converted to produce some components of wind turbines.

In addition to the question of the current electricity price and tariff policy, the following barriers were identified during the PDF B phase of the project as main obstacles to the development of the wind energy sector in Kazakhstan:

*a) Awareness, information and capacity barriers:*

- lack of awareness and experience of the local utilities on the performance of wind power generation and its interference with the grid;
- lack of information and experience to determine accurately the specific construction and operational costs of wind power generation in Kazakhstan;
- absence of “success stories” of wind power generation in Kazakhstan;
- lack of reliable wind resource assessments and wind maps for the perspective sites and regions;
- lack of local capacity to prepare “bankable” feasibility studies and business plans, and to finalise all the other documentation needed to present projects for financing; and
- lack of trained professionals to install and to ensure a reliable operation of the wind turbines.

*b) Financial barriers:*

- lack of information about potential international partners and other sources of financing to facilitate the wind power development in Kazakhstan;
- lack of long term agreements on energy purchase and uncertainties with the long term power purchasing tariffs;
- high perceived investment risk in Kazakhstan, leading to very high interest rates and short expected pay-back periods of local financing, making the available commercial credits in Kazakhstan practically unusable for any long term energy sector investment;
- difficulties in obtaining sovereign guarantees to facilitate the access to “soft” loans; and
- high project preparation costs without the assurance for obtaining partners and financing for the actual implementation of them.

*c) Institutional Barriers:*

- absence of a cross-sectoral strategy and policy framework to promote wind energy activities in Kazakhstan, and to support the start up of the development of this sector;
- absence of a strong national focal point to support and promote wind energy development;
- barriers connected to monopoly status of electricity distribution companies on retail market; and
- lack of information, technical standards and testing facilities to ensure the quality control of the wind turbines to be sold and installed - a problem emerging especially with the increasing amount of “second-hand” turbines coming into the market.

## **2. Expected End-of-Project Situation**

It is expected that the power tariffs in Kazakhstan will continue to increase to reflect the full cost of power production and transportation, including the expenses for rehabilitation and construction of new power generation capacities and electricity grid. This will provide a more sound basis also for the development of country’s abundant renewable energy resources, including wind.

The project will support this process by overcoming other key barriers listed before. In the end of the project, it is expected that:

- a) The Government of Kazakhstan has developed and adopted a National Program on Wind Energy Development, providing a supportive legal and regulatory framework for wind energy development as well as new financial incentives and mechanisms to leverage financing for the actual investments;
- b) The local project developers and investors will have enhanced capacity to identify, develop and implement commercially feasible wind energy investment projects, including access to more accurate wind data from different locations in Kazakhstan.
- c) The first 5 MW pilot wind farm in Djungar Gate has been successfully commissioned and people are trained to ensure its reliable operation and regular maintenance;
- d) The results and experiences obtained during project implementation have been carefully documented, analysed and disseminated, thereby providing a basis for future promotion of wind energy in Kazakhstan;
- e) Additional local and international financial resources have been leveraged to facilitate the implementation of future investment projects; and
- f) The possibilities for cooperation with local machinery plants to manufacture certain wind turbine components has been assessed and, as applicable, initiated, thereby providing a basis for decreasing the costs of wind power.

### **3. Target Beneficiaries**

The project will support the Government of Kazakhstan in meeting its commitments to the United Nations Framework Contract on Climate Change (UNFCCC) by implementing a measure to reduce country's greenhouse gas emissions. As a "win-win" measure, the development of country's wind energy sector will also contribute to the meeting of Kazakhstan's economic development goals thereby being consistent with the National Strategy "Kazakhstan-2030" and Energy Sector Development Program until 2030.

The local beneficiaries of the project consist of, among others:

- (a) the remote regions suffering currently from the power deficit or insecure power supply;
- (b) area of Djungar Gate where the pilot 5 MW capacity wind farm will be constructed;
- (b) local consulting companies and NGOs, which are able to provide expertise and services to promote and implement wind energy activities;
- (c) local industry, with a potential to manufacture selected components for the construction of wind farms; and
- (d) local business interested in RES implementation;
- (e) local population through new employment opportunities.

#### **4. Project Strategy and Implementation Arrangements**

The project will be executed by the Ministry of Energy and Mineral Resources, on behalf of the Government of the Republic of Kazakhstan, and in co-operation with the private sector partners interested in wind energy development in Kazakhstan. The Almaty Oblast Akimat will provide necessary support for the construction and commissioning of the first pilot project in Djungar Gate.

For general coordination, monitoring and strategy support for the project implementation, a Project Steering Committee will be established. It will consist of representatives of the following organizations:

- Ministry of Energy and Mineral Resources,
- Ministry of Economy and Budget Planning,
- Ministry of Industry and Trade,
- Ministry of Environment Protection,
- Foreign Investors Council under the President of the Republic of Kazakhstan,
- Almaty Oblast Akimat,
- KEGOC,
- TATEK,
- Relevant research institutes, NGOs and
- UNDP

For the implementation of the project, a Project Implementation Unit (PIU) will be set up, led by a full time Project Manager and consisting of technical, financial and legal experts to address the different aspects of the project. The project manager will be responsible for day-to-day management of the project. He/she will ensure that the expected outputs are completed on time and that they comply with the specific UNDP/GEF criteria and requirements. The project manager will also regularly report on the progress of the project to the executing agency and UNDP.

The project manager will be supported by an International Technical Adviser (ITA). Additional short-term international consultants can be recruited to provide specific services and to support the implementation of the project through the critical stages. In working with international experts, specific emphasis will be on building the problem-solving capacities of the local experts (through training, exchange of information, etc.) in order to strengthen the local capacity to undertake similar activities after the project's completion.

For the investment component (facilitating the construction of the first pilot wind farm), the choice of investor will be carried out through a public call for tender, which will be conducted by the MEMR in cooperation with other government agencies and UNDP. The draft Terms of Reference of the tender are presented in Annex 1. The owner and operator of this pilot wind farm will be determined by the outcome of the tender, being preferably a joint venture between a local and experienced foreign company.

A detailed workplan for each component of the project will be finalized at the outset of project operations by the project manager (supported by UNDP and the ITA) and will be reviewed by the GEF Regional Co-ordinator.

## **5. Reasons for Assistance from UNDP/GEF**

Kazakhstan ratified the United Nations Framework Convention on Climate Change (UN FCCC) on May 17<sup>th</sup>, 1993. As a party to the UN FCCC, Kazakhstan has accepted the obligation to formulate, implement and publish national and, where appropriate, regional programs containing measures aimed at mitigating climate change caused by anthropogenic emissions of greenhouse gases, which are not regulated by the Montreal Protocol. The adoption of the Kyoto Protocol by Kazakhstan in 1999 may also open new financing possibilities for the development of climate change mitigation activities in Kazakhstan.

In the framework of NEAP prepared by the MNREP, the proposed project has been identified as one of the priority measures to reduce Kazakhstan's greenhouse gas emissions. The cumulative impact of the project is expected to be around 400,000 tons of CO<sub>2</sub> over 20 years. With 500 MW installed wind power capacity with annual production of 1.7 billion kWh, one can roughly estimate a reduction of 1.7 million tons of CO<sub>2</sub>, 10 thousand tons of SO<sub>2</sub>, 5 thousand tons of NO<sub>x</sub> and 10 thousand tons of ash compared to the same amount of power produced at coal fired power plants.

In terms of power generation costs, the cost of wind power at the best sites in Kazakhstan has been estimated to be at the same level or even lower than with new fossil fuel power plants. The costs could be further reduced, if some components of wind turbines could be produced locally, thereby reducing their costs and avoiding transportation expenses. This, together with Kazakhstan's extraordinary wind resources, gives a reason to believe that the long term prospects for developing wind energy in Kazakhstan and attracting financing for it look promising. Under current circumstances, however, additional support from the GEF is needed to get the development of this sector started and for ensuring that once the time for the new investment decisions comes, wind energy can be presented as a serious and tested alternative or complementary source of electricity to new fossil fuel power plants.

Operationally the project falls under the GEF Operational Program # 6, "Removing Barriers and Reducing Implementation Costs".

## **6. Coordination Arrangements**

The Project Implementation Unit will be responsible for co-ordinating the activities with the other ongoing activities in the country. Close co-operation will be established with the appropriate departments of the Ministry of Energy and Mineral Resources, Ministry of Environment Protection, Ministry of Economy and Budget Planning, Almaty Oblast Akimat, KEGOC, TATEK, and other organisations relevant to the project. In addition, direct links will be created with the experts engaged in other ongoing projects in Kazakhstan in order to promote the exchange of information and expertise relevant to the project. This co-operation is especially important with the experts working on the national climate change action plan, which is directly linked to the present project.

It is also necessary to establish close contacts with other international financing organisations and donors in Kazakhstan, so as to explore the possibility for further co-operation and for leveraging financing for the follow-up investments.

## **7. Counterpart Support Capacity**

The Government of Kazakhstan has demonstrated serious interest to develop renewable energy resources, including wind energy. As mentioned before, the Government has adopted the law “On Electric Energy” and the law “On Energy Saving”. These normative acts support the development of renewable energy resources. The Energy Sector Development Program envisages installment of 500 MW of wind farms by the year 2030. The Ministry of Energy and Mineral Resources plans to develop National Program on Wind Energy Development.

As regards to co-financing, the Government of the Republic of Kazakhstan, represented by the Ministry of Energy and Mineral Resources, will provide financial support to the project at the amount of 24 million Tenge (equivalent to about US 164,000 dollars as of August 28, 2003) to prepare a “National Program on Wind Energy Development”. In addition, the Government of Kazakhstan will support the construction of the first pilot wind farm in Djungar Gate by granting investor with privileges in accordance with the law “On Investments”. The government has also committed itself to sign a long term power purchase agreement on the purchase of power produced by the wind farm.

## **C. DEVELOPMENT OBJECTIVE**

The development objective of the project is to reduce Kazakhstan’s greenhouse gas emissions by facilitating the sustainable development of the wind energy market in Kazakhstan.

## **D. IMMEDIATE OBJECTIVES**

### **Immediate Objective 1**

Finalizing the organizational structure and other necessary arrangements for project implementation.

### **Output 1.1**

The Project Steering Committee (PSC) and the Project Implementation Unit (PIU) established, the work plan and the terms of reference for the subcontracts prepared and the contracts with the national institutions and experts, which will be engaged in the implementation of various activities associated with the project compiled.

#### **Activity 1.1.1**

Appointing the National Project Director (NPD) and establishing the Project Steering Committee (PSC) to supervise the implementation of the project, to co-ordinate it with the other related Government activities and initiatives and to facilitate the incorporation of the project results and lessons learnt into the Government energy sector policies and strategies.



#### Activity 1.1.2

Establishing the Project Implementation Unit to manage the project's implementation on a "day-to-day" basis.

#### Activity 1.1.3

Preparing a detailed work plan for the implementation of the project, including the terms of reference for the subcontracts (to be prepared by the Project Manager in consultation with the implementing agency and UNDP).

### **Immediate Objective 2**

Adoption of a cross-sectoral "National Wind Energy Development Program" to achieve the goals set in the Energy Sector Development Program until 2030 and in the National Environmental Action Plan.

#### **Output 2.1**

Preliminary site mapping and evaluation of the economically feasible potential for wind energy development in Kazakhstan

##### Activity 2.1.1

Reviewing the existing publications and wind energy studies as well as other relevant information such as the available meteorological data, power grid maps, the balance of the regional power supply and demand, electricity tariffs, remote places with shortage of power supply, etc.

##### Activity 2.1.2

By building on the information compiled above, conducting a preliminary site mapping and updating the evaluation of the economically feasible wind energy potential for both large scale wind farms and for power supply of remote villages in Kazakhstan .

#### **Output 2.2**

Recommendations for the legal and regulatory changes to support investments in wind energy

##### Activity 2.2.1

Reviewing the current legal, regulatory and institutional framework and updating the analysis of the existing institutional, legal and regulatory barriers to wind energy development in Kazakhstan.

##### Activity 2.2.2

Based on the results of the analysis, preparing a proposal for the legal and regulatory changes needed to facilitate the sustainable development of the wind energy market in Kazakhstan (providing a basis, e.g., for long term power purchase and concession agreements, specific tax privileges and other incentives to support and leverage wind energy investments).

#### **Output 2.3**

A proposal for the introduction of new innovative financing mechanisms to finance wind energy projects in Kazakhstan.

#### Activity 2.3.1

Analysing different alternatives and preparing a draft proposal for the introduction of new innovative financing mechanisms to support the wind energy development in Kazakhstan, incorporating different incentives and risk sharing mechanisms to leverage increasing private sector financing for wind energy investments.

### **Output 2.4**

Adoption of the “National Wind Energy Program” incorporating the results, conclusions and recommendations of the work described above.

#### Activity 2.4.1

Establishing an inter-ministerial working group to work on the strategy

#### Activity 2.4.2

By building on the outputs 2.1, 2.2 and 2.3, preparing a draft “National Wind Energy Program”

#### Activity 2.4.3

Organizing a workshop to present and discuss the draft Program

#### Activity 2.4.4

Conducting consultations and other outreach activities to present and discuss the draft Program with the different key stakeholders.

#### Activity 2.4.5

Finalising the National Wind Energy Development Program and submitting it for the formal Government approval.

### **Immediate Objective 3**

Building the local capacity to develop commercially feasible investment proposals and to structure financing for the projects.

### **Output 3.1**

A detailed wind resource assessment for selected sites.

#### Activity 3.1.1

Based on the preliminary mapping of the potential sites, selecting the most promising ones for further measurements and analysis.

#### Activity 3.1.2

Procuring and installing the measurement devices.

#### Activity 3.1.3

Compiling and analyzing the data for the duration covering at least one year (preferably two) for each site.

#### Activity 3.1.4

Dismantling and, as applicable, re-installing the equipment in other locations of interest, including remote villages as possible candidates for wind power supply.

### **Output 3.2**

Enhanced capacity of the local stakeholders to prepare “bankable” feasibility studies, business plans and investment proposals and to structure financing for the projects.

#### Activity 3.2.1

In co-operation with the local and international experts, finalising “model” feasibility studies, business plans and investment proposals for different prospective sites (incl. bigger wind farms as well as smaller scale wind power supply for remote villages).

#### Activity 3.2.2

Based on the needs, providing general training and “couching” for the local wind power developers and companies on project financing, business management and international accounting principles reflecting the requirements of the international financing institutions.

### **Output 3.3**

Improved contacts between the local wind power developers and potential local and international investors and wind turbine producers

#### Activity 3.3.1

Conducting seminars, meetings and other outreach to facilitate the contacts between the local wind power developers and potential local and international investors and wind turbines producers.

### **Immediate Objective 4**

Facilitating the construction of the first pilot 5MW wind farm in order to prepare ground and gain experience for and to reduce the risks of future investments into the wind projects.

### **Output 4.1**

A successfully launched public call for tender for the construction of the first pilot project.

#### Activity 4.1.1

In accordance with the Annex 1 to this project document, finalising the tender documents and announcing a tender for the construction of the first pilot wind farm in Kazakhstan;

#### Activity 4.1.2

Evaluating the submissions and finalising the contract with the winner of the tender, including a legally binding power purchase agreement and provisions for other concessions as described in Annex I to this project document.

### **Output 4.2**

Enhanced capacity of the local stakeholders to install, operate and maintain the wind turbines

#### Activity 4.2.1

Training the local specialists to install, operate and maintain the wind turbines and to ensure otherwise their proper operation

### **Immediate Objective 5**

Using the results and lessons learnt for further development of the wind energy market in Kazakhstan and elsewhere.

### **Output 5.1**

A project monitoring and evaluation report compiling and analysing the results and lessons learnt.

#### Activity 5.1.1

By close monitoring of the implementation of the project, recording the issues and eventual barriers faced during its implementation.

#### Activity 5.1.2

Developing and implementing a “Project Monitoring and Verification Protocol” (PMVP) for the first pilot project.

#### Activity 5.1.3

Conducting an independent project midterm and final evaluation.

#### Activity 5.1.4

Finalising the project monitoring and evaluation report

### **Output 5.2**

Dissemination of the results and lessons learnt

#### Activity 5.2.1

Publishing and disseminating the project final report.

#### Activity 5.2.2

Organising an end-of-the-project seminar and other outreach activities to discuss and disseminate the project results and lessons learnt.

## **E. INPUTS**

The total project costs have been estimated at 7.274 mln. US dollars, of which the GEF will provide 1.55 mln. US dollars to cover the technical assistance component of the project and 1 mln. US dollars to share the costs of the first pilot project.

The Ministry of Energy and Mineral Resources of the Republic of Kazakhstan will contribute to the project with 24 million Tenge (equivalent to about US 164,000 dollars as of August 28, 2003) to be used for the preparation of a National Wind Energy Program. In addition the Government of Kazakhstan will support the project by providing specific concessions as described in Annex I on a contract basis with investor for the implementation of the first pilot project.

The total costs of the first 5 MW pilot project have been estimated at 5,5 mln. US dollars, of which the GEF expected to cover the mentioned 1 mln. US dollars or up to 200 US dollars per kW, whichever comes first. The rest, i.e. USD 4.5 million, is expected to be leveraged from the private sector through a public call for tender.

## **F. RISKS AND SUSTAINABILITY**

In line with the project objectives and activities described before, the project tries to ensure its sustainability by a) assisting the Government in creating a strong institutional and programmatic framework providing incentives for and supporting otherwise the long term development of the wind energy activities in the country; b) building the local capacity to prepare commercially feasible investment proposals for wind energy projects (e.g. by training the local stakeholders on project preparation and management and by conducting preliminary site mapping and wind resource assessment for selected sites; and c) enhancing the capacity of the Government to define the best strategies to promote the long term wind power development in Kazakhstan by building on the experiences and lessons learned during the implementation of the first pilot project(s).

The lessons learned in other countries, such as India, Denmark, Germany, UK have been reviewed and they have been taken into account in the project design.

The main risks of the project are related to the financial barriers and to the ability of the project to attract local and foreign investors to invest in wind energy development in Kazakhstan on a sustainable basis. Although there are a number of investors that during the past few years have indicated strong interest in starting wind energy development in Kazakhstan, the existing barriers presented earlier in this project document have prevented the realisation of these projects in practice. Therefore, the success of the project in overcoming the identified barriers, together with the continuing co-operation and commitment of the Government to introduce changes supporting the development of the wind energy sector and the role of the small independent power producers in the power sector development in general, will largely determine the sustainability of the project as a whole. In this regard, close cooperation with key agencies inside of the project on the National Wind Programme elaboration and

adoption this Program by Government is expected to provide necessary incentives and stability to the wind power development in Kazakhstan.

The project tries to foster the close co-operation with the different Government bodies and other key stakeholders in Kazakhstan through the Project Steering Committee and by maintaining regular contacts between the PIU and the institutions concerned. It is also expected that special working groups with the participation of the key stakeholders groups will be organized to discuss, among others, the changes needed in the legal and regulatory framework to promote wind energy. During the implementation of the project, the composition of the PSC, the PIU and the working groups can be altered, as needed, to include representatives of other stakeholders, which share a common interest in the project's success. During the project implementation, it is also planned to conduct various seminars and meetings in order to inform and to seek the feedback of the key local and international partners on the project's activities and results.

One of the main uncertainties of the project will be the future development of the electricity demand and the tariffs. As discussed before, the tariffs are expected to continue to increase in Kazakhstan to reflect the full costs of rehabilitation of the existing power plants, electricity transport and construction of new capacity needed. In addition, the environmental impacts of power generation are increasingly taken into account in the investments decisions made, which is expected to give an additional boost to the development of the renewable energy resources. Should this not happen, however, the current tariff levels will make it very difficult to justify the investments into wind or any new power generation facilities in Kazakhstan.

Concerning the attraction of investors for the construction of the 5 MW pilot project, the Government is expected to submit certain privileges to investors in line with Annex I of this project document. To ensure timely implementation of this component, it is expected that within 12 months from the beginning of the project a contract to this effect has been signed between the Government and the selected investor. Should this signing not take place within the first 12 months of the project (counted from the date of signing the project document), the issue will be a subject of the Tripartite meeting to clear the situation. If there is no clear plan agreed by all involved parties as to how this problem can be addressed and a PPA signed within the following 6 months, the project will be cancelled.. Should the problem be the power purchasing price, i.e. that the offered price of up 3.5 US cents per kWh (without the VAT) together with the GEF investment grant and the other concessions of the Government will not be enough to attract investors, the UNDP will similarly enter into negotiations with the Government within the mentioned first 12 months in order to determine whether the problem can be eliminated by increasing the purchasing price or by providing other additional concessions or the project will be cancelled as a whole.

The personnel turnover in the participating institutions is a threat that can undermine the efforts of institutional capacity building. This risk needs to be addressed by good documentation of and open and broad information exchange on the implementation of the project and preparing the training and information dissemination material in the form that can be used for self-learning also after the project.

Finally, in a project of this complexity a top quality project management is absolutely essential for the success of it. Beside experience and good knowledge of wind energy activities in general, the

qualifications of the project management should include a proven track record and experience on promoting and managing national/regional projects of similar size and complexity.

## **G. PRIOR OBLIGATIONS AND PREREQUISITES**

### **a) Prior Obligations**

Kazakhstan ratified the United Nations Framework Convention on Climate Change (UN FCCC) on May 15<sup>th</sup>, 1995 as a non-Annex I country with the economy in transition and signed the Kyoto Protocol to the UN FCCC in 1999. As a Party to the Convention, Kazakhstan has committed to formulate, implement, publish and regularly update national and, where appropriate, regional programs containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol and measures to facilitate adequate adaptation to climate change.

### **b) Prerequisites**

The Government of Kazakhstan will allocate the necessary funds to support the project as stipulated under the section E. of this project document (“Inputs”). In addition, the Government of Kazakhstan will ensure that the project execution and implementation arrangements, as stipulated under the section B.4 (“Project Strategy and Implementation Arrangements”) will be in place at the outset of project operations. This will include the establishment of the Project Steering Committee, consisting of the representatives of the relevant ministries, local municipalities, private sector entities and research institutes to provide advise for and oversee the overall implementation of the project. Government will provide office space for the project staff for a period of the project implementation.

Should the local specialists that will be hired by the project be currently employed by the Government of Kazakhstan, they will have to obtain a leave of absence without a pay for the duration they will work for the project. A document to this effect, signed by an authorized person, has to be attached to the payment request.

In order to attract private investments for the construction of the first pilot wind farm in Djungar Gate, the Government of Kazakhstan will sign a contract with the selected investor to grant specific privileges such as exemptions from custom duties, from the property, land taxes and privileged income taxes, as well as grant the use of the land for free in accordance with the law “On Investments” and the Annex I of this Project Document. The Government has also committed itself to sign a long term power purchase agreement to purchase electric energy from the first pilot wind farm.

The project document will be signed by the representatives of the Government of Kazakhstan and UNDP. Assistance to the project will be provided only if the prerequisites stipulated at the project document have been fulfilled or are likely to be fulfilled. When anticipated fulfillment of one or more prerequisites fails to materialize (including a failure in creating the necessary conditions for the realisation of the first pilot project), the UNDP may, at its discretion, either suspend or terminate its assistance.

## **H. PROJECT REVIEW, REPORTING AND EVALUATION**

The Project Implementation Unit and the Project Steering Committee will be responsible for the continuous monitoring of the project's advancement. To this end, the PIU will prepare regular, biannual reports on the progress of the project and its constituting activities. Progress will be measured using the indicators defined in the Project Planning Matrix (see Annex III) and the Monitoring and Evaluation Plan (Annex VIII). The consultants working for the project will report to the project manager in accordance with their Terms of References.

After the detailed work plan for the project has been updated, it will be reviewed by the Project Steering Committee and UNDP/GEF representative(s). Taking into account the eventual changes in the project environment or most recent lessons learnt from other projects, the purpose of the review is to determine eventual risks or other factors, which may either compromise the successful realisation of the project or more effectively to allow it to meet its envisaged objectives.

Establishing a monitoring and feedback system to compile the experiences and lessons learnt from the first pilot project belongs to one of the main activities under project's M&E component. Updated information on the project's intermediate and final results, as well as its overall progress will be disseminated, among other channels, through a project web site to be established in the Internet.

The achieved reduction of greenhouse gas emissions and the expansion rate of the wind energy market will be monitored during the implementation of the project by the project management. After the finalisation of the project, the progress can be verified through the regular, annual greenhouse gas inventories undertaken by the Government and/or through the planned national wind energy program.

The project will be subject to tripartite review (review by the representatives of the Government and UNDP) at least once every 12 months. The first such meeting to be held within the first 12 months of the start of full-scale project implementation. The project manager shall prepare and submit to each tripartite review meeting a harmonized Annual Project Report (APR) and Project Review Report (PIR). The Annual PIR prepared by the UNDP CO is intended for submission to the GEF. Additional reviews and progress reports may be requested during the project and the project staff shall support the preparation of these reviews, including Secretariat Managed Project Reviews (SMPRs), as they may rise.

The project will also be subject to an independent midterm and final evaluation undertaken by an independent international expert or team of experts, as applicable. The final project results, experiences and lessons learnt will be compiled into the Project Final Report that will published and disseminated through the applicable channels.

A Project Terminal Report will be prepared for consideration at the final terminal tripartite review meeting. It shall be prepared in draft sufficiently in advance to allow review and technical clearance by the implementing agency at least two months prior to the terminal tripartite review.

The Government, represented by the Ministry of Energy and Mineral Resources as executing agency, will provide UNDP with certified periodic financial statements relating to the status of UNDP/GEF



funds, including an annual audit of these financial statements, according to the procedures set out in Section 30503 of the UNDP Policies and Procedures Manual (PPM) and Section 10404 of the UNDP Finance Manual, and any revision of these Manuals. The audit will be conducted by the legally recognized auditor of the Government, or by a commercial auditor engaged by the Government.

A detailed Monitoring and Evaluation Plan of the project is attached in Annex VIII.

## **I. LEGAL CONTEXT**

This project document (Agreement) shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of Kazakhstan and the United Nations Development Program, signed by the parties on June 10<sup>th</sup>, 1993. The host country implementing agency shall, for the purpose of the Standard Basic Assistance Agreement, refer to the government co-operating agency described in that Agreement.

The following types of revisions may be made to this project document with the signature of the UNDP Representative only, provided he or she is assured that the other signatories of the project document have no objections to the proposed changes:

- a. Revisions in, or addition of, any of the annexes of the project document;
- b. Revisions which do not involve significant changes in the immediate objectives, outputs or activities of a project, but are caused by rearrangement of inputs agreed to or by cost increases due to inflation; and
- c. Mandatory annual revisions, which rephrase the delivery of agreed, project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility.

**J. BUDGET**

**Budget is attached as Annex II**

**TERMS OF REFERENCE FOR TENDER FOR  
CONSTRUCTION OF THE 5 MW PILOT WIND FARM AT DJUNGAR GATE**

The Government of the Republic of Kazakhstan, presented by the Ministry of Energy and Mineral Resources of the Republic of Kazakhstan (MEMR) and the United Nations Development Programme (UNDP) have agreed on the following procedures for conducting a tender for the construction of a 5MW wind farm in Djungar Gate:

1. The Ministry of Energy and Mineral Resources upon agreement with other interested state agencies will set a Tender Commission with participation of representatives of the relevant state agencies and UNDP/GEF.
2. The Tender Commission will prepare and approve with the MEMR and UNDP/GEF the detailed tender documents, containing a detailed description of the tender terms and conditions.
3. As a part of tender terms, the Government of Kazakhstan agrees to provide the following privileges for the construction of the above mentioned 5 MW wind farm in Djungar Gate:
  - 1) a contract between Government and investor on allocation of the following investment privileges: state grant for land use and privileged income taxes, exemption from property tax, land tax, custom duties for imported equipment in accordance with the general provisions of the Law of the Republic of Kazakhstan “On Investments”;
  - 2) endorsement of the long-term agreement to purchase power produced at the pilot wind farm at the price, that ensures project’s economic sustainability. This price should not be more than 3,5 cents per kWh without the VAT; and
  - 3) technical assistance to connect the wind farm into the electric grid and to ensure their parallel operation.
4. The UNDP/GEF will sign an agreement with investor to support the first pilot project at the amount up to 200 (two hundred) USD per one kW of installed capacity, however not more than one million US dollars total. The support will be paid out once the wind turbines are up and in operation and the corresponding reports from the operators have been received and approved by UNDP.
5. Upon approval of the tender documents, the Tender Commission in good time will publish and disseminate information on tender, as well as collect applications received.
6. After closing the call for tenders, the Tender Commission will examine the received applications and choose the winner.
7. The authorized governmental body and UNDP/GEF shall confirm the decision of the Tender Commission.



## THE BUDGET

Budget code	Description	TOTAL		2004		2005		2006		2007	
		m/m	US \$	m/m	US \$	m/m	US \$	m/m	US \$	m/m	US \$
<b>10.00</b>	<b><u>Project Personnel</u></b>										
<b>11.00</b>	<b>International experts</b>										
<b>11.01</b>	<b>International. Technical Advisor</b>	30	300	7	70,000	10	100,000	10	100,000	3	30,000
11.52	Int. experts to assist locals on project preparation and financing	1.5	21,000	0.5	7,000	0.5	7,000	0.5	7,000		
11.53	Int. experts to assist locals on operation and maintenance of wind turbines	1.5	21,000	0.5	7,000	0.5	7,000	0.5	7,000		
11.54	Int. expert on independent project review	2	28,000			1	14,000	0.5	7,000	0.5	7,000
<b>13.00</b>	<b>Administrative support personnel</b>										
13.01	Administrative assistant	36	21,600	9	5,400	12	7,200	12	7,200	3	1,800
<b>15.00</b>	<b>Duty travel (in-country)</b>										
15.01	Duty Travel (in-country)		40,000		10,000		10,000		10,000		10,000
<b>16.00</b>	<b>Mission Costs</b>										
16.01	Mission Costs		210,000		40,000		70,000		70,000		30,000
<b>17.00</b>	<b>National Professionals (PIU)</b>										
17.01	National Project Manager	36	36,000	9	9,000	12	12,000	12	12,000	3	3,000
17.02	Technical adviser	36	21,600	9	5,400	12	7,200	12	7,200	3	1,800
17.03	Financial adviser	36	21,600	9	5,400	12	7,200	12	7,200	3	1,800
17.04	Legal adviser	36	21,600	9	5,400	12	7,200	12	7,200	3	1,800
17.05	Information Manager	36	21,600	9	5,400	12	7,200	12	7,200	3	1,800
17.51	Short Term Experts	100	60,000	20	12,000	40	24,000	30	18,000	10	6,000
<b>19.00</b>	<b>COMPONENT TOTAL</b>	<b>351</b>	<b>824,000</b>	<b>82</b>	<b>182,000</b>	<b>124</b>	<b>280,000</b>	<b>113.5</b>	<b>267,000</b>	<b>31.5</b>	<b>95,000</b>
<b>20.00</b>	<b><u>Subcontracts</u></b>										
<b>21.00</b>	<b>International subcontracts</b>										
21.01	Wind speed monitoring program and wind resource assessment	10	200,000	3	60,000	2	40,000	4	80,000	1	20,000
<b>22.00</b>	<b>National subcontracts</b>										
22.01	Site mapping, compilation of the hydro-meteorological data, wind resource assessment, refining the feasibility studies (as applicable)	60	36,000	10	6,000	20	12,000	20	12,000	10	6,000
<b>29.00</b>	<b>COMPONENT TOTAL</b>	<b>70</b>	<b>236,000</b>	<b>13</b>	<b>66,000</b>	<b>22</b>	<b>52,000</b>	<b>24</b>	<b>92,000</b>	<b>11</b>	<b>26,000</b>

<b>30.00</b>	<b><u>Training</u></b>								
32.01	Project initiation workshop	10,000		10,000					
32.02	National Wind Energy Program workshop	10,000				10,000			
32.03	Workshop on project financing	20,000				20,000			
32.04	End-of-project workshop	30,000							30,000
32.05	Study Tours	30,000		5,000		20,000		5,000	
<b>39.00</b>	<b>COMPONENT TOTAL</b>	<b>100,000</b>		<b>15,000</b>		<b>50,000</b>		<b>5,000</b>	<b>30,000</b>
<b>40.00</b>	<b><u>Equipment</u></b>								
45.01	Expendable equipment	20,000		6,000		6,000		6,000	2,000
45.02	Non-expendable equipment								
45.21	Office supply	50,000		30,000		20,000			
45.22	Wind measurement masts (10)	200,000		200,000					
45.03	Investment incentives	1,000,000						1,000,000	
45.72	Office operation and maintenance	30,000		10,000		10,000		10,000	
<b>49.00</b>	<b>COMPONENT TOTAL</b>	<b>1,300,000</b>		<b>246,000</b>		<b>36,000</b>		<b>1,016,000</b>	<b>2,000</b>
<b>50.00</b>	<b><u>Miscellaneous</u></b>								
52.01	Reporting costs	40,000		5,000		10,000		15,000	10,000
53.01	Sundries	50,000		15,000		15,000		15,000	5,000
<b>59.00</b>	<b>COMPONENT TOTAL</b>	<b>90,000</b>		<b>20,000</b>		<b>25,000</b>		<b>30,000</b>	<b>15,000</b>
<b>99.00</b>	<b>GRAND TOTAL</b>	<b>2,550,000</b>		<b>529,000</b>		<b>443,000</b>		<b>1410,000</b>	<b>168,000</b>

ANNEX III

<b>PROJECT PLANNING MATRIX</b>				
<b>Project Strategy</b>	<b>Objectively Verifiable Indicators</b>	<b>Time and Means of Verification</b>	<b>Assumptions</b>	<b>Risks and actions</b>
<b>Development Goal:</b> To reduce Kazakhstan's greenhouse gas emissions by facilitating the sustainable development of the wind energy market in Kazakhstan	CO2 emissions are reduced by 20 000 t per year over the pilot wind farm project life.  The capacity of wind power is constantly increasing up to 500MW in accordance with the National Wind Energy Program to 2030 with the CO2 reduction impact of 1 700 000 t per year	Official statistics	Consistency with the general Government policy continuing commitment of the Government to support investments in wind energy.	
<b>Project Purpose:</b> To remove the existing barriers to the grid connected wind energy production in Kazakhstan	See above	Field surveys, official statistics	See above	
<b>Immediate Objective 1:</b> Finalizing the organizational structure and other necessary arrangements for project implementation.	The project effectively under implementation	Inception report	Commitment of Government to support the project is provided.	
<b>Output 1:</b> The PSC and PIU established, the work plan and the terms of reference for the contracts with the experts to be involved in the project implementation compiled.	PIU and the PSC established, a detailed work plan for the project adopted and the consultants and other experts recruited.	See above	N/A.	
<b>Immediate Objective 2:</b> Adoption of a cross-sectoral national wind energy program to achieve the goals set forward in the energy sector development program until 2030 and in the NEAP.	The program is adopted and launched by the Government reflecting the outputs presented below.	Official publications, project progress reports	Consistency with the general Government policy and continuing commitment of the Government to support investments in wind energy.	The Program is not adopted by Government. Subject of the 2-d Tripartite meeting.
<b>Output 2.1:</b> Preliminary site mapping and evaluation of the economically feasible potential for wind energy development in Kazakhstan	The map and the report describing the economically feasible sites and potential for wind energy development in	Project progress reports and publications	N/A.	

	Kazakhstan finalized.			
<b>Output 2.2:</b> Recommendations for the legal and regulatory changes to support investments in wind energy	A report analysing the existing legal and regulatory framework and making recommendations for the changes needed to support investments in wind energy finalized	See above	Consistency with the general Government legislation and continued commitment of the Government to support the project	
<b>Output 2.3</b> A proposal for the introduction of new innovative financing mechanisms to finance wind energy projects in Kazakhstan	A report analysing and describing possible new and innovative financing mechanisms that realistically could be introduced in Kazakhstan finalized;	See above	Close co-operation and consultations with the local and international financing organizations, private sector investors and, as applicable, equipment vendors.	
<b>Output 2.4</b> Adoption of the “National Wind Energy Program, incorporating the results, conclusions and recommendations described above	The “National Wind Energy Program” building on the outputs 2.1, 2.2 and 2.3 adopted by the Government	See above		
<b>Immediate Objective 3:</b> Building the local capacity to develop commercially feasible investment proposals and to structure financing for the projects	Financing decisions concluded for at least 2 new wind energy projects by the end of the project.	Project terminal report	The national wind energy program and new incentives for developing wind energy investment projects in Kazakhstan adopted by the end of the project.	
<b>Output 3.1:</b> A detailed wind resource assessment for selected sites	A detailed wind resource assessment finalized for 6 most promising sites	Project progress reports, publications	See above	
<b>Output 3.2:</b> Enhanced capacity of the local stakeholders to prepare feasibility studies, business plans and commercially attractive investment proposals.	Feasibility studies, business plans and investment proposals prepared for at least 4 projects at the level that reflects the requirements of international investors and banking institutions	Project progress reports	See above	
<b>Output 3.3:</b> Improved contacts between the local wind power developers and potential local, international investors and wind turbines producers	Concrete negotiations underway for financing at least 4 new wind energy projects and, as applicable, for manufacturing selected wind turbine components in Kazakhstan,	Project progress reports; separate questionnaires	See above	
<b>Immediate Objective 4:</b> Facilitating the construction of the first pilot project(s)	The first pilot project(s) successfully in operation	Project progress reports, official	Continuing commitment of the Government to support	The Government doesn’t reach an



		publications	realization of the first demo project.	agreement with the investor. Subject of the Tripartite meeting
<b>Output 4.1</b> A successfully launched public call for tender for the construction of the first pilot project	Contract with the selected investor signed.	See above	See above	
<b>Output 4.2:</b> Enhanced capacity of the local stakeholders to install, operate and maintain the wind turbines and to ensure otherwise their proper operation.	The wind turbines operate according to their specifications	Project progress and monitoring reports	N/A.	
<b>Immediate Objective 5:</b> Using the results and lessons learnt for further development of the wind energy market in Kazakhstan	The results and lessons learnt incorporated into the strategies to develop the wind energy market in Kazakhstan	Project monitoring	N/A.	
<b>Output 5.1</b> A project monitoring and evaluation report	The project monitoring and evaluation report finalized	Project progress reports	N/A.	
<b>Output 5.2:</b> Dissemination of the results and lessons learnt	The results disseminated through seminar(s), publications and other outreach activities	Project terminal report	N/A.	

<b>ACTIVITIES</b>	<b>Responsible Party</b>	<b>Indicator</b>	<b>Means of verification</b>
1.1.1 Appointing a National Project Director (NPD) and establishing the Project Steering Committee (PSC)	Government of Kazakhstan	NPD and PSC are appointed	Inception report
1.1.2 Establishing the Project Implementation Unit (PIU)	Government of Kazakhstan, UNDP CO	ITA + local project staff, office equipment, office space are in a place	See above
1.1.3 Finalising the detailed work plans, ToRs and implementation arrangements for the other components of the project	PIU	Detailed WP and TORs are prepared	See above
2.1.1 Reviewing the existing studies and other available information 2.1.2 Conducting the site mapping and updating the analysis of the economically feasible wind energy potential	PIU	Technical reports	Project progress reports
2.2.1 Reviewing the current legal and regulatory framework 2.2.2 Preparing a proposal for the legal and regulatory changes needed	PIU	A proposal for the legal and regulatory changes needed	See above
2.3.1 Analysing different alternatives and preparing a proposal for the introduction of new innovative financing mechanisms to finance wind energy investments	PIU Int. short term expert Government staff	A proposal for the introduction of new innovative financing mechanisms to finance wind energy investments	See above
2.4.1 Establishing an inter-ministerial working group to work on the strategy	PIU + Government	An inter-ministerial working group	See above
2.4.2 By building on the outputs 2.1, 2.2 and 2.3, preparing a draft “National Wind Energy Program”	PIU+ Government	A draft “ National wind Energy Program”	See above
2.4.3 Organizing a workshop to present and discuss the draft Program	Government, PIU	Seminar conclusion	See above
2.4.4 Conducting consultations and other outreach activities to present and discuss the Program with various stakeholder groups	PIU + Government	Replies to the draft Program	See above
2.4.5 Finalising the draft Program and submitting it for the Government approval	PIU+ Government	The draft Program are submitted to Government for approval	See above

3.1.1 Site selection	PIU + Government staff + relevant institutes + International subcontractor	Sites are identified	See above
3.1.2 Procuring and installing the measurements devices	PIU + local short term contractors Int. subcontractor	Equipment are installed and wind measurements are on a way	See above, sites survey
3.1.3 Compiling and analysing the data	PIU + local short term contractors Int. subcontractor	Wind potential report	See above
3.1.4 Dismantling and, as applicable, reinstalling the equipment in other locations	PIU Local short term contractors	New sites are selected, equipment are installed and wind measurements are on a way	See above, sites survey
3.2.1 Finalising a model feasibility study, business plan and investment proposal for 4 selected sites	PIU Int. short term expert + local experts / wind power developers	A row of investment proposals for selected sites	See above
3.2.2 Providing general training and coaching on project financing, business management and international accounting principles	ITA Int. short term expert	Training activities	See above
3.3.1 Conducting seminars, meetings and other outreach activities to facilitate the contacts between the local wind power developers and local and int. investors and wind turbines producers	PIU	Seminars conclusions	See above
4.1.1 Finalising the tender documents and announcing the tender	Government of Kazakhstan + UNDP CO, PIU As needed, int. short term expert	Official publications	See above,
4.1.2 Evaluating the submissions and finalising the contract with the winner	Government of Kazakhstan + UNDP CO, PIU	Contract between Government and investor is signed. Official publications	See above
4.2.1 Training the local specialist to install, operate and maintain the wind turbines and to ensure otherwise their proper operation	Int. short term expert	Int. short term expert is contracted	See above, site surveys
5.1.1 Recording the issues and eventual barriers faced during the project implementation	PIU	Monitoring reports	See above
5.1.2 Developing and implementing a “Project Monitoring and Verification Protocol” for the first pilot project	PIU	“Project Monitoring and Verification Protocol” for the first pilot project	See above, site surveys

5.1.3 Conducting an independent project midterm and final evaluation	Int. short term expert	Int. short term expert is contracted	See above, site survey
5.1.4 Finalising the project monitoring and evaluation report	PIU	The project monitoring and evaluation report is finalized	See above
5.2.1 Publishing and disseminating the project final report	PIU	The Project final report is published and disseminated	See above
5.2.2 Organising an end-of-the-project seminar and other outreach activities	PIU+ Government of Kazakhstan	Seminar conclusion	See above

## AN INDICATIVE WORK PLAN FOR THE PROJECT

OUTPUTS AND ACTIVITIES	RESPONSIBLE PARTY (see the PPM)	Year 1 Quarter				Year 2 Quarter				Year 3 Quarter				
		1	2	3	4	1	2	3	4	1	2	3	4	
<b>Output 1.1</b> Finalised project implementation arrangements <u>Activities:</u>														
1.1.1 Appointing a National Project Director (NPD) and establishing the Project Steering Committee (PSC)														
1.1.2 Establishing the Project Implementation Unit (PIU)														
1.1.3 Finalising the detailed work plans. Terms of Reference and implementation arrangements for the other components of the project														
<b>Output 2.1</b> Preliminary site mapping and evaluation of the economically feasible potential for wind energy development in Kazakhstan <u>Activities:</u>														
2.1.1 Reviewing the existing studies and other available information														
2.1.2 Conducting the site mapping and updating the analysis of the economically feasible wind energy potential														
<b>Output 2.2</b> Recommendations for the legal and regulatory changes to support investments in wind energy <u>Activities</u>														
2.2.1 Reviewing the current legal and regulatory framework														
2.2.2 Preparing a proposal for the legal and regulatory changes needed														
<b>Output 2.3</b> A proposal for the introduction of new innovative financing mechanisms to finance wind energy investments <u>Activities</u>														

2.3.1 Analysing different alternatives and preparing a proposal for the introduction of new innovative financing mechanisms to finance wind energy investments																		
<b>Output 2.4</b> Adoption of the “National Wind Energy Program” <u>Activities</u>																		
2.4.1 Establishing an inter-ministerial working group to work on the strategy																		
2.4.2 By building on the outputs 2.1, 2.2 and 2.3, preparing a draft “National Wind Energy Program”																		
2.4.3 Organizing a workshop to present and discuss the draft Program																		
2.4.4 Conducting consultations and other outreach activities to present and discuss the Program with various stakeholder groups																		
2.4.5 Finalising the draft Program and submitting it for the Government approval																		
<b>Output 3.1</b> A detailed wind resource assessment for 6 selected sites <u>Activities:</u>																		
3.1.1 Site selection																		
3.1.2 Procuring and installing the measurements devices																		
3.1.3 Compiling and analysing the data																		
3.1.4 Dismantling and, as applicable, reinstalling the equipment in other locations																		
<b>Output 3.2</b> Enhanced capacity of the local stakeholders to prepare “bankable” investment proposals and to structure financing for the projects <u>Activities:</u>																		
3.2.1 Finalising “model” feasibility studies, business plans and investment proposals for 4 different prospective sites (incl. bigger wind farms as well as smaller scale wind power supply for remote villages).																		
3.2.2 Providing general training and coaching on project financing, business management and international accounting principles																		

<b>Output 3.3</b> Improved contacts between the local wind power developers and the potential local and international investors and wind turbines producers <u>Activities:</u>																	
3.3.1 Conducting seminars, meetings and other outreach activities to facilitate the contacts between the local wind power developers and potential local and international investors																	
<b>Output 4.1</b> Successfully launched public call for tender for the construction of the first pilot project <u>Activities:</u>																	
4.1.1 Finalising the tender documents and announcing the tender																	
4.1.2 Evaluating the submissions, and finalising the contract with the winner of the tender																	
<b>Output 4.2</b> Enhanced capacity of the local stakeholders to install, operate and maintain the wind turbines <u>Activities</u>																	
4.2.1 Training the local specialist to install, operate and maintain the wind turbines and to ensure otherwise their proper operation																	
<b>Output 5.1</b> A project monitoring and evaluation report <u>Activities</u>																	
5.1.1 Recording the issues and eventual barriers faced during the implementation of the project																	
5.1.2 Developing and implementing a “Project Monitoring and Verification Protocol” (PMVP) for the first pilot project																	
5.1.3 Conducting an independent project midterm and final evaluation																	
5.1.4 Finalising the project monitoring and evaluation report																	

<b>Output 5.1</b>														
Dissemination of the results and lessons learnt														
<b>Activities</b>														
5.2.1 Publishing and disseminating the project final report														
5.2.2 Organising an end-of-the-project seminar and other outreach activities to discuss and disseminate the project results and lessons learnt;														



### Standard Annex to the Project Document on UNDP Country Office Support

1. Reference is made to consultations between the Ministry of Energy and Mineral Resources, the Executing Agency designed by the Government of Kazakhstan and officials of UNDP with respect to the provision of support services by the UNDP country office project for the nationally executed project, Kaz/02/G41 “Kazakhstan- Wind Power Market Development Initiative”.
2. In accordance with the Project Document, the UNDP country office shall provide support services for the project as described below.
3. Support services to be provided:

Support Services	Schedule for the provision of the support services	Cost to UNDP of providing support services
1. Direct payments	Ongoing	N/A
2. Procurement	Ongoing (when needed)	N/A
2. Identification and recruitment of consultants	Ongoing (when needed)	N/A

**EQUIPMENT REQUIREMENTS \*)**

Expendable equipment (consumables) includes items of a value of less than US\$ 400 with serviceable life expectancy of less than five years. The total value of expendable equipment has been estimated to be US \$ 2,000.

Non-expendable equipment includes items of a value of US\$ 400 or more, with a serviceable life expectancy of at least five years. The executing/implementing agency will maintain inventory records of these items.

The project will follow UNDP procurement procedures, according to the value of purchased goods. UNDP/GEF supported equipment will remain UNDP's property until formally transferred will be made by the UNDP Resident Representative, in consultation with the Parties concerned. The Executing/Implementing Agency will be responsible for ensuring that the use of equipment and supplies procured with UNDP/GEF funds is strictly for the purpose of the project. It will see for its proper custody, maintenance and care and provide UNDP, upon request, with information regarding the use, storage and maintenance of such equipment.

\*) To be finalised at the outset of project operations, based on the actual needs.

**DRAFT TERMS OF REFERENCE OF THE KEY PROJECT PERSONNEL AND  
CONTRACTS<sup>1</sup>**

**NATIONAL PROJECT DIRECTOR**

Duties and Responsibilities

- Representing the Government as the person responsible for the project from the Government side;
- Ensuring that all Government inputs committed to the projects are made available on time;
- Supervising the overall implementation of the project over its duration, ensuring that it is implemented according to the agreed project document;
- Ensuring that the project manager is empowered to carry out the effective management of the project;
- Acting as the authorising officer for all project expenditures according to the procedures in the NEX operational guidelines;
- Ensuring the co-ordination of the project activities with other Government activities and initiatives related to the project; and
- As needed, providing other support for the effective implementation of the project and for ensuring the effective follow-up, sustainability and the replication of the results achieved.

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<sup>1</sup> The Terms of Reference for the other contracts will be finalized at the outset of project operations by the Project Manager in consultation with the International Technical Adviser and the UNDP/GEF Regional Co-ordinator and will be presented together with the updated workplan.

## **BL 17.01 PROJECT MANAGER**

### Duties and Responsibilities:

Operational management of the project in accordance with the project document and the procedures presented in the official NEX Operational Guidelines, ensuring that the envisioned project outputs are met on time.

Estimated duration: 36 man-months

### Expected outputs:

The project finalised successfully according to set goals, planned schedule and within the allocated budget, including:

- Finalisation and submission of the draft “National Wind Energy Program” for Government approval;
- Enhanced capacity of the local stakeholders to prepare “bankable” investment proposals, incl. finalisation of a detailed wind resource assessment for at least 6 new sites and finalisation of detailed feasibility studies, business plans and investment proposals for at least 4 new projects;
- Improved contacts between the local wind power developers and potential local and international investors;
- Successful commissioning of the first pilot project; and
- A project terminal report compiling the results and lessons learnt and outlining the strategy/ scheme for the effective follow up and expansion of the investments into wind energy in Kazakhstan.

### General Activities:

- overall co-ordination, management and supervision of the project implementation ensuring that the expected outputs are completed on time and that they comply with the specific project criteria and requirements;
- management of the project budget under the supervision of the Executing Agency and UNDP, ensuring that the experts are recruited and the equipment and other materials are procured in a timely and cost-effective manner in accordance with the UNDP rules and procedures;
- regular reporting on the progress of the project to the Executing Agency and UNDP as specified under Section H of the project document: “Project Review, Evaluation and Reporting”;
- organising effective information dissemination on the project activities and results, as well as ensuring that the project counterparts have a full access to all the information produced under the

project (including the establishment and regular updating of the project web-site);

- supervising and co-ordinating the work of the national experts and subcontractors;
- liaising with the other international investors and financing organisations so as to identify possibilities for co-operation and to leverage additional financial resources towards achieving the project objectives.

Qualifications:

- demonstrated capacity to manage projects of this kind and complexity (involving co-operation with international donors and agencies);
- good knowledge on the structure of the Kazakh energy sector and on the other past, ongoing and planned activities to develop the energy sector;
- experience on project development and financing;
- good interpersonal and training skills;
- good computer skills; and
- ability to work both in Russian and English language.

## **BL 11.01 INTERNATIONAL TECHNICAL ADVISER**

### Duties and responsibilities:

As a member of the Project Implementation Unit, the International Technical Adviser (ITA) will support the project manager to finalise the project successfully according to set goals.

Estimated duration: 30 m/m

### Expected outputs:

The project finalised successfully according to set goals, planned schedule and within the allocated budget, including:

- Successful completion of the tender for and commissioning of the first pilot project;
- Enhanced capacity of the local stakeholders to prepare “bankable” investment proposals, incl. finalisation of a detailed wind resource assessment for at least 6 new sites and finalisation of detailed feasibility studies, business plans and investment proposals for at least 4 new projects;
- Improved contacts between the local wind power developers and potential local and international investors; and
- Finalisation and submission of the draft “National Wind Energy Program” drawing from the experiences of promoting wind energy development in other countries.

### Activities:

In close co-operation with the project manager and other local experts and stakeholders:

- Supporting the preparation of the tender documents and the announcing of the tender for the construction of the first pilot project;
- Participating in the evaluation of the submissions received and in the follow up consultations/negotiations with the investors shortlisted for further consideration;
- Depending on the needs, supporting the further demo project preparation and commissioning;
- Developing a template for a model feasibility study, business plan and investment proposal reflecting the requirements of international investors and financing institutions;
- Reviewing and evaluating the feasibility studies and investment proposals prepared and supporting their successful finalisation (incl. structuring financing for them);
- Evaluating the additional training needs and organising the training required;
- Establishing contacts between the local wind power developers and the potential local and international investors, vendors and financing institutions;
- Providing advice on the changes needed in the institutional, legal and regulatory framework to support investments in wind energy, by drawing from the experiences and lessons learnt in other countries

### Qualifications

- Good knowledge and experience on energy sector project financing in the countries with economies in transition, involving international investors and financing institutions;
- Good knowledge on the state-of-the-art wind energy technologies and experiences and lessons learned in other countries in promoting wind energy projects;
- Experience on preparing feasibility studies, business plans and investment proposals for wind energy projects;
- good interpersonal and training skills;
- good computer skills in using the standard office software; and
- fluency in English, ability to communicate in Russian language is considered as a strong “plus”.

## **BL 21.01 WIND SPEED MONITORING PROGRAM AND WIND RESOURCE ASSESSMENT**

### Duties and responsibilities

Supervising the wind speed monitoring program and finalising a detailed wind resource assessment for the selected sites, and at the more aggregate level for Kazakhstan as a whole, by using the available meteorological data and other sources of information.

### Expected Outputs

- A detailed work plan for the wind resource assessment component of the project
- Wind speed measurements successfully completed for 6-10 selected sites for the minimum duration of continuing 12 months;
- A detailed wind resource assessment completed for selected sites, which can be used as a basis for technical and economic feasibility studies for mentioned locations; and
- By building on the existing studies, available meteorological data and, as applicable, computerised circulation models, a more general wind resource assessment for Kazakhstan as a whole.

### Activities:

#### Part I :

In co-operation with the project manager and other local experts and stakeholders:

- Compiling and reviewing the existing studies and available meteorological data on the wind conditions in Kazakhstan;
- Compiling the additional maps and other initial information needed for initiating the wind resource assessment;
- Identifying and analysing the sites best suited for additional measurements and making recommendations for their selection;
- Finalising a mission report for the first part of the contract, including
  - brief review and assessment of the existing studies and available meteorological and other data on available wind resources;
  - conclusions and recommendations of the site analysis for additional measurements;
  - detailed work plan for the wind speed measurement component of the project, including the suggested arrangements for data collection; and
  - draft tender documents for the equipment to be procured.

#### Part II:



- Finalising the tender documents for the equipment to be procured;
- As applicable, participating in the evaluation of the offers received and supporting the procurement otherwise, including, as needed, the testing of the equipment before their shipping and/or installation;
- Supervising the erection of the masts and installation of the wind monitoring equipment ensuring their proper operation;
- Supervising the data collection and ensuring the quality of the data received for the minimum duration of continuing 12 months;
- Compiling and storing the “raw” data and making it available on as needed basis to interested wind power developers and other stakeholders, as agreed with UNDP

### Part III

- Finalising a detailed wind resource assessment for the measured sites;
- By building on the measurements conducted, available meteorological data and other sources of information, completing a wind resource assessment at a more aggregate level for Kazakhstan as a whole;
- Completing the final report of the wind resources of Kazakhstan

## MONITORING AND EVALUATION PLAN

As a result of the emphasis placed on results-based management, it has become mandatory for all GEF projects to develop a detailed Monitoring & Evaluation Plan at the inception of the activities. The M&E Plan will allow for a critical assessment of project performance by showing the schedule of the activities, their cost and the expected outputs and achievements against established benchmarks and milestones, as summarized in the end of this Annex, the Project Planning Matrix (PPM) and the Work Plan.

While distinct, Monitoring and Evaluation are nevertheless interactive and mutually supportive activities

**Monitoring** is a continuous process of collecting and analyzing information to measure the progress of a project towards its expected results and indicators. Monitoring provides managers and participants with regular feedback that can help determine whether a project is progressing as planned and the set benchmarks/indicators are met. Monitoring will involve key project staff and UNDP counterparts meetings to review operation and field implementation and assessing progress of the project against planned results.

**Evaluations** are periodic assessments of project performance by measuring indicators and impact. The PPM of the project sets out a range of impact/implementation indicators that will be used to gauge impact. Annual participatory evaluation exercises will be undertaken with key stakeholders and partner organisations. Two external evaluations are scheduled in the project, one in year two and a final review just near the end of the project. These independent evaluations of project performance will match project progress against predetermined success indicators and will also be used for preparation of Annual Performance Reports (APRs). UNDP will report on project performance to the GEF at the annual Project Implementation Review (PIR). Evaluations also document what lessons are being learned during the implementation

**Reporting** is the systematic and timely provision of essential information. It is an integral part of the monitoring and evaluation function.

Monitoring, reporting and evaluation are management functions that could also be described as observing project progress (monitoring), documenting the observed information (reporting) and assessing on the basis of the above (evaluating).

Monitoring and systematic reporting must be undertaken for all regular and medium-size projects regardless of duration and budget. A chart describing standard M&E practices, timing of activities, and responsibilities for those activities is presented below:

Standard M&E Activities, Timeframes, and Responsibilities\*

<b>ACTIVITY</b>	<b>RESPONSIBILITIES</b>	<b>TIMEFRAMES</b>
1. Drafting Project Planning Documents: Prodoc, Logframe (including indicators)	<b>Project proponent</b> , together with UNDP/GEF staff, project development specialists and other stakeholders	During project design stage
2. M&E Plan	<b>Project proponent</b> , together with UNDP/GEF staff, project development specialists and other stakeholders	During project design stage
3. Inception Report	<b>PROJECT IMPLEMENTATION TEAM</b>	Three months after the beginning of project implementation
4. Work Plan	<b>PROJECT IMPLEMENTATION TEAM</b>	Annually
5. Quarterly management narrative reports	<b>Project Manager</b> , Project Team	Quarterly, to be submitted within 30 days after the end of the quarter
6. Tripartite Review (TPR)	The Governments, <b>UNDP Country Office</b> , Executing Agency, Project Team, and Target Groups	Annually
7. Tripartite Review Report	<b>UNDP Country Office</b>	Annually, immediately following TPR
8. Project Implementation Review (PIR)/Annual Project Report (APR)	<b>UNDP Country Office</b> , <b>Executing Agency</b> , UNDP/GEF headquarters, Project Team, GEF's M&E team,	Annually, between June and September
9. Mid-term and final evaluations	<b>UNDP Country Office</b> , <b>Executing Agency</b> Project team, <b>UNDP/GEF headquarters</b> ,	At the mid-point and end of project implementation;
10. Terminal Report	<b>Executing Agency</b> , <b>UNDP Country Office</b> , UNDP/GEF Task Manager, Project Team	At least one month before the end of the project
11. Audit	<b>Executing Agency</b> , UNDP Country Office, Project Team	Annually

\* The unit in **bold** has the lead responsibility.

## **Reporting**

Ongoing project reporting will be provided in accordance with established UNDP procedures and will be provided by the UNDP Country Office with support from UNDP/GEF. Overall supervision of the Project will be the responsibility of the Project Director.

The Project Management Unit will be responsible for the preparation and submission of the following reports:

### ***(a) Inception Report (IR)***

The inception report is to be prepared by the Project Management Unit, with the assistance of project experts as is deemed relevant. The IR will be prepared no later than three months after project start-up and will include a detailed work plan and budget for the duration of the project, progress to date on project establishment and start-up activities, and any proposed amendments to project activities or approaches. Detailed Work Plan for the Year 1 will be submitted within 30 days after the launch of the project. The report will be circulated to all the parties who will be given a period of one calendar month in which to respond with comments or queries, including the UNDP CO programme manager and the UNDP/GEF regional co-ordinator so as to ensure consistency with the objectives and activities indicated in the Project Document.

### ***(b) Harmonised Annual Project Report (APR)/Project Implementation Review report (PIR)***

The Annual Project Report (APR) is designed to obtain the independent views of the project's main stakeholders concerning its continuing relevance, performance and the likelihood of its success. The APR aims to: a) provide a rating and textual assessment of the project in achieving its objectives; b) present stakeholders' insights into issues affecting project implementation and their proposals for addressing those issues; and c) serve as a source of inputs to the Tripartite Review (TPR). The main project stakeholders participate in the preparation of the APR.

A major tool for monitoring the GEF portfolio and extracting lessons is the annual GEF Project Implementation Review (PIR). The PIR has become an essential management and monitoring tool for project managers and offers the main vehicle for extracting lessons from ongoing projects.

The PIR is mandatory for all GEF projects that have been under implementation for at least one year at the time that the exercise is conducted. The implementation of the project begins when all parties have signed the project document. The PIR questionnaire is sent to the UNDP country office, usually around the beginning of June. It is the responsibility of the Project Director/PM to complete the PIR questionnaire, with the oversight of the UNDP Country Office.

In order to reduce the load on the project teams, a *Harmonized APR/PIR* format has been developed to be filled in and submitted by the project team on the annual basis. APR/PIR will be prepared by the project management team with UNDP CO and other project stakeholders.

***(c) Periodic Status Reports***

As and when called for by the Project Director, the government or UNDP, the Project Manager will prepare Status Reports, focusing on identified specific issues or areas of activity. The request for a Status Report will be in written form, and will clearly state the issue or activities that need to be reported on. These reports can be used to provide specific overviews of key areas, or as troubleshooting exercises to evaluate and overcome any encountered obstacles and difficulties. The parties are requested to minimise requests for Status Reports and, when such are necessary, will allow reasonable timeframes for their preparation.

***(d) Technical Reports***

Technical Reports are detailed documents covering specific areas of analysis or scientific specialization within the overall project. As part of the Inception Report the Project Director/PM will prepare a draft Reports List, detailing the technical reports that are expected to be prepared on key areas of activity during the course of the Project, and tentative due dates. Where necessary, this Reports List will be revised and updated, and included in subsequent PIRs/APRs. Technical Reports may also be prepared by external consultants as Final Reports for their technical inputs, and should be comprehensive, specialized analyses of clearly-defined areas of research within the framework of the project and its sites.

***(e) Project Publications***

Project Publications will be a key tool for crystallizing and disseminating the results and achievements of the Project. These Publications will be scientific or informational texts on the activities and achievements of the Project, in the form of books, journal articles or multimedia publications. These Publications can be based on Technical Reports, depending upon the relevance, scientific worth, etc. of these Reports, or may be summaries or compilations of a series of Technical Reports and other research. The Project Director/PM will determine whether specific Technical Reports merit formal publication, and will also, in consultation with the government and other parties and with the help of external specialists and staff where necessary, plan and produce these Publications in a consistent and recognisable format and identity. These Publications will form the most visible public output of the Project, and as such should be prepared and presented to the highest scientific and technical standards.

***(f) Project Terminal Report***

During the last three months of the project, the Project Director/PM will prepare the Project Terminal Report. This comprehensive report will summarise all activities, achievements and outputs of the Project, lessons learned, objectives met and unattained, structures and systems implemented, etc. and will be the definitive statement of the Project's activities over its seven year duration. It will also clearly set forth recommendations for any further steps that may need to be taken to ensure the sustainability and replicability of the Project's activities.

***(g) Other Publications and Publicity Activities***

In order to ensure international dissemination of project results, ***a high-quality publication of results*** will be prepared, based upon the Project Terminal Report and previous Project Publications. It will also be useful to hold at least one *international workshop or conference* to showcase the project and its results.

### ***Tripartite Review (TPR)***

The tripartite review (TPR) is the highest policy-level meeting of the parties directly involved in the implementation of a project. The project will be subject to Tripartite Review (TPR) at least once every twelve months by representatives of the Government, the executing agency (Ministry of Energy) and UNDP, and the first such meeting to be held within the first twelve months of the start of full implementation. The Project Management Unit will prepare an APR/PIR for submission to UNDP. The APR/PIR must be ready two weeks prior to the TPR.

The APR/PIR will be used as one of the basic documents for discussions in the TPR meeting. The National Project Director/PM presents the APR/PIR to the TPR, highlighting policy issues and recommendations for the decision of the TPR participants. The NPD also informs the participants of any agreement reached by stakeholders during the APR/PIR preparation on how to resolve operational issues.

### ***Terminal Tripartite Review (TTR)***

The terminal tripartite review is held in the last month of project operations. The Project Management Unit is responsible for preparing the Terminal Report, and its submission to UNDP. The two key documents to serve the discussion in the TPR are: (i) Terminal Report and (ii) Final Project Evaluation.

The draft Terminal Report shall be prepared sufficiently in advance (at minimum 3 months before project's finalisation) in order to provide information for the final project evaluation. After completing the final evaluation, the Terminal Report will be updated taking into account the conclusions of the evaluation. The updated Terminal Report will be sent for review and technical clearance by the executing agency and UNDP at least 6 weeks before the TPR meeting and the final Terminal Report and the Final Evaluation Report to the participants of the TPR at least 3 weeks before the TPR meeting.

The terminal tripartite review will consider the implementation of the project as a whole, paying particular attention to whether the project achieved its immediate objectives and contributed to the broader environmental objective, and will indicate whether any further actions are still necessary.

## **BUDGET**

The monitoring and evaluation (M&E) activities to be undertaken during the lifetime of the project will mainly consist of the "standard" UNDP/GEF project related M&E activities, such as reviewing the reports and other documents produced during the project as well as preparation of the quarterly progress reports, annual project reports (APR), project implementation reviews (PIRs), midterm and final evaluation as well as the project's terminal report. As regards the activities to estimate the GHG reduction impact of the project, no major replication (i.e. expanding the wind generation capacity from the envisaged first pilot project) is expected to take place during the lifetime of the project and, therefore, the monitoring of the direct GHG reduction impact of the project is likely to be limited to this first pilot project only. As this corresponds directly to the measured output of the wind turbines (in kWh), no additional funding, for instance, for GHG emission monitoring equipment is expected to be

needed. The project activities include, however, the preparation of the Project Monitoring and Verification Protocol (PMVP, activity 5.1.2), which can be used as a model for estimating and verifying the GHG reduction impact of also other wind energy projects in the future and the estimated cost of this activity are included as a part of the M&E budget. Since to large extent this work can build on the already available Monitoring and Verification Protocols (such as the ones prepared under other GEF or Dutch or WB/PCF funded JI/CDM projects), no major additional costs are expected to be connected with this activity either.

Taking into account the above, the budget for M&E can be estimated as follows:

Project Manager (30% of his/her time):	10,800
Admin. Assistant (30% of his/her time):	6,500
International Technical Adviser (30%):	90,000
Other staff of the PIU (10%):	14,400
International Experts for Midterm and Final Evaluation	28,000
Mission and Travel Costs:	50,000
PMVP + data compilation and analysis:	15,000
Reporting Costs:	20,000
<b>Total:</b>	<b>234,700</b>

Project Objectives Outputs/Performance Indicators	M&E Activity	Responsibilities for M&E Activities	Timeframes
<b>Immediate Objective 1:</b> Finalizing the organizational structure and other necessary arrangements for project implementation.			
<b>Indicator:</b> Project effectively under implementation			
<p><b>Output 1.1</b> The PSC and PIU established, the work plan and the terms of reference for the contracts with the experts to be involved in the project implementation compiled.</p> <p><b>Success Indicator:</b> See above</p> <p><b>Intermediate Benchmarks:</b></p> <ul style="list-style-type: none"> <li>(a) National Project Director appointed</li> <li>(b) PSC established</li> <li>(c) Project manager contracted</li> <li>(d) International Technical Adviser contracted</li> <li>(e) The work plan updated and the Terms of Reference for the other contracts finalised and cleared by the PSC, UNDP CO and UNDP/GEF</li> <li>(f) PIU established and fully operational</li> </ul>	Project Inception Report	<b>PM (Project manager) / UNDP CO</b>	By the end of the first quarter of the project
<b>Immediate Objective 2:</b> Adoption of a cross-sectoral “National Wind Energy Development Program” to achieve the goals set in the Energy Sector Development Program until 2030 and in the National Environmental Action Plan.			
<b>Indicator:</b> The program is adopted and launched by the Government reflecting the outputs presented below.			
<p><b>Output 2.1</b> Preliminary site mapping and evaluation of the economically feasible potential for wind energy development in Kazakhstan.</p> <p><b>Success Indicator:</b> The map and the report describing the economically feasible sites and potential for wind energy development in Kazakhstan finalized.</p> <p><b>Intermediate Benchmarks:</b></p> <ul style="list-style-type: none"> <li>(a) A review report of the existing studies and other available information.</li> <li>(b) Draft map and report describing the economically feasible sites and potential for wind energy development in Kazakhstan.</li> </ul>	<p>1 st APR/PIR</p> <p>2<sup>nd</sup> Quarterly Progress Report (QPR)</p>	<p><b>PMU / UNDP CO</b></p> <p><b>PMU / UNDP CO</b></p>	<p>12 months from the beginning of the project</p> <p>6 months from the beginning</p>



<p><b>Output 2.2</b> Recommendations for the legal and regulatory changes to support investments in wind energy.</p> <p><b>Success Indicator:</b> A report analysing the existing legal and regulatory framework and making recommendations for the changes needed to support investments in wind energy finalized</p> <p><b>Intermediate Benchmarks:</b></p> <p>(a) Review of the existing legal and regulatory framework concluded, identifying barriers to wind energy project implementation and financing (including institutional, financial as well as technical aspects)</p> <p>(b) Consultations with the key stakeholders in order to define recommendations for making the legal and regulatory framework more conducive to wind energy development concluded.</p> <p>(c) Draft report circulated for review.</p>	<p>1 st APR/PIR</p> <p>3<sup>nd</sup> QPR</p> <p>See above</p> <p>See above</p>	<p>PMU / UNDP CO</p> <p>PMU / UNDP CO</p> <p>See above</p> <p>See above</p>	<p>12 months from the beginning of the project</p> <p>9 months from the</p> <p>See above</p> <p>See above</p>
<p><b>Output 2.3</b> A proposal for the introduction of new innovative financing mechanisms to finance wind energy projects in Kazakhstan.</p> <p><b>Success Indicator:</b> A report analysing and describing possible new and innovative financing mechanisms that realistically could be introduced in Kazakhstan finalized;</p> <p><b>Intermediate Benchmarks:</b></p> <p>(a) literature review of the different possible financing models concluded</p> <p>(b) meetings and consultations with the potential financiers concluded</p> <p>(c) draft report analysing and describing possible new and innovative financing mechanisms that realistically could be introduced in Kazakhstan circulated for review</p>	<p>1 st APR/PIR</p> <p>3<sup>nd</sup> QPR</p> <p>See above</p> <p>See above</p>	<p>PMU / UNDP CO</p> <p>PMU / UNDP CO</p> <p>See above</p> <p>See above</p>	<p>12 months from the beginning of the project</p> <p>9 months from the</p> <p>See above</p> <p>See above</p>

<p><b>Output 2.4</b> Adoption of the “National Wind Energy Program” incorporating the results, conclusions and recommendations of the work described above.</p> <p><b>Success Indicator:</b> The “National Wind Energy Program” building on the outputs 2.1, 2.2 and 2.3 adopted by the Government.</p> <p><b>Intermediate Benchmarks:</b></p> <p>(a) an inter-ministerial working group to work on the program established</p> <p>(b) draft program concluded and circulated for review</p> <p>(c) a workshop to present and discuss the program organised</p> <p>(d) other consultations and outreach activities with the key stakeholders finalised</p> <p>(e) draft program finalised and submitted for Government approval</p>	<p>Project Terminal Report</p> <p>2<sup>nd</sup> QPR</p> <p>5<sup>th</sup> QPR</p> <p>6<sup>th</sup> QPR</p> <p>see above</p>	<p>PMU / UNDP CO</p> <p>PMU/ UNDP CO</p> <p>PMU/UNDP CO</p> <p>PMU/UNDP CO</p> <p>see above</p>	<p>By the end of the project</p> <p>6 months from the beginning</p> <p>15 months from the beginning</p> <p>18 months from the beginning</p> <p>see above</p>
<p><b>Immediate Objective 3:</b> Building the local capacity to develop commercially feasible investment proposals and to structure financing for the projects.</p> <p><b>Indicator(s):</b> Financing decisions concluded for at least 2 new wind energy projects by the end of the project.</p>			
<p><b>Output 3.1.</b> A detailed wind resource assessment for selected sites.</p> <p><b>Success Indicator:</b> A detailed wind resource assessment finalized for 6 most promising sites.</p> <p><b>Intermediate Benchmarks:</b></p> <p>(a) the international subcontract for conducting the wind resource assessment signed;</p> <p>(b) the site selection concluded;</p> <p>(c) the wind measuring equipment procured and installed;</p> <p>(d) wind measurements concluded for the minimum duration of continuing 12 months</p> <p>(e) draft report finalized and circulated for review</p>	<p>Project Terminal Report</p> <p>2<sup>nd</sup> QPR</p> <p>1<sup>st</sup> APR/PIR see above</p> <p>2<sup>nd</sup> APR/PIR</p> <p>10<sup>th</sup> QPR</p>	<p>CO, UNDP/GEF HQ</p> <p>PMU/ UNDP CO</p> <p>PMU/ UNDP CO</p> <p>PMU/ UNDP CO</p> <p>PMU/ UNDP CO</p>	<p>By the end of the project</p> <p>6 months from the beginning</p> <p>12 months from the beginning</p> <p>24 months from the beginning</p> <p>30 months from the beginning</p>
<p><b>Output 3.2</b> Enhanced capacity of the local stakeholders</p>			

<p>to prepare “bankable” feasibility studies, business plans and investment proposals and to structure financing for the projects.</p> <p><b>Success Indicators:</b> Feasibility studies, business plans and investment proposals prepared for at least 4 projects at the level that reflects the requirements of international investors and banking institutions</p> <p><b>Intermediate Benchmarks:</b></p> <p>(a) model feasibility studies, business plans and investment proposals finalised for four different prospective sites</p> <p>(b) training and coaching made available on project financing, business management international accounting principles</p>	<p>2<sup>nd</sup> APR/PIR</p> <p>Final evaluation</p> <p>2<sup>nd</sup> APR/PIR</p> <p>see above</p>	<p><b>PMU/ UNDP CO</b></p> <p><b>CO/ UNDP/GEF HQ</b></p> <p><b>PMU/ UNDP CO</b></p> <p>see above</p>	<p>24 months from the beginning</p> <p>3 months before the end</p> <p><b>PMU/ UNDP CO</b></p> <p>see above</p>
<p><b>Output 3.3</b> Improved contacts between the local wind power developers and potential local and international investors and wind turbine producers</p> <p><b>Success Indicator:</b> Concrete negotiations underway for financing at least 4 new wind energy projects and, as applicable, for manufacturing selected wind turbine components in Kazakhstan.</p> <p><b>Intermediate Benchmarks:</b></p> <p>Seminars, meetings and other outreach activities organized</p>	<p>10<sup>th</sup> QPR</p>	<p><b>PMU/ UNDP CO</b></p>	<p>30 months from the beginning</p>

**Immediate Objective 4:** Facilitating the construction of the first pilot 5 MW wind farm in order to prepare ground and gain experience for and to reduce the risks of future investments into the wind projects.

**Indicator(s):** The first pilot project(s) successfully in operation

<p><b>Output 4.1</b> A successfully launched public call for tender for the construction of the first pilot project.  <b>Success Indicator:</b> Contract with the selected investor signed.  <b>Intermediate Benchmarks:</b>  (a) Tender documents finalised and the tender announced  (b) The submissions evaluated and the investor selected</p>	<p>1<sup>st</sup> APR/PIR   2<sup>nd</sup> QPR   3<sup>rd</sup> QPR</p>	<p><b>PMU / UNDP CO</b>   <b>PMU / UNDP CO</b>   <b>PMU / UNDP CO</b></p>	<p>12 months from the beginning   6 months from the beginning  9 months from the beginning</p>
<p><b>Output 4.2</b> Enhanced capacity of the local stakeholders to install, operate and maintain the wind turbines  <b>Success Indicator:</b> The wind turbines operate according to their specifications  <b>Intermediate Benchmarks:</b>  (a) Training on the installation, operation and maintenance of wind turbines organized</p>	<p>Terminal Report   2<sup>nd</sup> APR/PIR</p>	<p><b>PMU/ UNDP/CO</b>   <b>PMU/ UNDP/CO</b></p>	<p>By the end of the project   24 months from the beginning</p>

<b>Immediate Objective 5:</b> Using the results and lessons learnt for further development of the wind energy market in Kazakhstan and elsewhere.			
<b>Indicator:</b> The results and lessons learnt incorporated into the strategies to develop the wind energy market in Kazakhstan			
<b>Output 5.1</b> A project monitoring and evaluation report compiling and analysing the results and lessons learnt <b>Success Indicator:</b> The project monitoring and evaluation report finalized <b>Intermediate Benchmarks:</b> (a) Report on the barriers faced during the development and implementation of the first pilot project (b) A Project Monitoring and Verification Protocol developed (PMVP) (c) Project midterm evaluation completed and the report adopted (d) Project final evaluation completed and the report adopted	Terminal Report	<b>PMU/ UNDP CO</b>	By the end of the project
	2 <sup>nd</sup> APR/PIR	<b>PMU / UNDP CO</b>	24 months from the beginning
	see above	see above	see above
	see above	see above	see above
	Terminal report	<b>PMU/ UNDP CO</b>	By the end of the project
<b>Output 5.2</b> Dissemination of the results and lessons learnt <b>Success Indicator:</b> The results disseminated through seminar(s), publications and other outreach activities <b>Intermediate Benchmarks:</b> (a) Draft final project report circulated for review (b) Workshops and other public outreach activities organised at the national and regional level to discuss and disseminate the project results, conclusions and recommendations (c) Final project report published and distributed both as a hardcopy and through Internet	Terminal Report	<b>PMU / UNDP CO</b>	By the end of the project
	See above	See above	See above

# Law of the Republic of Kazakhstan “On Investments” January 8, 2003 № 373-II 3PK

January 8, 2003 № 373-II 3PK

This Law regulates the relations which are associated with investments in the Republic of Kazakhstan and defines the legal and economic basis of the stimulation of investments, guarantees the protection of the rights of investors when carrying out investments in the Republic of Kazakhstan, defines the measures of state support of investments, and the procedure for resolution of disputes with participation of investors.

## Chapter 1. General Provisions

### *Article 1. Main Definitions That Are Used in This Law*

The following main definitions are used in this Law:

- 1) investments - all types of property (except for the goods of personal use), including the objects of lease from the moment of lease agreement execution as well as rights to them which are invested by the investor into the charter capital of a legal entity or increase of fixed assets which are used for entrepreneurial activities;
- 2) investment activities – activities of individuals and legal entities on participating in the charter capital of commercial organizations or creating and increasing of fixed assets which are used for entrepreneurial activities;
- 3) investment preferences - privileges of the addressed nature which are granted to legal entities of the Republic of Kazakhstan that are implementing an investment project in accordance with the Legislation of the Republic of Kazakhstan;
- 4) investment project – package of measures stipulating investments in establishment of new facilities, enlargement and renewal of existing facilities;
- 5) an investment dispute - a dispute which ensues from the contractual obligations between investors and state bodies in connection with investment activities of the investor;
- 6) an investor – individuals and legal entities, which carry out the investments in the Republic of Kazakhstan;
- 7) state in-kind grants – property, which is owned by the Republic of Kazakhstan, conveyed or leased as a land tenure free of charge to legal entities of the Republic of Kazakhstan for implementing of the investment project;
- 8) the contract – an investment agreement stipulating investment preferences;
- 9) the model contract - a standard contract approved by the Government of the Republic of Kazakhstan and used when executing a contract;

10) the authorized body - the central executive body which is granted with the rights that are directly connected with the execution of contracts conclusion and control over the performance thereof;

11) the legal entity of the Republic of Kazakhstan – a legal entity, including any legal entity with foreign participation, incorporated in accordance with the procedure established by the legislation of the Republic of Kazakhstan.

### ***Article 2. The Legislation of the Republic of Kazakhstan on Investments***

1. The legislation of the Republic of Kazakhstan on investments is based on the Constitution of the Republic of Kazakhstan and consists of the provisions of this Law and other normative legal acts of the Republic of Kazakhstan.
2. This Law shall not regulate the relations which are associated with:
  - carrying out investments from the funds of the state budget;
  - investing capital into non-commercial organizations, including for educational, charity, scientific or religious purposes.
3. Relations which emerge in the case of carrying out investments and which pertain to the sphere of the effect of other legislative acts of the Republic of Kazakhstan shall not be governed by the provisions of this Law, except for the cases that are provided for by such legislative acts.
4. If an international treaty that has been ratified by the Republic of Kazakhstan sets forth the provisions other than those which are contained in this Law, then the provisions of such international treaty shall apply.

### ***Article 3. Items of Investment Activities***

1. Investors shall have the right to invest into any items and types of entrepreneurial activities, except for the cases, which are directly provided for by legislative acts of the Republic of Kazakhstan.
2. The legislative acts may determine activities and/or territories in respect of which investments shall be either limited or prohibited, as may be required by the necessity of protection of the national security.

## **Chapter 2. Legal Regime of Investments**

### ***Article 4. Guarantees of Legal Protection of Investors' Activities on the Territory of the Republic of Kazakhstan***

1. An investor shall be entitled to the full and unconditional protection of the rights and interests, which protection shall be backed by the Constitution of the Republic of Kazakhstan, this Law and other normative legal acts of the Republic, as well as by international treaties ratified by the Republic of Kazakhstan.
2. An investor shall have the right to be reimbursed for damages caused to such investor as a result of the enactment by a state body of an act conflicting with legislative acts of the Republic of Kazakhstan or as a result of an illegal action (a failure to act) of officials of such body, pursuant to civil legislation of the Republic of Kazakhstan.
3. The Republic of Kazakhstan shall guarantee the stability of the conditions of contracts entered into between the investors and state bodies of the Republic of Kazakhstan, except for the cases when changes to the contracts are made by agreement of the parties.

These guarantees shall not apply to:

- 1) changes in the Legislation of the Republic of Kazakhstan and/or coming into force of, and /or changes to the international treaties of the Republic of Kazakhstan, which change the procedure and conditions of import, manufacture, sale of the excisable goods;
- 2) changes and supplements which are introduced to the legislative acts of the Republic of Kazakhstan in order to provide for national and ecological security, healthcare and morality.

***Article 5. Guarantees of the Use of Income***

Investors shall have the right:

1. to use income derived from their activities at their sole discretion after payment of taxes and other mandatory payments to the budget in accordance with the legislation of the Republic of Kazakhstan;
2. to open accounts with banks on the territory of the Republic of Kazakhstan in the national currency and (or) foreign currency in accordance with the banking and currency legislation of the Republic of Kazakhstan.

***Article 6. Publicity of Activities of State Bodies in Respect of Investors***

1. Official communications of state bodies of the Republic of Kazakhstan and normative legal acts, which affect the interests of investors, shall be published in accordance with the procedure established by legislation of the Republic of Kazakhstan.
2. Investors shall have free access to information regarding the registration and charters of legal entities, the registration of real estate transactions, and licenses issued, except for the information containing commercial, bank or other secrets protected by law.

***Article 7. Control and supervision by State Bodies over Investors' Activities***

1. Control and supervision over the investors' activity shall be carried out by the state bodies, which are granted such rights in accordance with the legislative acts of the Republic of Kazakhstan.
2. The procedures and terms for control and supervision over investors' activity shall be established by the Legislation of the Republic of Kazakhstan.

***Article 8. Guarantees of the Rights of Investors in the Case of Nationalization and Requisition***

1. An involuntary taking of the property of an investor (nationalization, requisition) for the state needs shall be allowed in the exceptional cases which are provided for by legislative acts of the Republic of Kazakhstan.
2. In the case of nationalization, the investor shall be fully reimbursed by the Republic of Kazakhstan for the damages that were suffered as a result of the enactment of legislative acts of the Republic of Kazakhstan concerning nationalization.
3. Requisition of the property of the investor shall be carried out together with payment of market value of the property. The market value of the property shall be determined in accordance with the established legislation of the Republic of Kazakhstan.



4. The valuation according to which the owner has been reimbursed for the requisitioned property may be challenged in court.
5. When circumstances due to which the property of an investor was requisitioned cease, such investor may demand the return of remaining property, but in doing so he shall return the amount of compensation he was paid, with offsetting the depreciated value of the property.

#### ***Article 9. Settlement of Disputes***

1. Investment disputes shall be resolved through negotiations, including with involvement of experts, or in accordance with the procedure for resolution of disputes agreed by parties in advance.
2. In the case of the impossibility of resolution of investment disputes in accordance with the provisions of paragraph 1 of this Article, the settlement of disputes shall be carried out in accordance with international treaties and legislative acts of the Republic of Kazakhstan in courts of the Republic of Kazakhstan, as well as by means of international arbitration agreed by the parties.
3. Disputes, which do not pertain to the category of investment disputes, shall be resolved in accordance with the legislation of the Republic of Kazakhstan.

#### ***Article 10. Transfer of the rights of an investor to another person***

If a foreign state or a state body authorised thereby makes a payment in favour of an investor under the guarantee (under insurance contract) which was granted to him in respect of investments carried out on the territory of the Republic of Kazakhstan, and such foreign state or the state body authorised thereby are assigned the rights (assigned the rights of claim) of the investor with respect to the mentioned investments, then in the Republic of Kazakhstan such assignment of rights (assignment of a right to claim) shall be recognized as lawful only in the case of the performance by the investor of investments in the Republic of Kazakhstan and (or) the fulfilment by the investor of his specified contractual obligations.

### **Chapter 3. State Support of Investments**

#### ***Article 11. The Objective of State Promotion of Investments***

1. The objective of state support of investments shall be the creation of a favourable investment climate to develop the economy and stimulate investments into the establishment of new facilities, enlargement and renewal of existing facilities, with application of up-to-date technologies, creation of new and preservation of existing jobs, as well as environmental protection.
2. The state support of investments shall mean the granting of investment preferences.

#### ***Article 12. Authorised Body***

1. The state support of investments shall be carried out by the authorized body, as appointed by the Government of the Republic of Kazakhstan.
2. The authorized body, within its authority and in performance of its mission, shall have the right to involve specialists of respective state bodies, consultants and experts, being the Republic of Kazakhstan's individuals and legal entities, in accordance with the procedure established by the Government of the Republic of Kazakhstan.

3. The activity of the authorized body shall be governed by the regulations approved by the Government of the Republic of Kazakhstan.

***Article 13. Types of Investment Preferences***

In accordance with this Law and by means of concluding a contract with the authorized body the following investment preferences shall be granted:

- 1) investment tax preferences;
- 2) exemption from customs duties;
- 3) state in-kind grants.

***Article 14. The Procedure for Granting Investment Preferences***

1. Investment preferences shall be granted within the priority types of activity, the list of which is approved by the Government of the Republic of Kazakhstan at the level of the classificatory of activity subtypes.
2. The Government of the Republic of Kazakhstan shall approve maximum investment volumes and duration of investment tax preferences for each priority type of activity, under which the authorized body shall grant investment preferences.
3. In case the established maximum volume of investments is exceeded, the duration of investment tax preferences shall be determined by means of an appropriate decision by the Government of the Republic of Kazakhstan.
4. Investment preferences are granted by means of execution of a contract with an investor.

***Article 15. Conditions for Granting Investment Preferences***

Investment preferences shall be granted subject to:

1. the compliance of the proposed investment activities with the list of priority activity types;
2. carrying out investments into fixed assets of a legal entity of the Republic of Kazakhstan to create new facilities, enlarge or renew existing facilities with application of up-to-date technologies;
3. the submission of necessary documents as set forth by Article 19 of this Law which evidence the availability of financial, technical, and organizational capability of the investor for carrying out of the investment project.

***Article 16. Investment Tax Preferences***

1. Investment tax preferences shall be granted for a term to be determined depending on the volumes of investments into fixed assets, but not to exceed five years.
2. The commencement date for investment tax preferences shall be established by the contract, in accordance with the Tax Code of the Republic of Kazakhstan.
3. Investment tax preferences shall not be granted with respect to a legal entity's activities, to which a special tax regime applies, as well as activities under the contracts of subsoil use.

4. Investment tax preferences shall not be granted in respect of the fixed assets that have been conveyed to a legal entity of the Republic of Kazakhstan in the form of the state natural grant.

***Article 17. Exemption from Customs Duties***

1. Exemption from customs duties may be granted with respect to imported equipment and components thereof brought in to implement the investment project in the following cases:
  - 1) unavailability on the territory of the Republic of Kazakhstan of manufacture of similar equipment and components thereof;
  - 2) insufficient manufacture of similar equipment and components thereof on the territory of the Republic of Kazakhstan in order to carry out activities with respect to the investment project;
  - 3) unconformity of similar equipment and components thereof manufactured on the territory of the Republic of Kazakhstan to the requirements pertinent to such project.
2. Exemption from customs duties shall be granted for the term of one year with possible extension of such term, but not for the term exceeding five years from the moment of the contract's registration. Decision on granting the exemption from customs duties and extension of the term thereof shall be made by the authorized body.
3. Notification on decision made in accordance with the paragraph 2 of this Article shall be sent to the authorized state body on the customs affairs.

***Article 18. State In-kind Grants***

1. State in-kind grants, in accordance with the procedure established by this Law, shall be given by the Government of the Republic of Kazakhstan or the authorized body with the consent of appropriate state bodies in the sphere of management of state-owned property and land resources into proprietorship or as a land tenure in accordance with the legislation of the Republic of Kazakhstan. Approval of a state in-kind grant shall be carried out following fifteen working days from the moment of submission of a request.
2. The following may be conveyed as a state in-kind grant: land plots, buildings, constructions, machinery and equipment, computing equipment, measuring and regulating devices and units, transport vehicles (except for passenger motor-transport), industrial implements.
3. The valuation of state in-kind grants shall be based on the market price thereof and shall be carried out in accordance with the procedure that is established by the legislation of the Republic of Kazakhstan.
4. The maximal amount of a state in-kind grant shall not exceed thirty per cent of the volume of investments into fixed assets of the legal entity of the Republic of Kazakhstan. If the value of the requested state in-kind grant exceeds the mentioned maximal amount, a legal entity of the Republic of Kazakhstan shall have the right to be conveyed the requested property after payment of the difference between the value thereof and the maximal amount of the state in-kind grant.

***Article 19. Requirements to an Application for Investment Preferences***

An application for investment preferences shall be accepted and registered by the authorized body if the following are available:

- 1) a copy of the certificate of state registration of a legal entity, notarized;
- 2) a copy of the statistical card of a legal entity, notarized;

- 3) a copy of the charter of a legal entity, notarized;
- 4) the business plan of the investment project that is compiled in accordance with the requirements as established by the authorized body;
- 5) documents which support the estimated value of construction works and expenditures for purchasing of fixed assets applied for the implementation of the project;
- 6) documents which indicate sources and guarantees of the project financing.
- 7) documents which support the amount (value) of the state in-kind grant requested by the investor and the preliminary consent for conveyance thereof.

***Article 20. Terms of consideration of the application for investment preferences***

An application for investment preferences shall be submitted for the consideration to the authorized body, which shall decide on granting investment preferences in accordance with the requirements established by Article 15 of this Law and shall send a reply in writing to the applicant within thirty working days from the date of the application registration.

***Article 21. Contract Execution***

1. The authorized body, within ten working days from the day of the adoption of the decision concerning granting of investment preferences, shall prepare for signature the contract with due regard to the provisions of the model contract.
2. The contract shall be registered by the authorized body within five days from the day of its signing and shall enter into force from the date of its registration.

***Article 22. Conditions of the Termination of the contract***

1. The effect of investment preferences shall be terminated upon the expiration of the term of the contract or may be terminated prior to the expiration of such term in accordance with the procedure which is established by this Article.
2. The contract may anticipatorily be terminated:
  - 1) by the agreement of the parties;
  - 2) unilaterally.
3. The authorized body shall have the right unilaterally to terminate the contract following three months from the moment of giving the investor a written notice of termination in the following cases:
  - 1) when a misrepresentation or a concealment of information that was presented by the applicant and that affected upon the decision, which were material to granting investment preferences has been revealed;
  - 2) in the case of a failure by the investor to perform the obligations under the contract.  
In such cases the investor shall pay amounts of taxes and customs fees which were not paid because of the investment preferences granted under the contract with application of fines which are provided for by the laws of the Republic of Kazakhstan;
4. In the case of anticipatory termination of the contract by the initiative of the investor unilaterally, the investor shall pay amounts of taxes and customs duties which were not paid because of the investment tax

preferences that were granted under the contract with assessment penalties charged according to the procedure established by the legislation of the Republic of Kazakhstan;

5. If a contract is anticipatorily terminated by agreement of parties, the investor shall pay the tax and customs duties amounts that have not been paid under the investment preferences under the contract.
6. If a contract is anticipatorily terminated, the investor shall return either the property in kind conveyed as a state in-kind grant or the initial value thereof as of the date of conveyance of such property in accordance with the contract's conditions.

#### **Chapter 4. Final Provisions**

##### ***Article 23 Stability of Contracts***

Privileges granted on the basis of the contracts concluded with the authorized state body on investments prior to this Law's coming into force shall remain valid until the expiration of the term established by such contracts.

##### ***Article 24. On Repeal of Some Legislative Acts of the Republic of Kazakhstan***

The following legislative acts of the Republic of Kazakhstan shall be deemed repealed:

- 1) Law of the Republic of Kazakhstan of 27th December, 1994 "On Foreign Investments" (Bulletin of the Supreme Council of the Republic of Kazakhstan, 1994, ? 23-24, p. 280; 1995, ? 20, p. 120; Bulletin of the Parliament of the Republic of Kazakhstan, 1996, ? 14, p. 274; 1997, ? 11, p. 143; ? 13-14, p. 205; ? 17-18, p. 218; 1998, ? 5-6, p. 50; 1999, ? 21, p. 786; 2000, ? 10, p. 244);
- 2) Decree of the Supreme Council of the Republic of Kazakhstan of 27th December 1994 «On Procedure of the Enactment of the Law of the Republic of Kazakhstan "On Foreign Investments" (Bulletin of the Supreme Council of the Republic of Kazakhstan, 1994, ? 23-24, p. 281)
- 3) Law of the Republic of Kazakhstan of 28th February 1997 «On State Support of Direct Investments" (Bulletin of the Parliament of the Republic of Kazakhstan, 1997, N 4, p. 50; 1999, ? 21, p. 786).

President of the Republic of Kazakhstan

## INCREMENTAL COSTS

### **Broad Development Goal**

The broad development goal of this project is to develop Kazakhstan's power generation system based on the sustainable development principles, by increasing the share of wind power in country's energy balance.

### **Baseline**

In the absence of the GEF support to overcome the defined barriers, the progress in increasing the role of the wind power in the energy system will remain slow or stop entirely, and beside the small share of hydro power in the energy balance, the power generation will continue to rely entirely on the use of fossil fuels. Should the target to increase the capacity of wind power to 500 MW by the year 2020 not be achieved, the level of greenhouse gas emissions in 2020 would be about 0.5 MtC per year higher than in the case that the target would be achieved. By reaching this target, the cumulative GHG reduction can be estimated at around 5 MtC by the year 2020.

### **Global Environmental Objective**

The Global Environmental Objective of the project is to reduce the greenhouse gas emissions of Kazakhstan associated with electric power generation.

### **Project Activities**

The project activities are described in the body of this proposal.

### **System Boundary**

The costs and the associated global benefits are studied at two levels:

1. The costs and global environmental impact of the first demonstration project implemented directly under the framework of this project; and
2. The costs and the associated global benefits of introducing 500 MW of wind energy capacity into Kazakhstan's power generation system by the year 2020.

In analyzing the domestic benefits of the BDH projects, their detailed monetary value is limited to the cost of energy services. The costs of all additional domestic benefits, as described below, are assumed to be covered both during this project as well as after that by the local contributions.

## **Additional Benefits**

In addition to the provision of energy services, the project is expected to have the following domestic benefits:

- The regions suffering currently from the electricity deficit or insecure power supply;
- Local consultant companies and NGOs, which are able to provide expertise and services to promote and implement wind energy activities;
- Local industry, with a potential to manufacture selected components for the construction of wind farms; and
- Local population through new employment opportunities.

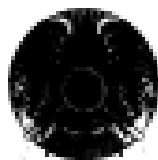
<b>INCREMENTAL COSTS MATRIX (COSTS IN US \$ MILLIONS) EXCLUDING THE IMPLEMENTING AGENCY SUPPORT COSTS</b>				
<b>COMPONENT</b>	<b>BENEFITS/COSTS</b>	<b>BASELINE</b>	<b>ALTERNATIVE</b>	<b>INCREMENT</b>
1. Formulation of a cross sectoral national wind energy program to promote the use of wind energy in Kazakhstan.	Global Environmental Benefits	Development of the wind power activities within the general framework of the existing National Electricity Sector Development Plan and the National Environmental Action Plan	A specific program to reach the set targets to increase the share of wind energy in Kazakhstan's energy balance.	A specific program to reach the set targets to increase the share of wind energy in Kazakhstan's energy balance
	Domestic Benefits	A national program to ensure the development of Kazakhstan's power sector at least costs.	A national program to ensure the development of Kazakhstan's power sector at least costs.	None
	Costs	US\$ 0.164 million	US\$ 0.254 million	US\$ 0.09 million
2. Providing information for and preparing ground otherwise for the development of wind energy projects and for organizing financing for them	Global Environmental Benefits	Preparation of the feasibility studies based on the existing meteorological data and other information.	More accurate information and increased capacity to prepare "bankable" feasibility studies and business plans for wind energy projects (including detailed wind resources assessments).	More accurate information and increased capacity to prepare "bankable" feasibility studies and business plans for wind energy projects (including detailed wind resources assessments).
	Domestic Benefits	N/A	N/A	N/A
	Costs	US\$ 0.09 million	US\$ 1.05 million	US\$ 0.96 million
3. Facilitating the implementation of the first demonstration project (including the overall project management).	Global Environmental Benefits	Continued reliance on new fossil fuel based power generation capacity.	Market for the development of the wind energy sector opened up.	Market for the development of the wind energy sector opened up.
	Domestic Benefits	Provision of electricity to the population	Provision of electricity to the population	None
	Costs	US\$ 4.47 million	US\$ 5.84 million	US\$ 1.37 million
4. Monitoring, evaluation, and dissemination of results;	Global Environmental Benefits	No experiences and lessons learned from the project collected, analyzed and disseminated.	The experiences and lessons learned from the project collected, analyzed and disseminated.	The experiences and lessons learned from the project collected, analyzed and disseminated.



recommendations for further action	Domestic Benefits	N/A.	N/A.	N/A.
	Costs	\$ 0	US\$ 0.13 million	US\$ 0.13 million
TOTAL	Global Environmental Benefits	<ol style="list-style-type: none"> <li>GHG emissions from 400 billion kWh of electricity produced by coal fired power plants (reflecting the approximate production capacity of 5 MW installed capacity over the next 20 years): 0.1 MtC</li> <li>Cumulative GHG emissions from 20 TWh electricity produced by coal fired power plants (reflecting the approximate cumulative production capacity of 500 MW installed wind energy capacity to be constructed gradually over the next 20 years): 5 MtC</li> </ol>	GHG emissions: 0 Mt	<ol style="list-style-type: none"> <li>GHG emissions: -0.1 MtC over the next 20 years</li> <li>Cumulative GHG emissions: -5 MtC over the next 20 years</li> </ol>
	Domestic Benefits	Provision of electricity to the population	Provision of electricity to the population	None
	Costs	<b>US\$ 4.724 million</b> , including Government's contribution to cover the estimated additional domestic benefits.	<b>US\$ 7.274 million</b>  (Estimated investment costs of 500 MW of installed wind energy capacity: US \$ 500 million)	<b>US \$ 2.55 million</b>

Endorsement letter and its unofficial translation.

**ЭНЕРГЕТИКА ЖӘНЕ МИНЕРАЛДЫҚ  
РЕСУРСТАР МИНИСТРЛІГІ**



**МИНИСТЕРСТВО ЭНЕРГЕТИКИ  
И МИНЕРАЛЬНЫХ РЕСУРСОВ**

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**RECEIVED**

31 OCT 2009

№ 10-01-9540 от 18.10.09г.

№/к: \_\_\_\_\_/т

**Постоянному представителю  
ПРООН в Республике Казахстан  
г-ну Фикрету Акчура**

480091, г. Алматы, ул. Толе би, 67

**Уважаемый г-н Фикрет Акчура!**

Министерство энергетики и минеральных ресурсов, рассмотрев представленный Вами Проектный Документ по проекту Правительства Республики Казахстан и ПРООН/ТЭФ «Казахстан – инициатива развития рынка ветроэнергетики», согласовывает его и подтверждает готовность подписать согласованный всеми заинтересованными сторонами Проектный Документ.

С уважением,

Министр

**В. Школьник**

Кусажнов 786878

043170

UNOFFICIAL TRANSLATION

28 October 2003

To Mr. Fikret Akcura,  
Resident Representative,  
UNDP, Kazakhstan

Dear Mr. Akcura,

Ministry of Energy and Mineral Resources has reviewed and approved the project document of the Government of Kazakhstan and UNDP/GEF "Kazakhstan – Wind Power Market Development Initiative". By this letter we confirm that we are ready to sign the project document once it is approved by all interested parties.

Best Regards,

V. Shkolnik,  
Minister of Energy and Mineral resources