

CTF PRIVATE SECTOR PROPOSAL

<i>Name of Project or Program</i>	Kazakhstan Energy Infrastructure Program, Advisory Services component
<i>CTF amount requested</i>	Advisory – US\$1.2 million (Annex A)
<i>Country targeted</i>	Kazakhstan
<i>Indicate if proposal is a Project or Program</i>	Program, Advisory Services component

As part of the development of Kazakhstan Energy Infrastructure Program, IFC is engaged with the government of Kazakhstan and private sector clients to develop a CTF-eligible projects. At this time, IFC will implement an advisory services project aimed at improving the regulatory and business environment for private sector RE developers. For this reason, per paragraph 34 of the CTF Financing Products, Terms and Review Procedures for Private Sector Operations, dated on March 17, 2010 and approved on March 29, 2010, IFC is requesting the CTF Trust Fund Committee to approve and direct the Trustee to provide IFC with an unconditional letter of commitment for the entire amount of funds required under the Advisory Services component of this Program. Such approval would allow for the upfront transfer of up to the entire amount of the Advisory Services component of the Program from the Trustee to the IFC, based on the confirmation of availability of US\$1.2 million by the Trustee as evidenced in Annex B. The transfer would be subject to: (a) approval by IFC of each sub-project and (b) submission of a transfer request to the Trustee including the anticipated closing date of the relevant sub-project.

1. DETAILED DESCRIPTION OF PROGRAM

1.1 Proposal Context:

This Program proposal is a part of a broader programmatic initiative that comprises both advisory and investment services and aims to improve the efficiency and carbon intensity of Kazakhstan's energy sector. The programmatic initiative seeks to attract greater volume of private sector investments to clean energy generation projects as well as to clean energy enabling infrastructure projects, such as grid strengthening, efficiency improvements, and others. Given that the current enabling environment in Kazakhstan is not yet sufficiently conducive to private sector Renewable Energy (RE) projects, IFC is proposing to start its engagement with an advisory component designed specifically at addressing the remaining barriers to investment.

The Program proposal is consistent with the CTF Investment Plan for Kazakhstan that was endorsed by the CTF Trust Fund Committee (TFC) in March 15, 2010 and updated CTF Investment Plan endorsed by the TFC in May 2013. The updated CTF Investment Plan focuses on two areas: renewable energy (RE) and district heating modernization, with IFC participating only in the former one with a CTF allocation of USD 21 million.

While the regulatory environment for RE projects in Kazakhstan still presents a number of challenges making private sector investment unattractive, the Kazakhstan government has committed to improving the regulatory framework and expressed an interest in engaging IFC's assistance. IFC, therefore, proposes to start implementation of the Program with an Advisory component aimed at supporting the government in finalizing the enabling environment and supporting the private sector developers in establishing a pipeline. Once the proper regulatory framework is established and the pipeline of the investment projects begins to form, IFC will follow up with a separate Program proposal for the investment services (within the next 12 months or so). This proposal, therefore, is seeking approval of \$1.20 million of CTF funds under the Advisory Services component only.

The proposed IFC Advisory component will be implemented in coordination with the EBRD program that focuses on the development of RE. To ensure that the programs are complementary, project teams coordinate closely and maintain open communications. In addition, the Program is well aligned with and reinforces other initiatives undertaken by the Kazakh government and will exploit synergies with the ongoing efforts to implement the Green Economy strategy, the Green Bridge Initiative and to organize the international exhibition and Forum Expo 2017 Energy of the Future.

1.2 Country Context:

Kazakhstan is one of the most carbon-intensive economies in the world. Between 2000 and 2011, the country's total GHG emissions have been steadily growing at an average 4.3% per year rate (UNFCCC, 2013) and in 2011 the GHG emissions without emissions due to Land Use, Land-Use Change and Forestry (LULUCF) amounted to 274.5 million tons of CO₂e. Heavy reliance on fossil fuels is the key contributor to Kazakhstan's significant carbon footprint. Thus, the ratio of CO₂e emissions from fossil fuel combustion to the GDP in Kazakhstan is 2.82 kg/USD compared to the World average of 0.6 and OECD average 0.32. Kazakhstan emits 14.14 tons of CO₂e from fossil fuel combustion per capita, compared to the world's average of 4.5 tons (IEA, 2013).

Kazakhstan's power sector is characterized by generation, transmission and distribution network assets that are significantly worn down, a dominant position of coal-powered electricity generation and the absence of the required reserve for covering peak load. The outdated and inefficient infrastructure results in frequent power and heat outages. According to the Concept of Transition to Green Economy, Kazakhstan needs to renew much of its infrastructure over the coming 20 years, including the commissioning of 11-12 GW of new power plants, which corresponds to 60% of the installed capacity in 2012. This will be necessary to meet the country's power demand which is forecasted to grow by 2.3% per year to reach 136 TWh/year by 2030.

Recognizing the significant and growing carbon footprint, and assessing the need for new generation capacity as an opportunity to reduce the climate change impact, the Kazakh government has adopted a number of strategic documents, including the Concept of Transition to Green Economy, outlining specific targets and measures. Increasing private sector participation in the development of RE can contribute significantly to the economic development of the country and improve its environmental sustainability.

1.3 Renewable Energy Sector Context:

Kazakhstan is very rich in wind, solar, and hydro resources. About 50% of Kazakhstan's territory has average wind speeds about 4-5 m/sec at a height of 30m, with many sites having much higher wind speed. Yet, wind and solar energy remains completely untapped with only a small fraction of hydro potential realized.

Kazakhstan has set a target for RE sources to reach 3% of total energy generation by 2020 and 10% by 2030. The renewable energy law, amended in June 2013, creates a system of fixed tariffs (FiTs) for wind, solar, small hydro (with the capacity less than 35 MW), and biogas power plants; and obliges the grid companies to provide non-discriminating access to the grid for RE plants and sign a 15-year power purchase agreement (PPA) with the centralized off-taker, the Settlement Center (KEGOC), established by the transmission system operator. This Center will purchase the electricity and allocate the cost conventional generators and power importers who have a legal obligation to pay a "Renewable Energy Support Tariff".

For this support scheme to become operational, the Ministry of Environment and Water Resources is preparing the required regulations with the expectation to submit them for the government approval in the first half of 2014. While the overall framework is welcomed by potential investors, **the ability of the private sector to develop a strong pipeline of projects will hinge upon getting the operational details of the framework right.** These include: financial and operational design of the Settlement Center, details of standard PPAs, methodologies for setting the tariffs, grid connection rules, levels of and mechanisms for re-evaluation of FiTs and capacity caps by technology, and others.

1.4 Barriers to Private Sector Investment in renewable energy projects:

Together with the Ministry of Environment, IFC organized a Renewable Energy Investment Forum in December 2013 (160+ participants from KZ and about 15 other countries) to discuss the emerging regulatory framework for RE and remaining barriers to investment. Among the barriers that hinder private sector renewable energy projects in Kazakhstan are:

1. The policy/regulatory framework for RE is not yet fully developed. As indicated above, Kazakhstan has adopted an RE law but significant work is still needed to develop and improve secondary legislation to provide investors necessary confidence about the bankability of the support scheme and its long-term sustainability;
2. The licensing/permitting requirements are complex, lengthy, and not always transparent. Streamlining and simplifying the processes of obtaining licenses and permits will increase the attractiveness of the sector for investors by reducing uncertainty, time, and transaction costs related to the development of RE projects;
3. Information availability is poor, making various procedures more difficult. An attempt to overcome inadequate sector planning and incomplete resource mapping needs to be made to help enhance the procedures of getting land leases and grid access.
4. Lack of awareness, knowledge, and experience with RE projects. International players lack the detailed understanding and links to stakeholders for market entry, while local players often lack awareness and technical experience to develop, build, and maintain projects. Once several projects reach financial closure, the industry experience will begin accumulating, benefiting all the market participants.
5. Access to finance is difficult and financial markets do not provide needed instruments.
6. Transaction costs are high, especially for first movers. Besides low implementation capacity, the situation is further aggravated by certain logistical difficulties imposed by the landlocked status of the country. For example, ground transportation of new equipment over large distances with underdeveloped infrastructure can noticeably affect the project costs.

The government of Kazakhstan has taken an active position in working towards addressing these and other barriers and, as part of its broader work, the Ministry of Environment and Water Resources has agreed to sign an MOU and a cooperation agreement with IFC to work on further improvements in the regulatory framework for RE. Once the necessary measures are taken and the regulatory environment is “ready”, the existing pipeline of RE projects awaiting clarity on the policy and regulatory side will be able to move forward, but will likely need either specific technical assistance or financing or both. The IFC Program is designed to: (a) provide advisory services to the government to assist in enhancing the regulatory environment by working with barriers like the 1 and 2 described above; (b) provide advisory services to private sector first movers to support reducing the barriers along the lines of 3 and 4 above; and (c) at later stages, provide investment support (funding will be requested separately) to mobilize private sector finances in coping with barriers 5 and 6.

1.5 Investment Services component

Given the nature of the existing barriers, IFC will initially proceed with the Advisory Services component of the Program and Investment Services will follow in a separate proposal, once the regulatory/policy environment is ready. Meanwhile, IFC is already actively involved in discussions with a number of Kazakh and international companies that are pursuing opportunities in wind, solar, and hydro sectors in Kazakhstan. Strong participation in the Renewable Energy Investment Forum co-organized by IFC together with the Ministry of Environment in December 2013 (160+ participants from KZ and about 15 other countries) demonstrated investors' interest in KZ's RE sector. Once the government, with support from IFC and CTF, finalizes the regulatory framework, this interest will likely translate into concrete bankable pipeline of projects, which IFC

will continue monitoring closely.

1.6 Advisory Services component:

Overall, the Advisory component of the Program takes a holistic approach to identify the most viable opportunities across the whole energy system, looking not only at RE generation but also at grid-related issues allowing to better integrate RE generation (e.g. modernizing the grids, reducing losses, developing smart grids, etc). It aims to help establishing the right conditions for attracting private sector investments in RE projects with the focus on the following:

1. Regulatory assistance: Establish new markets through removing specific legal and regulatory barriers to private investments in RE, as well as through targeted investment promotion. IFC will advise the government of Kazakhstan on reforms, assist with the design of laws, standard PPAs, regulations and permitting requirements for RE and grid-related projects. IFC has reached an agreement with the Ministry of Environment and Water Resources to collaborate on the improvements of the enabling environment for RE. This work will attempt to address the remaining key regulatory issues, such as: Bankability of PPAs issued by the Settlement Center; Clarity on the timeline and indexation procedures of the periodic re-evaluation of FiT levels; Criteria/process for project selection under the capacity caps; Grid-access procedures and allocation of interconnection costs; and others. To ensure that recommendations are in line with investor needs this work will partially draw from the firm-level engagements in item (2).
2. Firm-level assistance: Provide targeted assistance to first-mover private sector RE projects, flexibly reacting to individual opportunities. RE project developers will be supported with project identification, assessment and preparation, e.g. market entry advice, pre-feasibility studies, advising on licensing and permitting procedures, etc. Targeted assistance can be also provided to other market players such as manufacturers of RE equipment aiming to enter the market as well as grid companies and utilities to support the integration of RE into the national energy network.

1.7 Program's strategy to achieve market transformation:

The Program will leverage IFC's significant global experience in the renewable sector accumulated over the last decade. As of today, IFC's investments in various RE projects worldwide have resulted in total installed RE capacity of about 9 GW, including 4.5 GW of hydro and nearly 1.8 GW of wind power. In addition, IFC has been advising governments and private sector clients on RE issues in many countries in the region, including the Balkans, Armenia, Ukraine and Russia.

As discussed in section 1.6, the Advisory Services component of the Program will catalyze the transformation of the RE sector in Kazakhstan by working with the government to improve the regulatory framework and by supporting early private sector entrants. It will also help increase awareness of the broader financial community to better understand RE opportunities in Kazakhstan and will incentivize investment flows into RE projects. The overall objectives of the Program will be further pursued by the Investment Component that will help the development and implementation of pilot private sector projects, thus ensuring lasting impacts in the market. Thus, the overall program will not only help to pave the way for renewable energy in Kazakhstan by improving the enabling environment, but will follow through with directly financing individual pilot projects through the investment component.

To ensure that the knowledge generated over the course of the Program will benefit future market entrants, IFC will include a knowledge management component into the program, under which targeted outreach and capacity building activities will be performed, including workshops and trainings, the development of an investor's guide for renewables etc.

2. FIT WITH INVESTMENT CRITERIA

This section discusses the outputs and the impact of the Advisory component of the Program only:

2.1 Potential GHG Emissions Savings:

The proposed advisory component of the program will improve the enabling environment for renewable energy in Kazakhstan as a key pre-condition to develop and finance private sector projects. Therefore, it generates impacts indirectly, by creating a necessary (appropriate regulations and policies) condition for the development of the renewables sector. However, the sufficient condition for creating actual renewable projects (and thus lead to direct development impacts) will only be created once the investment component of the CTF program is implemented at a later stage.

The stated target of the government for Renewables by 2020 is 1,850MW of installed capacity, composed as follows:

- 1,300MW wind
- 500MW solar
- 50MW biomass

Given that this program is aimed at improving the enabling environment for future renewable energy investments, there will be no direct GHG impacts from this program. Assuming that the program is successful, it will help generate investments in RE, which will be indirect impacts.

To account for the indirect impacts and the fact that the proposed program would likely be one contributing factor among others in helping the government to create a conducive enabling environment, the indirect impacts of the program are estimated at 90% of the government's target of 1850MW (this is in line with IFC's guidelines on indirect GHG impacts).

Thus, the indirect impact for this program is estimated at **185MW which will generate 444,570 MWh of renewable energy per year, and result in an estimated 340,657 tons of GHG saved per year.**

Note: the following assumptions are made for this estimate

- Capacity factors: wind: 30%; solar: 20%; biomass: 35%
- Grid emissions factor for Kazakhstan: 0.77 tCO₂/MWh

2.2 Cost-Effectiveness:

In light of the nature of this program component as preparing the ground for the subsequent investment component, cost-effectiveness indicators will be provided at the time of submission of the investment component.

2.3 Demonstration Potential at Scale:

The Program seeks to support country's transition to better regulatory environment for RE investments and enable several early private-sector RE projects. The current share of RE, excluding large hydro, in total electricity generation is insignificant, as, historically, Kazakhstan has relied on fossil fuels. Today, however, the country is set to move towards less carbon intensive energy generation, opening the huge RE potential.

This Program will contribute to the transformation of the sector, building a momentum needed to achieve the government's target of 1,850MW of RE by 2020.

2.4 Development Impact / Co-benefits:

The expected co-benefits to be achieved by the Program include:

- Substantial contribution to reducing global GHG emissions;
- Reducing local air pollution (SOx, NOx, PM) by displacing coal-fired generation;
- Playing significant and catalytic role in scaling up private-sector investments;
- Encouraging other countries in the region to follow Kazakhstan's model (through the existing regional platforms such as the Green Bridge initiative);
- Helping Kazakhstan meet its growing energy demand while addressing the need to replace its outdated generation and transmission capacity;
- Diversification of country energy mix (currently fossil-fuel based) and increasing energy security;
- Benefiting population living in remote areas through increased employment, demand for goods and services, and increasing access to energy;
- Generating jobs (particularly during construction), thus, boosting local economic development;
- Complementing the efforts by other donors and MDBs, including the EBRD and UNDP.

2.5 Implementation Potential:

The Advisory component of the Program will provide in-depth technical assistance to at least one government client (Ministry of Environment and Water Resources) and at least two private-sector clients, in addition to capacity building and raising awareness activities that will target larger audiences. These Advisory Services operations will be funded through a combination of CTF funding, client fees and IFC's own resources. The CTF support will not only leverage IFC's own contributions, but will also enhance the impact of IFC's operations through strengthened collaboration.

2.6 Additional Costs & Risk Premium:

Not applicable

2.7 Financial Sustainability:

IFC involvement at the policy level in improving the regulatory framework, as well as targeted assistance to first mover private projects will help create the "right" investment conditions for a broader spectrum of RE projects. In turn, this will help bringing the sector close to financial sustainability even though it will likely require certain first-mover support in the beginning.

2.8 Effective Utilization of Concessional Finance:

Given that this program proposal is for an advisory services or technical assistance component, a discussion on concessional finance is not applicable.

2.9 Mitigation of Market Distortions:

The Program is designed specifically to have a supporting rather than distorting impact on the nascent private renewable energy sector in Kazakhstan. The proposed Program will assist individual sub-projects and will

enhance domestic regulatory framework that supports RE development, allowing the sector accumulate needed experience and reach needed scale to grow sustainably. Specifically, the Advisory Services component will help building regulatory and policy foundation that could attract experienced international private sector developers as well as foster the growth of domestic knowledge and experience promoting local developers and suppliers. These pioneer projects, however, will likely not move forward unless the remaining barriers are removed. This Program will leverage CTF funds to help mobilize needed assistance to tackle the barriers.

2.10 Risks:

Risks associated with the Program include:

Macroeconomic:

Kazakhstan’s overall investment climate is difficult. This can undermine the progress of the following investment projects, even is RE specific regulatory issues are resolved.

- Mitigation: Strong emphasis is put on working closely with credible investors and involving them directly in stakeholder consultations with the governments to make them more comfortable.

Political:

The “green” agenda of the government is driven by strong support of Kazakhstan’s president. Changing government priorities may cause delays in the completion of the Program objectives.

- Mitigation: the program includes a strong advisory element focusing on increasing awareness, capacity-building, and stakeholder consultations. In addition, IFC will be involved in the design of measures that would minimize the possible negative effects of developing RE capacity on the end-user tariffs and the grid stability. These efforts are likely to help retain government support and public approval, ensuring that the RE development will remain on the country’s political agenda even in the case of government change.

3. PERFORMANCE INDICATORS

The performance indicators outlined below are derived from the CTF Results Measurement Framework. These indicators will be tracked at least annually. Suggested performance indicators for the Advisory component of the Program include:

Indicator	Current Baseline	Anticipated Impact
DIRECT IMPACTS:		
Improved enabling policy and regulatory environment for low carbon technologies and practices	0	2 laws/regulations passed
Workshops for knowledge sharing and investor conferences	0	2

INDIRECT IMPACTS:

MW of private power indirectly supported by the Program	0 MW	185 MW installed
GHG emissions avoided	0 MtCO ₂ e per annum for the energy sector	340,657tCO ₂ e per annum

Annex A: Provisional Advisory Services Budget, in US\$ (*flexibility in the allocation of this budget is requested as described in the Advisory Services section of the proposal*)

	FY 14	FY 15	FY 16	FY 17	FY18	Total
<u>Firm-level activities</u>						
Technical assistance	50,000	200,000	150,000	150,000		550,000
Market development		30,000	45,000	45,000	30,000	150,000
<u>Gov't and sector-level activities</u>						
Regulatory review and amendments		120,000	100,000	80,000	70,000	370,000
Awareness building and knowledge sharing activities	20,000	30,000	30,000	30,000	20,000	130,000
TOTAL PROGRAM COSTS	70,000	380,000	325,000	305,000	120,000	1,200,000

Annex B:

Email from CTF Trustee confirming cash availability for this project