

**Common Format for Project/Program Concept Note for the Use of Resources from the
PPCR Competitive Set-Aside**

1. Country/Region:	Tajikistan	2. CIF Project ID#:	N/A
3. Project/Program Title:	Tajikistan: Small Business Climate Resilience Financing Facility		
4. Date of Endorsement of the Investment Plan:	10 November 2010		
5. Funding Request (in million USD equivalent):	Grant: N/A	<i>Non-Grant (concessional finance) USD 5,000,000 (for local currency lending)</i>	
6. Implementing MDB(s):	EBRD		<input checked="" type="checkbox"/> Private sector arm <input type="checkbox"/> Public sector arm
7. Executing Agency:	EBRD and participating financial intermediaries (PFIs)		
8. MDB Focal Point and Project/Program Task Team Leader (TTL):	<i>Headquarters- Focal Point: Craig Davies, Senior Manager – Climate Change Adaptation, EBRD</i>	<i>TTL: Bakhtiyor Mansurov, Principal Banker – Financial Institutions, EBRD</i>	

I. Project/Program Description: Provide a summary description of the project, objectives, and expected outcomes. Which sectors would be targeted?

The request is for a private sector pilot project to launch an innovative financing facility to support the uptake of climate-resilient, water-efficient and energy-efficient technologies by small businesses, farmers and households. This pilot project will build on EBRD's extensive experience of providing special purpose intermediated finance through targeted credit lines channelled through local banks and supported by specialised technical assistance facilities. Recognising that energy security and water security are two of the main ways in which the private sector in Tajikistan is vulnerable to climate change, the project will aim to make climate-resilient, energy-efficient and water-efficient technologies accessible and affordable to small businesses, farmers and households. Specific technologies supported will include, inter alia, drip irrigation, water recycling and reuse in manufacturing, small-scale off-grid renewable energy generation, and energy efficiency improvements in residential dwellings. In supporting the climate resilience of the energy sector by reducing energy demand through efficiency improvements, this project will complement the EBRD/PPCR project *Tajikistan: Enhancing the Climate Resilience of the Energy Sector*, which aims to improve the climate resilience of the energy supply.

The facility will have a specific focus on sectors where enterprises are vulnerable to climate variability and change through their sub-optimal use of water and energy, and through unreliable and intermittent power supply. This will imply a main focus on agricultural (rural), SME (agri-processing and manufacturing) and residential sectors. Typical sub-projects will include:

- Farmers: investments in drip irrigation, which brings substantial water savings and improved productivity (as opposed to current flood irrigation), or investments in efficient water pumps.
- Small and medium enterprises (SMEs): energy efficiency measures and improved water use technologies such as the introduction of water recycling systems, replacement of water intensive technologies with more modern alternatives (dry processing as opposed to wet processing).
- Households: loans for energy and water efficiency improvements, installation of water efficient infrastructure, fixtures and appliances in homes, and investments in alternative energy supplies (e.g. solar panels, solar water heaters, etc.).

The project will aim to achieve the following outcomes:

- Increased capacity of farmers, small businesses and households (both men and women) to cope with the projected impacts of climate change on water resources through the introduction and/or increased uptake of a range of water-efficient technologies in the agricultural, SME/manufacturing and residential sectors. These technologies will include, inter alia, drip irrigation, sprinkler irrigation, water recycling and reuse, water-efficient fixtures and fittings in buildings, improved water metering, etc.
- Increased capacity of farmers, small businesses and households (both men and women) to cope with the projected impacts of climate change on energy resources through the introduction and/or increased uptake of a range of energy efficient technologies in the agricultural, SME/manufacturing and residential sectors. These technologies will include, inter alia, energy-efficient irrigation pumps, energy-efficient equipment upgrades in manufacturing, small-scale off grid renewables such as solar energy, intermediate technologies such as solar water heaters, insulation, improved heating systems and metering in residential building, etc.
- Increased capacity of the Tajik banking sector to understand, promote and finance the adoption of improved water and energy technologies that improve the climate resilience of key sectors of the Tajik economy.
- Increased capacity of Tajik civil society (especially business associations, farmers' associations and housing associations) to understand climate resilience issues and water/energy efficiency issues, and to support businesses, farmers and households to access improved, climate-resilient water and energy use technologies.

- II. Rationale:** Provide the rationale behind the idea in the national context, and from a local market perspective. Also, provide an explanation as to why it should receive the funding and how it would further advance the objectives of the endorsed investment plan.

Tajikistan's Strategic Programme for Climate Resilience (SPCR) identifies threats to energy and water resources as amongst the most critical climate change vulnerabilities facing Tajikistan. Specifically, the section on the private sector (page 15 of the SPCR) identifies the unreliable energy supply as a major constraint on private sector activity. Climate change poses huge risks to energy security in Tajikistan due to the almost total dependency on hydropower (98% of electricity generation) and the extreme vulnerability of Tajikistan's aging hydropower facilities to climate change impacts such as shifts in precipitation and snowmelt patterns, glacial melting and extreme weather events such as floods. In response to these threats, a major focus of the PPCR in Tajikistan has been on addressing the threats of climate change to the energy supply in Tajikistan, leading to the development of the EBRD/PPCR project *Tajikistan: Enhancing the Climate Resilience of the Energy Sector*. However, since the SPCR was developed it has become evident that the demand side also needs to be addressed in order to tackle the implications of climate change for Tajikistan's energy security. For example, at the PPCR Energy Sector Stakeholder Workshop in March 2012 it was determined that one of the most cost-effective ways of making Tajikistan's fragile energy system more resilient to climate shocks is by reducing demand through energy efficiency improvements. This was strongly supported by the World Bank's *Tajikistan Winter Energy Crisis* study (2012), which advocated energy efficiency savings in order to reduce the vulnerability of the energy system to seasonal and climate-driven shocks. Therefore, a clear need for support for energy efficiency improvements as part of the overall climate resilience response has emerged as a result of progress with SPCR implementation.

At the same time, the SPCR also identified threats to water resources as another crucial dimension of Tajikistan's climate vulnerability. As stated on page six of the SPCR, climate change is projected to increase the likelihood of adverse climatic conditions such as low rainfall, drought and flooding which will negatively affect agriculture, livelihoods, ecosystems and infrastructure. In particular, the SPCR outlines how Tajikistan's farmland, which is largely located in arid or semi-arid areas, is projected to experience increasingly low and erratic rainfall together with an overall reduction in water availability due to higher temperatures and evapotranspiration, and reduced snow accumulation in mountain areas. The SPCR identifies improved irrigation and the optimisation of water use in food production more broadly, priorities that are also included in Tajikistan's *Water Sector Development Strategy*. Despite the fact that irrigated farmland represents around 17% of total agricultural land, and generates around 80% of agricultural production, advanced, water-efficient irrigation systems such as drip and sprinkler irrigation are hardly used in Tajikistan. Farmers instead generally rely on inefficient flood irrigation, which represents a major climate change vulnerability in the light of projected climate change impacts on water resources. Agri-processing, which constitutes most of Tajikistan's light manufacturing, also relies heavily on access to process water and a reliable energy supply, both

of which are threatened by climate change. Agri-processing is of critical importance to Tajikistan's agricultural sector as it creates markets for primary produce, has significant export potential and can help Tajikistan's agriculture to move up the value chain and provide higher value products, many of which are readily exported.

The creation of the PPCR competitive set-aside therefore creates a new opportunity to build on the analysis and objectives of Tajikistan's SPCR to launch an innovative and scalable facility that will specifically target Tajikistan's private sector and provide finance and technical support to farmers, small businesses and households to enable them to adopt new water-efficient and energy-efficient technologies that will help to make their operations more resilient to the projected impacts of climate change on energy and water resources.

III. Consistency with Investment Criteria: Provide information how the proposed project meets the investment criteria for the Pilot Program for Climate Resilience

Pilot and demonstrate approaches for integration of climate risk and resilience into development policies and planning: This project will pilot the development of a financing mechanism that enables the banking sector to contribute towards national climate resilience objectives, which is absolutely fundamental for effective private sector engagement in climate resilience, and especially for countries such as Tajikistan where many enterprises are small or very small and cannot otherwise be easily engaged in national climate resilience strategies and programmes, nor enjoy ready access to adaptation finance from climate finance mechanisms.

Strengthen capacities at the national levels to integrate climate resilience into development planning: As explained above, this project will involve the banking sector in the national climate resilience effort, resulting in the increased capacity of the Tajik banking sector to understand, promote and finance the adoption of improved water and energy technologies that improve the climate resilience of key sectors of the Tajik economy. It will also increase the capacity of Tajik civil society (especially business associations, farmers' associations and housing associations) to understand climate resilience issues and water/energy efficiency issues, and to support businesses, farmers and households to access improved, climate-resilient water and energy use technologies.

Scale-up and leverage climate resilient investment, building on other on-going initiatives: In the short term, this project is expected to leverage up to a total of USD 12,770,000 of additional loan and TC grant financing, further to the PPCR contribution of USD 5,000,000. However, perhaps more importantly in the longer term it will help to develop and test a replicable and highly scalable financing mechanism that could be extended or replicated both in Tajikistan and in other countries where there is a need to scale up access to adaptation finance by private enterprises and households.

Enable learning-by-doing and sharing of lessons at country, regional and global levels: The Implementation Support Facility, which will be an important technical cooperation (TC) component of this project, will include an important knowledge management function that will

enable lessons learned from this project to be captured and shared, so that this pilot project can yield benefits for other intermediated finance mechanisms for climate change adaptation, including in other climate-vulnerable countries beyond Tajikistan.

IV. Type of Private Sector Engagement: Provide information whether this will be a solely private sector project, a PPP, or a public sector project financing private sector entities.

This will be a pure private sector project. The facility will be provided in the form of climate resilience credit lines. The EBRD loan finance will be co-financed with USD 5 million of PPCR concessional finance which will be blended with EBRD loan finance in order to improve affordability of loans to sub-borrowers. The facility will be implemented through partner financial institutions (PFIs), which include banks and non-bank microfinance institutions (NBMFIs). The EBRD has relationships with eight potential PFIs in Tajikistan, which would be interested in the new facility. NBMFIs are expected to be suitable PFIs due to their relative flexibility, good presence in rural areas and strong social orientation compared to banks. Banks are also expected to be interested in climate resilience financing structures for their SME clients and farmers.

V. Innovation: Explain how the project is innovative in terms of technology, business model, financial instruments or structure, and how the innovation will add value to the project.

This is a highly innovative project that will break new ground by pioneering a new approach to the delivery of adaptation finance. The development of intermediated financing structures that will enable adaptation finance to reach a large number of small enterprises will be an important step in the evolution of adaptation financing. This project will develop a replicable and scalable approach to increasing the uptake of climate resilience technologies that could subsequently be scaled up and/or replicated in other countries where climate change threatens water and energy resources. As EBRD's experience in other countries has shown, special purpose financing facilities in which finance is extended to enterprises and households supported by dedicated technical assistance has been extremely effective in delivering large volumes of finance for addressing issues such as energy efficiency and agricultural improvements. This project offers the opportunity to adapt this approach specifically to promote climate resilience through water and energy use optimisation, which could subsequently also be deployed in other countries beyond Tajikistan.

VI. Technology, Product, and/or Business Model: Provide description of the technology, the technology provider if identified, whether it has been tested, commercialized and viable commercially. If the project does not involve a technology, provide a description of the business model and its structure.

This project will support and finance the uptake of climate-resilient water and energy technologies in three critical sectors: agriculture, SMEs (manufacturing, agribusiness) and residential.

Agricultural water use: All of Tajikistan's main agricultural exports – cotton, fruits and vegetables – rely upon irrigation. While irrigated farmland represents only about 17% of all agricultural land, it generates about 80% of agricultural production. Access to water for irrigation is a serious constraint on agricultural production, and approximately 20-30% of irrigable lands are not used, due mainly to deterioration of irrigated systems. More efficient irrigation is needed in order to make agricultural production more resilient to climate change. Water-saving technologies such as drip irrigation and zero-tillage offer significant opportunities for increasing agricultural productivity and reducing input costs.

Agricultural energy use: Agricultural irrigation in Tajikistan is heavily reliant on energy for pumping, which is the second biggest energy demand after the huge Talco aluminium plant. Tajikistan has around 740,000 ha of irrigated land of which about 280,000 ha rely on pumping systems. Pumping facilities in public irrigation are generally in disrepair and inefficient. In many parts of Tajikistan, irrigation water has to be pumped at heavy energy costs, especially in Sughd province (e.g. Zafarabad, where irrigation water has to be pumped up 100 metres). Reducing water demand through the introduction of efficient irrigation systems and the introduction of more efficient pumps can play an important role in reducing agricultural energy demand and in making agriculture less vulnerable to power supply disruptions, which are often influenced by climatic conditions.

Water use by SMEs: Many agri-processing facilities involve water-intensive processes such as washing, canning and beverage production, and are therefore sensitive to water availability (e.g. seasonal variability) and to water use costs (i.e. water tariffs). Technologies such as water recycling, water re-use, rainwater harvesting and switching from wet to dry processing technologies can all reduce SMEs' water demand and vulnerability to seasonal and climate-driven water scarcity.

Energy use by SMEs: SMEs in Tajikistan rely upon energy for their manufacturing operations, including the processing of cotton and other agricultural produce. The commercial sector is also highly dependent on electricity for heat and lighting, as well as industrial processes. However, the quality of supply is poor with frequent unplanned outages, a situation that is exacerbated by extreme weather and therefore vulnerable to climate change. The unreliable electricity supply creates a demand for the use of off-grid energy generation and storage capacity, such as small-scale renewables (solar, wind, hydro) and energy storage equipment (e.g. UPSs etc.), in addition to energy efficiency improvements that can reduce energy demand and associated costs.

Residential water use: Water scarcity (often driven by climate change) and increasing water tariffs are important drivers for water efficiency improvements by residential users, such as the installation and use of water-efficient fixtures and appliances.

Residential energy use: Approximately 70% of the Tajik people suffer from extensive shortages of electricity during the winter. Distribution losses have increased in the last decade due to changes in consumption patterns, and due to the use of electricity for space heating (including residential) which overloads the network. Demand-side energy efficiency measures such as

insulation of buildings/apartments, introduction of energy efficiency standards and labelling and solar heating are a priority for the residential sector.

VII. Market: Provide an overview of the market, product nature, supply and demand status, prices, and competition. In the absence of other comparable products, provide a brief explanation on how the proposed product will substitute for existing products and the benefits from a climate standpoint, and the prospects of commercial viability. Also, provide an overview of current market barriers and how will they be reversed by the proposed project.

Tajikistan's energy supply is highly vulnerable to climatic variability and change. Under such conditions, businesses and households begin to look for more reliable alternative sources of energy even if it entails relatively higher costs, and also begin to realise the importance and benefits of energy efficient measures. Therefore there is an emerging potential for a growing energy efficiency market in Tajikistan, subject to the availability of accessible finance for smaller enterprises. The country's agriculture sector is heavily dependent on irrigation, which is extremely inefficient and wasteful due to predominantly basic technologies and outdated practices (such as flood irrigation). Water resources are also highly vulnerable to climate change and their suboptimal use contributes towards climate vulnerability. The business case for water-efficient irrigation is especially strong for producers of high-value crops such as fruit and nuts, and market gardening, where efficient water use can boost productivity and reduce input costs. Improving water use efficiency is also important for SMEs engaged in agricultural processing, which use water extensively as part of the production process. Investments in more efficient water use will help such enterprises to save costs over time and improve resilience to climatic variability and change, which may have significant impacts on localised seasonal water availability. This project will compliment efforts of other agencies in assisting the country in gradually moving towards more efficient water and energy use. It will also complement the Bank's own projects in water management with municipalities of Tajikistan and in the power sector. The World Bank, Asian Development Bank, DFID, GIZ and others are involved in energy and water efficiency initiatives in Tajikistan to various extents, and yet limited work has been done to develop scaled-up, intermediated finance enabling small businesses and households to access improved water and energy technologies. Extensive policy dialogue on climate resilience and its implications for economic development has taken place under the framework of the PPCR over the past four years. This has led to a greater awareness of the need for investments that promote climate resilience. One of the key emerging recommendations has been the need to develop new financing instruments to help smaller businesses, especially those heavily reliant on water and energy use, to access improved technologies and practices.

Demonstration effect: A powerful demonstration impact will be achieved with the facility within Tajikistan and across other climate-vulnerable countries in terms of showing how improved climate-resilient technologies can be financed and made accessible to a wide range of market players in climate vulnerable sectors (agriculture, agribusiness/manufacturing & residential). A strong impact can also be achieved through the introduction and uptake of improved climate-resilient technologies that are currently either not present or poorly dispersed in Tajikistan. Demonstration impacts will also be achieved through the introduction of innovative financing mechanisms for climate resilient technologies (e.g. sub-loans to businesses

for water efficiency savings) that could be replicated in other facilities and countries. Best practice case studies will be disseminated through PFI branches.

Transfer of skills: The project will facilitate building and transfer of expertise in climate resilience and related financing among PFIs and SMEs. This will entail the introduction of new, climate-resilient technologies to the market and to businesses, and building the capacities of enterprises to use them productively and sustainably. The facility will also transfer new skills to PFIs, specifically allowing them to identify investment opportunities and structure loans for improved climate-resilient technologies and practices.

Market transformation for climate resilience: The project will also help to transform the way in which market players use and value essential, climate-dependent resources (i.e. water and energy). This will be achieved by introducing new technologies onto the market which have not previously been accessible, and new financing modalities which have not previously been available. The facility will also help to deliver real economic benefits in terms of climate resilience and productivity gains, as well as future benefits through improving the climate change resilience of businesses, and improving the sustainability of resources including through more rational pricing.

VIII. Financial Plan (Indicative):

Source of Funding (by type of instrument, equity, debt, guarantee, grants, credit lines, etc.)	Amount (USD million equivalent)	Percentage (%)
Project developer		
MDBs		
Loan	Up to USD 10,000,000	56
Grant (Technical Cooperation)	USD 2,770,000	16
PPCR		
Concessional finance	USD 5,000,000	28
Local banks		
Other investors		
Bilaterals		
Others		
TOTAL		100

IX. Expected Results and Indicators

The results and indicators for this project have been developed based on the PPCR Results Framework.

Results	Indicators	Target

A1. Increased resilience of households, communities, businesses, sectors and society to climate variability and climate change	A1.3 (core): Numbers of people supported by the PPCR to cope with effects of climate change	Finance for climate-resilient water & energy efficient technologies extended to up to 2,000 small businesses, farmers and households
A2. Strengthened climate responsive development planning	A2.1 (core): Degree of integration of climate change in national, including sector planning - e.g., national communications to UNFCCC, national strategies, PRSPs, core sector strategies, annual development plans and budgets, and NAPs	Tajik banking sectors delivers financial services and products that support national climate resilience objectives (e.g. SPCR)
B1. Strengthened adaptive capacities	B1 (core): Extent to which vulnerable households, communities, businesses and public sector services use improved PPCR supported tools, instruments, strategies, activities to respond to climate variability and climate change.	Up to ten new climate-resilient, water and energy use technologies being used by farmers, SMEs and households
B2. Improved institutional framework in place	B2 (core): Evidence of strengthened government capacity and coordination mechanism to mainstream climate resilience	Progress on water & energy tariff reforms that achieve cost recovery and incentivise rational water & energy use
B4. Climate responsive investment approaches identified and implemented	B4 (optional): Leverage of PPCR funding against public and private investments in climate sensitive sectors	PPCR concessional finance to leverage additional finance for water & energy use improvements by the private sector
B5. Climate responsive investment approaches identified and implemented	B5 (core): Quality of and extent to which climate responsive instruments/investment models are developed and tested	New and innovative financing mechanism for climate resilience technologies tested and implemented

X. Implementation Feasibility and Arrangements: Provide information on the implementation feasibility of the proposed project and a timeline by when the project can start implementation on the ground and when the project will be completed. Also, to provide:

- Expected PPCR Sub-Committee approval date:
- Expected MDB Approval date:

This project was concept approved by EBRD's Operations Committee on 12 July 2013. Once PPCR Subcommittee approval has been granted, the Project Preparation Facility will be able to be launched in early 2014. This activity will last approximately six months and will entail

undertaking the detailed market analysis, sub-project pipeline development and analysis of training and extension needs. Once this phase of the project is completed and the framework is approved, EBRD will be ready to sign loan agreements with the PFIs. On EBRD loan signing, the project Implementation Support Facility will be launched. This will entail supporting pipeline development, technology information management, climate resilience audits of potential sub-borrowers, facility marketing and training, outreach and support activities. This will have a duration of at least three years following loan signing.

XI. Potential Risks and Mitigation Measures: What are the risks that might prevent the project development outcome(s) from being realized, including but not limited to, political, policy-related, social/stakeholder-related, macro-economic, or financial?

Risk	Mitigating actions
Underutilisation of the Facility due to low demand or poor cooperation of PFIs.	The risk is mitigated by the EBRD's experience in similar facilities in other countries. Appropriate design of the project through the Project Preparation Facility, and support to PFIs and enterprises through the Implementation Support Facility will encourage the PFIs to join at the initial stage, and also encourage uptake by enterprises. After uptake of the Facility and gradual systemic changes, climate resilience financing is expected to be demanded on a stand-alone basis.
Sustainability of climate resilience financing after completion of the project.	The risk is partly mitigated by the expected rises in electricity and water use tariffs to sustainable levels in the near future, which will add to the demand for climate resilience. Policy dialogue promoting regulatory reforms to help develop the market for climate resilient technologies will add to sustainability.
Underperformance of PFIs and sub-borrowers.	This risk is mitigated by careful selection of creditworthy PFIs that show willingness to develop new product and that have a suitable client base and capacity. Strong lending standards at the selected PFIs will also minimise the risk of underperformance by sub-borrowers. Additionally, PFIs will be assisted by consultants, who will be involved in marketing, analysis and implementation of sub-loans, further reducing the risk