



PIF for project targeted support for energy-efficiency and renewable energy in the Russian Arctic

PROJECT IDENTIFICATION FORM (PIF)¹

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

PART I: PROJECT IDENTIFICATION

Project Title:	Targeted Support for Energy Efficiency and Renewable Energy in the Russian Arctic		
Country(ies):	Russian Federation	GEF Project ID: ²	4683
GEF Agency(ies):	EBRD (select) (select)	GEF Agency Project ID:	
Other Executing Partner(s):	Ministry of Economic Development of the Russian Federation	Submission Date:	23 September 2011
GEF Focal Area (s):	(select)	Project Duration (Months)	48
Name of parent program (if applicable): ➤ For SFM/REDD+ <input type="checkbox"/>	Framework Programme "Arctic Agenda 2020"	Agency Fee (\$):	549,083

A. FOCAL AREA STRATEGY FRAMEWORK³:

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
CCM-2 (select)	Outcome 2.1: Appropriate policy, legal and regulatory frameworks adopted and enforced	Output 2.1: Energy efficiency policy and regulation in place	GEFTF	200,000	1,000,000
CCM-2 (select)	Outcome 2.2: Sustainable financing and delivery mechanisms established and operational	Output 2.2: Investment mobilized Output 2.3: Energy savings achieved	GEFTF	4,560,734	62,800,000
CCM-3 (select)	Outcome 3.1: Favorable policy and regulatory environment created for renewable energy investments	Output 3.1: Renewable energy policy and regulation in place	GEFTF	200,000	1,000,000
CCM-3 (select)	Outcome 3.2: Investment in renewable energy technologies increased	Output 3.2: Renewable energy capacity installed Output 3.3: Electricity and heat produced from renewable sources	GEFTF	1,140,183	15,700,000
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)	Others		(select)		
Sub-Total				6,100,917	80,500,000
Project Management Cost ⁴			GEFTF		500,000
Total Project Cost				6,100,917	81,000,000

B. PROJECT FRAMEWORK

¹ It is very important to consult the PIF preparation guidelines when completing this template.

² Project ID number will be assigned by GEFSEC.

³ Refer to the reference attached on the [Focal Area Results Framework](#) when filling up the table in item A.

⁴ GEF will finance management cost that is solely linked to GEF financing of the project.

Project Objective: To reduce greenhouse gas emissions in the Russian Federation through support and financing for targeted investments in energy efficiency and renewable energy in the municipal infrastructure sector of the Russian Arctic.							
Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Cofinancing (\$)	
1) Legislation, restructuring and governance support to municipalities and service companies	TA	Municipalities in the region understand and undertake low-carbon investments	* Municipal and regional legislation, including targeted energy efficiency programmes, analyzed and changes supported as needed * Support provided to selected municipalities and service companies for institutional restructuring and governance	GEFTF	400,000	2,000,000	
2) Market and pipeline development to support investment and replication	TA	Pilot & replicaton investment opportunities created through market and pipeline development	* Pre-investment and investment cycle support provided to selected utilities, service companies & participating municipalities * Training for banking sector conducted to promote replication * Information disseminated to all in-country stakeholders	GEFTF	1,700,917	3,500,000	
3) Financing Facilitation	Inv	Increased investments that reduce the use of energy and other resources in the Russian Arctic	* Pilot investments made in the Russian Arctic leveraging funds from other investors	GEFTF	4,000,000	75,000,000	
	(select)			(select)			
	(select)			(select)			
	(select)			(select)			
	(select)			(select)			
	(select)			(select)			
	(select)			(select)			
	(select)			(select)			
	(select)			(select)			
Sub-Total							
					Project Management Cost ⁵	GEFTF	500000
Total Project Costs						6,100,917	81,000,000

C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, (\$)

Sources of Cofinancing	Name of Cofinancier	Type of Cofinancing	Amount (\$)
GEF Agency	EBRD	In-kind	500,000
GEF Agency	EBRD	Unknown at this stage	500,000
GEF Agency	EBRD	Hard Loan	75,000,000
Local Government	Federal/ regional / municipal government	Unknown at this stage	5,000,000
(select)		(select)	
(select)		(select)	

⁵ Same as footnote #3.

(select)		(select)	
(select)		(select)	
(select)		(select)	
(select)		(select)	
Total Cofinancing			81,000,000

D. GEF/LDCF/SCCF RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY¹

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount (a)	Agency Fee (b)²	Total c=a+b
EBRD	GEF TF	Climate Change	Russian Federation	6,100,917	549,083	6,650,000
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
Total Grant Resources				6,100,917	549,083	6,650,000

¹ In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table

² Please indicate fees related to this project.

PART II: PROJECT JUSTIFICATION

A. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

A.1.1 the [GEF focal area/LDCF/SCCF](#) strategies:

As this proposed project supports investment in municipal industry-related energy efficiency, renewable energy technologies, and reduced-GHG municipal infrastructure, it has a clear fit with the GEF-5 Climate Change Focal Area Objectives 2, 3. Given GEF's prior funding of fuel switching from coal bed methane, for example, under CCM-2, we believe this is the appropriate focal area.

A.1.2. For projects funded from LDCF/SCCF: the LDCF/SCCF eligibility criteria and priorities:

Not applicable.

A.2. National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NIPs, PRSPs, NPFE, etc.:

The project reflects the Russian Federation's priorities to promote sustainable development and its commitments to mitigate greenhouse gas (GHG) emissions as an Annex 1 party to the United Nations Framework Convention on Climate Change (UNFCCC). The project is consistent with the main objectives of Russia's policies in energy efficiency, renewable energy, regional development and support for investments in the communal services sector.

Specifically, the document is fully aligned with the 2008 Decree of the President of the Russian Federation No. 889 "On Some Measures on Improving the Energy and Environmental Efficiency of the Russian Economy," the 2009 Federal Law, No. 261-FZ "On Saving Energy and Increasing Energy Efficiency, and on Amendments to Certain Legislative Acts of the Russian Federation" (the "Law on Energy Efficiency"), the State Programme on Energy Saving and Improving Energy Efficiency up to 2020, and the Complex Programme of Modernisation and Reform of the Residential and Municipal Services Sector for the period 2010-2020.

B. PROJECT OVERVIEW:

B.1. Describe the baseline project and the problem that it seeks to address:

The proposed project intends to reduce greenhouse gas emissions in the Russian Arctic through targeted investments in energy efficiency and renewable energy.

Background

The territory of the Arctic Zone of the Russian Federation extends over more than 6 million km². It comprises the Arctic marine expanses within the territorial sea and exclusive economic zone of the Russian Federation – more than 3 million km². The status of the environment in the Russian Arctic has a fundamental, if not the most important, impact on the environmental state of the whole circumpolar Arctic. The increased production and growth of the gross regional product in almost all of the constituent subjects in the Arctic Zone, as observed since 2000 and projected into the future, will undoubtedly lead to an increased burden on the region's environment. As noted above, this burden might be the largest contributing factor to decline in environmental quality of circumpolar marine and terrestrial ecosystems *globally*.

There is significant potential for energy efficiency and renewable energy (and savings in associated GHG emissions) in the industries and surrounding cities in the Russian Arctic. Many of the identified pollution hot spots in the Russian Arctic are also significant contributors to GHG emissions. The relationship between energy and pollution is closely linked in this region, and energy efficiency improvements can provide substantial benefits to the local environment (and support biodiversity and water quality). For example, flare gas capture and utilization could address both local energy needs and a significant source of GHG emissions. Biogas utilization in municipal landfills, and energy and water savings in municipal water supply and treatment are two other examples.

Baseline Analysis

For the **Russian Government**, the Arctic is one of the most important strategic regions in the Russian Federation in terms of security, sustainable development and natural resources. Therefore, in recent

years a number of high-level strategies have been adopted by the Russian Federation, taking into account issues related to the Arctic region. These include the Marine Doctrine of the Russian Federation; Environmental Doctrine of the Russian Federation; Concept of the National Security of the Russian Federation; Concept of Transition of the Russian Federation to Sustainable Development; Guidelines of the Long-term Socioeconomic Development of the Russian Federation; and, approved in 2008, the Framework State Policy of the Russian Federation in the Arctic up to 2020 and Beyond. A number of **GEF-funded projects** have supported energy efficiency and renewable energy developments in Russia (GEF ID 4427, 2194, 2111, 2376, 3597, program GEF ID 3653), although these have not focused specifically on the Arctic (note: more detail about the relationship between these projects and the proposed one is given in section B.6 below).

In the area of energy efficiency and renewable energy, there are now several players at the **federal level** supporting project development and planning. The Russian Energy Agency, the Ministry of Energy, the Ministry of Regional Development, and the Ministry of Economy have all been tasked with carrying out projects related to energy efficiency, and the Ministry of Energy and the Russian Energy Agency also address renewable energy issues. Regional governments are currently tasked with establishing energy efficiency programs. At the **regional level**, governments are to prepare plans to reduce energy intensity, which are expected to cover both efficiency and increasing the share of renewables. At the **local level**, local administrations are undertaking investments to upgrade their infrastructure (e.g. district heating, water supply and treatment, and waste management), and small and medium enterprises are interested in upgrading their production and processing facilities as energy prices increase.

The **EBRD** is actively working in the region covered by the GEF Russian Arctic Program – financing energy efficiency in municipal infrastructure, industrial energy efficiency projects and gas flaring reduction. For example, over the past 10 years the Bank has financed 7 projects in the Khanti-Mansi region, for a total investment amount of over EUR 162.5 million. The projects related to retrofit and energy efficient upgrade of municipal infrastructure. Past projects in the region covered by the Arctic Program also included financing municipal water services development in Archangelsk (equivalent to EUR 8.6 million), whereby part of the project has been co-financed with a Northern Dimension Environmental Partnership (NDEP) grant, as well as a ruble-denominated loan provided for the modernisation of district heating system in the Sakha Republic (Yakutia).

In 2009, the EBRD raised \$250 million in long-term funding for Integra oil service company, which operates several manufacturing facilities that produce drilling equipment in Russia. As part of this transaction the EBRD arranged an energy audit of Integra's production facilities in Tyumen (Khanti-Mansi region), which helped identify profitable energy saving opportunities leading to 29% energy savings (typical projects related to the upgrade of compressors, boilers, heat treatment units, etc.). Some of these investments have been included in the EBRD financing package. The EBRD is also active in promoting gas flaring reduction projects in the region. In 2010 the EBRD has provided a \$87 million loan to an independent Russian company Monolit to finance the construction of a gas processing plant and begin commercial utilisation of the associated petroleum gas (APG) from the Zapadno-Salymskoe oil and gas field in the Khanty-Mansi region, jointly controlled by two oil and gas companies.

It is very important to note that all of these projects rely on extensive donor-funded support provided to clients for technical feasibility studies, project preparation, and implementation.

Barriers

A lack of investment, and the closely related lack of capacity to design and implement investment projects, are the primary causes of needlessly high GHG emissions in the Russian Arctic. Barriers that limit opportunities for climate change mitigation can be divided as follows:

- *Lack of awareness:* While municipal planners and industrial managers are beginning to perceive energy efficiency benefits and renewable energy as a potentially significant source of energy for municipal operations, they may not understand how to increase the share of sustainable energy in municipal infrastructure operations as a whole.
- *Lack of capacity to integrate, prioritize, and plan critical investments:* Potential investors lack the capacity to prioritize and plan investments in their facilities in a holistic way. As a result, investments made may not be the most cost-effective (e.g., they may fail to capture efficiencies from integration), they may not be properly sequenced and they may limit the ability of borrowers to work

effectively within their fiscal constraints.

- *Lack of capacity to structure financing:* Municipalities are limited in their ability to borrow and to guarantee third-party debt. They have extremely limited experience in working with public-private partnerships (PPPs) and other types of corporate restructuring or project bundling arrangements that could leverage external investment in municipal systems.
- *Lack of market development for certain energy resources:* There is currently no market in the municipal sector for the associated petroleum gas flared during oil production, although this gas could be captured and used in municipal utilities.

Business-As-Usual Scenario

In the absence of the proposed GEF project, opportunities for climate change mitigation in the Russian Arctic would be limited:

- Local administrations and utility companies would lack the awareness and capacity to identify and prepare investment plans, and stand-alone projects that might be proposed would lack access to investment capital.
- In the absence of an outreach and training on renewable energy investments in the Arctic and support for project development, these investments would be limited to less remote areas outside of the Arctic region. These borrowers might be reluctant to introduce certain emission reductions technologies, such as biogas combustion of municipal solid waste, use of flared gas, or introduction of other BAT-labeled technologies, because of a lack of experience.
- Municipalities would produce mandatory Comprehensive Development Programmes, but these programmes would not necessarily consider the climate-related aspects of the investments being considered.
- Investment from commercial sources or private parties would continue to be the exception rather than the rule and – given the large amounts of investment necessary in this sector – many cities might be limited to funding emergency repairs in their infrastructure rather than upgrades that could bring significant resource savings.
- EBRD support to municipal infrastructure projects in the Arctic Region would be limited due to the specific profile of municipalities in the region (characterised by the relatively small size of municipal companies and relatively weak financials of individual municipalities, many of which rely on federal budget transfers and support).
- At the regional and federal level, policy-makers would lack a solid quantitative overview of potential climate-mitigation opportunities in their municipal and industrial sectors. Regional and federal funding, where available, might not reach the most promising projects, and it would fail to leverage other investment funds.
- There are no existing plans to remove the exemption given to municipalities for gas flaring by a certain date to our knowledge.

- B. 2. incremental /Additional cost reasoning: describe the incremental (GEF Trust Fund) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF financing and the associated global environmental benefits (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

Project Objective

The project objective is to reduce greenhouse gas emissions in the Russian Arctic through targeted investments in energy efficiency and renewable energy.

Project Approach

The proposed EBRD-GEF project will provide both technical assistance and investment funding. Financing to be provided by the EBRD under the project will be combined with GEF-funded technical assistance for energy efficiency and renewable energy project development (including energy audits, specific feasibility studies, etc.). A portion of GEF funds will also be used as a non-grant financial instrument, potentially as a risk guarantee mechanism for a small number of pilot projects, either in direct EBRD loans, or as part of investment portfolios of smaller bundled projects under a framework

agreement with local banks. This support is intended to cover first-mover and pilot costs, and demonstrate market potential and best practice to local financial institutions. Financing options will be considered during project preparation, and the most cost effective proposed. This combination of financing and sustained technical advisory services will help address investment and knowledge / capacity barriers impeding sustainable energy investments in the Russian Arctic Region.

The project will involve three components:

1. Legislation, restructuring and governance support to municipalities and service companies to address legal and structural barriers to investments
2. Market and pipeline development to support investment identification and sound development, and activities to communicate lessons and experiences and so increase the chances of replication; and
3. Facilitation for financing of GHG-reduction projects in energy efficiency and renewable energy through pilot investments in the region.

It is intended that one or more contractors, funded in part through the GEF grant, will be procured by the EBRD and deployed as required on a call-off basis in the Russian Arctic to work with municipalities, regional energy efficiency centers and other stakeholders to prepare bankable energy efficiency and renewable energy projects. Should a framework agreement be established through one or more locally-based commercial banks, these banks would also monitor project implementation in accordance with EBRD guidelines. This would also allow for the transfer of essential technical and financial structuring skills to the region. Considering the remote location of the project sponsors, the role of the consultants would also be to supervise and support implementation of the projects.

Incremental Project Activities

Component 1: Legislation, restructuring and governance support to municipalities and service companies

This component will address barriers in attracting investment for large infrastructure projects with support provided to review and development of legislation to ensure viable operating conditions for public-private partnerships at the local level, including guidance and recommendations on tariffs; corporate governance of municipalities and service companies.

Local government co-financing will address these project activities as well as provide project development support under component 2 and potentially concessional financing under component 3. This allocation will be determined during project preparation.

Key proposed outputs and activities

Output 1.1: Municipal and regional legislation analyzed, including targeted energy efficiency programmes, and changes supported as needed

- 1.1.1 Analyze necessary changes in municipal and regional legislation and sub-laws that may currently limit commercial investments in municipalities
- 1.1.2 Propose and support the adoption of necessary changes
- 1.1.3 Support regional and municipal governments in the Arctic Region in developing financing mechanisms under the Targeted Energy Efficiency Programmes of the Russian Federation
- 1.1.4 Disseminate best practices to other Russian regions

Output 1.2: Support provided to selected municipalities and service companies for institutional governance

- 1.2.1 Identify promising candidates for participation in the municipal training and support programme
- 1.2.2 Train shortlisted candidates in introducing climate change issues into existing Comprehensive Development Plans and support shortlisted cities to identify investments that specifically address climate change mitigation
- 1.2.3 Estimate potential economic and resource savings, including associated emissions reductions
- 1.2.4 Train and provide guidance on restructuring for communal service companies in the Arctic region, including Public-Private Partnerships, project bundling, and means of debt structuring / restructuring to attract investment to the municipal infrastructure sector

- 1.2.5 Develop and implement plan to raise public awareness and participation in the city-based programs
- 1.2.6 Disseminate best practices to other Russian regions

Component 2: Market and pipeline development to support investment and replication

This component will address barriers in identifying and preparing investments for infrastructure projects with support provided to develop pre-investment documentation, and investment cycles building on investments, training of banking sector (targeted towards replication), and public awareness and participation. Pipeline development is costly in the Arctic region, especially when it is intended to bring about change in the broader market. In EBRD's experience this project will only be effective if we put in place comprehensive support able to facilitate the pilot investments throughout the development and implementation period. Through this TA component we will bring about change, make it effective, and ensure that lessons learned can be effectively communicated to beneficiaries, banks, regional authorities and the private sector. For an EBRD loan of \$75 million, with at least \$75 million of funding from other sources to be committed during project execution (i.e. investments of at least \$150 million), pre-investment and investment cycle support of around \$5 million (the proposed GEF TA and co-financing) is modest.

Key proposed outputs and activities

Output 2.1: Pre-investment and investment cycle support for selected utilities and service companies from participating municipalities

- 2.1.1 Support for audits and project preparation
- 2.1.2 Support pre-investment and investment cycle (e.g., for restructuring, due diligence, establishment of PPPs, contracting, development of technical specifications, tendering, oversight), building on investments identified through other activities.

Output 2.2 Training provided to the banking sector to promote replication

- 2.2.1 Identify commercial banks that would be strong candidates for lending to municipalities and municipal service companies in the area of sustainable energy
- 2.2.2 Provide training in project identification and pipeline development in the area of sustainable energy, with a particular emphasis on techniques such as energy performance contracting and project bundling.

Output 2.3: Information disseminated to all in-country stakeholders

- 2.3.1 Provide documentation on the facility to other financial institutions, regional administrations, district (okrug) administrations, and the federal government
- 2.3.2 Publish and disseminate documented resource savings and associated emission reductions

Component 3: Financing facilitation

This component will address barriers in identifying and preparing investments for infrastructure projects.

Investments will be made in the region first through a number of carefully selected pilot projects, in which a portion of GEF funds will also be used as a non-grant (probably guarantee) mechanism, either in direct EBRD loans, or as part of investment portfolios of smaller bundled projects under framework agreements with local banks. Following these pilot investment efforts to finance further projects without the GEF support will be pursued.

The non-grant instrument is intended to support first-mover and pilot costs, and demonstrate market potential and best practice to local financial institutions, thus overcoming market barriers to commercial project finance in the Russian Arctic.

A financing framework in the form of a credit line for small projects through commercial banks may also be considered. EBRD would also consider providing additional financing supported by regional and/or municipal guarantees. Guarantees would facilitate financing of projects implemented by municipalities or companies with viable investment plans for sustainable energy projects yet insufficient capacity to

provide additional security to investors. It is also expected that the Ministry of Economic Development will launch a consultation process with regions to facilitate the development of a project pipeline for EBRD and other financial institutions.

The types of sustainable energy projects that will be developed and considered for financing could include:

- energy efficiency upgrades in municipal infrastructure (e.g., district heating generation and transmission networks upgrade, co-generation, energy efficiency improvements at water supply companies, municipal waste utilization);
- use of biomass in district heating networks (e.g. fuel switch – from mazut to woodwaste);
- biogas in water supply;
- utilization of wind/diesel hybrid power generation to replace diesel-only generation;
- gas flaring reduction (i.e. utilisation of processed liquefied petroleum gas for heat and power generation in remote areas)⁶; and,
- other sustainable energy technologies and projects tailored to specific characteristics of individual cities or regions.

The range of sectors and technologies targeted by the financing in Component 3 will depend on the amount of funding available, and will be determined during the project preparation phase.⁷ It is anticipated that the focus will be on areas where its contribution in expanding the market for resource efficiency technologies can be maximized. Reduction of gas flaring in the municipal sector in Russia, which promises very large GHG reductions, is not currently covered by any national or international commitment. The extent of the project support to flare gas capturing will be determined during project preparation, but is expected to be a minor part of the GEF funding.

Co-financing would be leveraged both from EBRD and from investors, possibly including private utilities and utility customers among others. Since this will be secured as part of project implementation it has not been counted as GEF co-financing since it cannot be confirmed until after the start of the project, and is thus not ‘confirmed’ cofinancing. The amount of, as yet, unconfirmed cofinancing, is likely to be more than \$75 million USD. Resource savings and associated emission reductions from the pilot projects in this component would be measured and reported, and that information would be disseminated to all in-country stakeholders and would feed into the training and support provided in Components 1 and 2.

Finally, it is expected that a flexible approach will be applied when selecting the participating cities and sub-regions, as the borderline for the Arctic Region is not defined clearly. For example, while Komi Republic is partly covered by the Arctic Region, it is not clear whether a city like Syktyvkar (where EBRD already works) would be eligible.

Key proposed outputs and activities

⁶ Regarding gas-flaring projects, the focus of EBRD’s intervention will be concentrated not on oil and gas majors (these companies are legally mandated to reduce gas flaring and are therefore considered to be part of the sector baseline), but on municipalities themselves, which have no such obligations. The absence of a regional market for processed associated gas is among the barriers to associated gas utilization in Russia (as oil and gas companies do not have the ability to sell processed gas locally), and the EBRD would focus on conducting feasibility studies for municipalities to assess the potential for converting municipal boilers to utilise processed associated gas (or creating a retail market for liquefied petroleum gas-LPG at the level of individual households). A link of such municipal projects with supply-side, i.e. EBRD-sponsored gas flaring reduction projects with oil and gas companies in the Arctic Region will be enhanced. EBRD is active in financing oil and gas companies (which could be financed directly without the need for regional guarantees based on strong balance sheet of these companies), and the support which would be provided to municipalities with regards to creating the market for processed associated gas will facilitate further investments of oil and gas companies into APG processing. Eligible projects with other private companies (e.g. in the power sector – related to installation of renewable energy sources such as small-hydro) may also be financed directly on a stand-alone basis and will be explored as part of the Arctic Program.

⁷ It should be noted that some of the regions covered by the Arctic Program (e.g. Murmansk, Arkhangelsk) also fall under the Northern Dimension Environmental Partnership (NDEP). NDEP provides investment grants to projects implemented in these regions, and it will be beneficial to consider providing similar investment grants under the GEF Arctic Program as this would provide for “equal opportunities” for all projects in the Russian Arctic (as NDEP only covers North-West of Russia) and also as such investment grants would catalyse project development and make them more viable and bankable for EBRD and other lenders.

Output 3.1: Pilot investments made in the Russian Arctic leveraging funds from other investors

- 3.1.1 Identify the most feasible and effective structures for financing
- 3.1.2 Establish cooperation with local banks and other stakeholders, as necessary to support sustainable energy investments in the Russian Arctic
- 3.1.3 Structure financing and obtain necessary guarantees
- 3.1.4 Disburse financing

Output 3.2: Resource savings and associated emission reductions from the pilot projects measured and reported

- 3.2.1 Develop a methodology to measure resource savings and associated emission reductions from projects funded
- 3.2.2 Measure and report on resource savings and associated emission reductions

Global Environmental Benefits

Energy savings and avoided emissions can also be substantial in municipal infrastructure projects. Upgrades and renovation of district heating networks routinely generate savings of 25-40% in CIS countries. Energy savings in Russia will be particularly large in parts of the country with a long winter and very low average winter temperatures. Most countries in the CIS region can cost-effectively reduce at least 25% of the energy consumed in their water supply and treatment networks, and estimates indicate that this is a conservative figure for Russia given the low efficiency of its pumping stations and high network losses. While fuel switching from reduction of gas flaring is expected to be a minor part of this project, the environmental benefits of fuel-switching to captured flare gas are substantial, since the emissions from the displaced fuel are entirely removed. In addition, since flare gas is a gas (even if transported as LNG or LPG) it can be burned much more cleanly than, for example, heavy fuel oil so there is an improvement in combustion efficiency too. The climate benefits are thus potentially substantial, further demonstrated by the existence of an approved CDM methodology "AM0009: Recovery and utilization of gas from oil wells that would otherwise be flared or vented". Finally, effective waste management that includes a biogas generation component may be able to meet a significant portion of the energy needs of a water supply and treatment system.

Additional local benefits may include the following:

- Reduced water consumption (e.g., loss prevention programs and upgrades in the distribution network); and,
- Reduced operations and maintenance costs due to more reliable equipment.

Cost Effectiveness of Approach and Sustainability of Global Environmental Benefits

In the absence of the proposed EBRD-GEF project, opportunities for infrastructure improvements would be extremely limited because of awareness and capacity barriers but, primarily, because of a lack of accessible financing and experience in finance for the sector. Investments made by municipalities would be small, piecemeal projects, and they would fail to capture efficiencies from coordination between urban systems and from considering demand-side investments for generating energy resources.

Investment from commercial sources or private parties would continue to be the exception rather than the rule, and many cities might be limited to funding emergency repairs rather than upgrades that could bring significant resource savings.

The proposed project approach is deemed to be the most cost-effective and most likely to lead to sustainable results, because the combination of technical assistance and investment funds from the GEF will leverage substantial investment from both EBRD and the municipalities and utilities that will undertake energy efficiency improvements. Grants alone could never achieve the leverage that this combined approach will achieve.

- B.3. Describe the socioeconomic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF). As a background information, read [Mainstreaming Gender at the GEF.](#)":

The proposed project will generate **local benefits** in the form of reductions in air and water pollution. Local air and water quality are a priority issue in Russia, as pollution from stationary sources increased by 10% from 2000-2007, and pollution from transport increased 20% over the same period (source: State Program for Energy Efficiency). Improvements in heating systems can result in reductions of SO₂ and NO_x, improved waste disposal and landfill gas utilization can reduce CH₄, improvements in transport can reduce vehicle emissions such as NO_x and VOCs, and improved waste water treatment can reduce the discharge of a variety of organic and inorganic pollutants into local waterways.

Other local benefits will include improved quality of heat and water provision, which are essential to residents in the Russian Arctic. Furthermore, the associated economic benefits of reduced resource use will make participating industries more competitive, and can thus support job creation.

Finally, support to municipalities and their utilities to reform tariffs and services in a way that is viable for utility customers may have a **positive gender-related effect**, as in Russia, 96% of single-parent households — which are at increased risk for poverty — are headed by women.

B.4 Indicate risks, including climate change risks that might prevent the project objectives from being achieved, and if possible, propose measures that address these risks to be further developed during the project design:

Risk	Mitigation approach
Political risk (i.e., low government commitment to energy efficiency in industry)	This is a <i>low risk</i> . The government has taken significant steps to provide a policy and regulatory framework for energy efficiency in the form of new legislation and regulations, and continues to do so.
Technology risk	This is a <i>low risk</i> . The technologies to be used are all available and proven. The barriers to market entry lie elsewhere.
Financial risk	This is a moderate risk that will be mitigated by conditionalities of the EBRD loans, and potentially regional guarantees, and thorough transaction support as a component of project implementation. A risk management strategy will be prepared as part of the process of developing the full project.
Climate risk	<p>This is a <i>low risk</i>. Modernized facilities and infrastructure will be better able to withstand extreme weather, improved management will allow for the increased diversification of the resource supply chain, and lower-carbon production will make enterprises less vulnerable to the potential impacts of stricter government regulation and consumer preferences for lower-carbon products over time.</p> <p>In addition there may be lower returns on energy efficiency investments in the heating sector due to warmer temperatures. These potential variations will be included in the feasibility assessments and potential adaptation measures adopted. The feasibility assessments and investment planning will also take into account potential climate change impacts on biomass and hydro resources as appropriate.</p>
Implementation Risk	This is a low/moderate risk due to the possible necessity of obtaining regional guarantees in order to make lending possible. However, this risk will be addressed by working with more than one regional government and by considering other financing approaches if necessary. In all cases municipal guarantees will also be considered where possible. EBRD has already conducted an extensive survey of lessons learned from its own portfolio in Russia as a part of its country strategy exercise, and on MEI and industrial sector lending in other countries in the broader region. Implementation risk will be mitigated by close cooperation with in-country partners in participating enterprises and in key government bodies.

B.5. Identify key stakeholders involved in the project including the private sector, civil society organizations, local and indigenous communities, and their respective roles, as applicable:

The project will coordinate with ongoing and new GEF-funded initiatives in the Russian Federation, and the Ministry of Economic Development will chair a project advisory group, that will include representatives of the Ministry of Natural Resources and Environment, the Ministry of Energy, the Ministry for Regional Development, Russian Energy Agency, and regional administrations.

Regional stakeholders include the administrations of the Russian Regions, which have a role in developing and implementing much municipal legislation. They are important stakeholders, in that municipal leaders frequently look to them to identify approaches and priorities.

Other key stakeholders are the city administrations, municipal service companies and private sector companies. These will all be actively involved in project implementation. Residents are also critical to the success of systems approaches to municipal infrastructure and will thus be informed through project activities and mechanisms encouraged to enhance public participation.

A thorough review of ongoing activities in the sector and a full stakeholder consultation will be held during project development, and a coordination plan will be included in documentation accompanying the Request for CEO Endorsement.

B.6. Outline the coordination with other related initiatives:

Coordination within the Framework Programme of which this project is a part – Arctic Agenda 2020 – is described in the Framework Programme proposal, which has been submitted to the GEF Secretariat for review. In the preparation of this PIF, consultation has taken place with the World Bank, UNDP, Ministry of Economy of the Russian Federation, the Russian Energy Agency, and regional authorities in the Russian Arctic. Within the Arctic Agenda 2020 framework programme, the project with the most synergies is “Project 2: Establishment of financial mechanisms and private public partnership for the SAP implementation”. In this project, to be led by the World Bank, one project component will focus on the establishment of *The Arctic Environment Fund* (AEF) which will facilitate the Russian Federation to secure sustainable financing for implementation of underlying goals and objectives of the programme “Arctic Agenda 2020”. Another component of the WB project will focus on developing and implementing innovative Public-Private Partnership Programmes for environmental protection. While there are synergies between the WB project and the proposed EBRD project there are distinct differences. As explained by the Ministry of Economy during consultations with them in July 2011, their intention for the AEF is that it will predominantly fund non-commercial environmental projects. According to EBRD’s mandate, projects to be financed will be more commercial in nature, and project activities will aim to remove barriers to finance from commercial sources. In the course of project implementation, it is proposed that non-commercial projects identified by the EBRD will be referred to the WB project team. Since the Arctic Environment Fund aims to secure financing for the entire “Arctic Agenda 2020”, where the use of such funds could play a pivotal role in overcoming barriers to commercial finance, it is feasible that the fund be used within EBRD investments. The potential for this and approach will be investigated during project preparation.

The project will work closely with the GEF-UNDP-EBRD-UNIDO Umbrella program “Energy Efficiency in Russia” and with the energy efficiency programs and municipal infrastructure reform programs of the Russian federal and regional governments. In particular, EBRD will coordinate internally with its initiatives in Russia that currently work to promote energy efficiency in key sectors, particularly with the two EBRD-GEF projects involving investments in Russian municipalities: one in public buildings and the other (implemented jointly with IFC) in residential housing. Co-ordination will include drawing on the technical capabilities of the consultants in outreach to municipalities, pipeline generation, and training for municipal officials and service companies. The coordination will be tasked to an internal programme manager at EBRD who’s responsibilities will include ensuring that funding and activities are not duplicative.

The project will also draw upon findings from other municipal infrastructure projects in the region, including those already funded by EBRD, the IBRD-funded Russia Housing and Communal Services Project, and any upcoming initiatives to be funded by GEF under GEF-5.

The project will also cooperate with the Russia Energy Efficiency Financing (REEF) under preparation by the World Bank, and to be implanted together with the Russian Energy Agency and Gazprombank. This

project aims to engage commercial banks in the industrial sector. Furthermore, discussions with the Russian Energy Agency confirmed that they are not targeting the Arctic region with the REEF project since most industrial opportunities lie in southern parts of Russia.

EBRD will participate in any country-level coordination exercises that are undertaken by the government regarding GEF-funded projects.

C. DESCRIBE THE GEF AGENCY'S COMPARATIVE ADVANTAGE TO IMPLEMENT THIS PROJECT:

EBRD has a proven track record in the area of municipal infrastructure lending, specifically in leveraging financing for investments in municipal infrastructure that improve energy efficiency and reduce GHG emissions. It also has strong relationships with many Russian regions and municipalities, and it has an office in Moscow and six other regional offices through which it can support its programming.

C.1 Indicate the co-financing amount the GEF agency is bringing to the project:

EBRD will bring \$51 million in co-financing including investments, technical assistance funds, and Project Management costs.

C.2 How does the project fit into the GEF agency's program (reflected in documents such as UNDAF, CAS, etc.) and staff capacity in the country to follow up project implementation:

Russia is the most significant country both in terms of energy use as well as energy efficiency potential among the EBRD countries of operation. Consequently, Russia has been the largest single recipient of EBRD sustainable energy investment during Phase I of the Bank's Sustainable Energy Initiative, representing 28.3 per cent of the total cumulative SEI investments across all countries of operations.

In Russia, EBRD has signed 629 projects in Russia with a net business volume of €14.5 billion. The EBRD is committed to supporting energy efficiency and renewable energy in Russia by providing debt and equity financing, donor-funded technical support to clients for project development, as well as policy support to government aimed at establishing effective regulatory framework for energy efficiency and renewable energy investments. These projects cover all sectors of the Russian economy, including private industry, small and medium sized companies, power and natural resource sectors, and municipal infrastructure. In 2009, the Bank signed a Memorandum of Understanding with the Ministry of Economy of the Russian Federation regarding the implementation of a Sustainable Energy Action Plan for Russia, thereby pledging to scale up support in the area of energy efficiency.

Since the launch of its Sustainable Energy Initiative in 2006, the Bank has provided over €1.6 billion of its own financing for energy efficiency projects in Russia for a total project size of over €8.4 billion.⁸ In the current EBRD Country Strategy for Russia, which covers the period 2009-2012, Sustainable Energy Initiative, energy efficiency will become an integral part of the business of each sector of EBRD activity in Russia. EBRD will increasingly focus on the demand side of energy use by reducing energy usage and greenhouse emissions in all sectors to support corporate competitiveness and combat climate change.

A total of 13 EBRD professional staff in Russia (11 in Moscow, one in St. Petersburg, and one in Ekaterinburg) work directly on Municipal Environmental Infrastructure, among them a Director for Energy and Infrastructure and an energy efficiency specialist. The team also includes several dedicated bankers and project managers in the Municipal Environment Infrastructure sector.


⁸ SEI number represents EBRD's own investment, excluding syndication with commercial banks and own funds of a project's sponsor.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

- A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):** (Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this template. For SGP, use this [OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Mr Rinat Gizatulin	GEF OFP and Deputy Minister	MINISTRY OF NATURAL RESOURCES AND THE ENVIRONMENT OF THE RUSSIAN FEDERATION	09/02/2011

- B. GEF AGENCY(IES) CERTIFICATION**

This request has been prepared in accordance with GEF/LDCF/SCCF policies and procedures and meets the GEF/LDCF/SCCF criteria for project identification and preparation.					
Agency Coordinator, Agency name	Signature	DATE (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
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