



PROJECT EXECUTIVE SUMMARY
REQUEST FOR Council Work Program Inclusion
 UNDER THE GEF Trust Fund

GEFSEC PROJECT ID: 2376
IA/ExA PROJECT ID: P079033
COUNTRY: Russian Federation
PROJECT TITLE: Renewable Energy Project
GEF IA/ExA: World Bank
OTHER EXECUTING AGENCY(IES):
DURATION: 5 years
GEF FOCAL AREA: Climate change
GEF STRATEGIC OBJECTIVES: CC-4 Promote on-grid electricity from renewable resources; CC-5 Promote use of renewable energy for the provision of rural energy services
GEF OPERATIONAL PROGRAM: OP6 - Promoting the adoption of renewable energy by removing barriers and reducing implementation costs
PIPELINE ENTRY DATE:
EXPECTED STARTING DATE: 1/1/2008
EXPECTED CEO ENDORSEMENT: 09/01/2007
IA/ExA FEE: \$932,000

FINANCING PLAN (\$)		
	PPG	Project*
GEF Total	350,000	10,000,000
Co-financing	(provide details in Section b: Co-financing)	
GEF IA/ExA		
Government	700,000	66,500,000
Others		300,000
Co-financing Total		66,800,000
Total	1050,000	76,800,000
Financing for Associated Activities If Any:		

*Details provided under the Financial Modality and Cost Effectiveness section

CONTRIBUTION TO KEY INDICATORS IDENTIFIED IN THE FOCAL AREA STRATEGIES: It contributes to the GEF indicators by reducing 4.89 million tons of CO₂ emissions and targeting interventions in three markets: i) on-grid electricity generation from mini-hydro and wind resources, ii) district heating systems on biomass resources, and iii) residential home heat/hot water systems from solar and biomass resources in three pilot regions.

Approved on behalf of the World Bank. This proposal has been prepared in accordance with GEF policies and procedures and meets the standards of the GEF Project Review Criteria for work program inclusion

Steve Gorman 
 GEF Executive Coordinator,
 The World Bank

Project Contact Person
 Emilia Battaglini, GEF Regional Coordinator
 +1 (202) 473-3232, Ebattaglini@worldbank.org
 Helmut Schreiber
 Task Team Leader
hschreiber@worldbank.org

Date: March 23, 2007

PROJECT SUMMARY

a) Project rationale, objectives, outputs/outcomes, and activities.

Background and rationale

Russia's potential for renewable energy development is quite large. In accordance with the OECD/IEA study (2003) the volume of renewable energy with economic potential corresponds to about 30% of the country's actual total primary energy supply, while the technical potential is estimated to be more than five times greater than the energy supply. It includes biomass energy from the nation's rich forest resources, wind, solar, hydro, and geothermal energy resources found in many regions. Additional triggers for Russia's efforts to develop its renewable energy potential include the necessity to modernize the provision of housing and communal services in most Russian cities – a process in which energy saving and renewable energy technologies can play a prominent role.

Not more than 3.5% of the total primary energy supply is based on renewable energy, of which two-thirds are hydro and one-third all other forms. Renewable energy (without large hydro) accounts for 0.5% of total electricity generation. Experts estimate that heat use based on renewables amounts to about 4% of the total generated heat in Russia.

During the period 2002-2006, several programs with components related to RER have been implemented with only little impact on their development. The main reasons for the slow development of renewable energy projects are systemic barriers that impede the development of RER in Russia as

- (a) institutional and ownership barriers: lack of legislative support; insufficient enforcement of environmental regulations; inflexibility of municipalities, lack of implementation capacity for renewable energy (RE) projects; mismatch between municipal ownership of district-heating systems and regulation of tariffs by federal/regional authorities; insufficient private sector presence in the power and heat generation sector; and
- (b) information barriers associated with a lack of information about RE technologies and opportunities and their potential; and
- (c) financial barriers: lack of domestic and foreign investment capital; lack of longer-term affordable debt financing; high project preparation and transaction costs; high cost of special equipment; absence of federal financing mechanisms (such as environmental funds, etc.); un-competitiveness due to low fossil fuel energy prices.

GEF funding of \$10million will be directed to the removal of the above mentioned barriers to create a sustainable renewable energy market in Russia. Without GEF participation, private and municipal developers may not be able to develop and finance projects that benefit project partners and the country at large. Also, without GEF, there would be a lack of resources to build knowledge about renewable energy among private investors, FIs, policy makers, and other stakeholders.

The concept and objectives of the Russia - Renewable Energy Program (RREP) support the Bank's strategy to assist the Russian Federation in the sustainable development of its energy resources. One of the priorities of the Country Partnership Strategy (CPS), approved by the Board of Executive Directors on November 20, 2006, is to support Russia's increasing global role, and to assist the country in fulfilling its global commitments. The CPS refers to TA operations on the introduction of low-carbon

technologies and climate change mitigation. Another priority area of cooperation between the Government and the Bank are diverse activities at the sub-national level. The design of the RREP, with a focus on proactive participation of regions, is fully consistent with this strategic priority.

Project objective

The project's global objective is to reduce emissions of greenhouse gases (GHG) for the purpose of climate change mitigation through implementation of renewable energy projects in the Russian Federation.

The development objective of the project is to facilitate a sustainable market for RER in the Russian Federation by supporting the development of enabling policies, institutional capacity, and self-sustaining, market-oriented financing mechanisms. Specifically, the project's aim is to change the current unfavorable investment and incentive conditions and create an enabling environment in Russia that fosters the development of biomass, solar, wind and other renewable energy utilization for heating and electricity generation applications by providing financial, methodological, informational, and institutional support. It will help alleviate rural poverty caused in large part by an underdeveloped local economy and unaffordable energy costs in certain regions of Russia due to high fossil fuel prices which result from long distance distribution networks.

The Program outcome is the design and implementation of enabling regulatory and incentive framework for RER based power and heat production, including tariff design, licensing and permitting procedures, and training of stakeholders and the establishment of a Renewable Energy Financing Facility.

Program Outputs are (a) increased in-country knowledge and an improved framework and market for renewable energy development; and (b) increased investments in renewable energy projects.

Project activities

The project design will include two major components and several subcomponents:

Component A. Technical Assistance for Policy Development, Institutional Strengthening, and Capacity Building: US\$19.2 million, of which US\$5.0 million from GEF, and US\$14.2 million counterpart funds. This component covers the following areas:

A.1 The Development of Renewable Energy Policies subcomponent will comprise technical assistance focused on supporting the Government in designing and implementing policies on renewable energy development, improving the legislation and regulatory and incentive framework, and preparing national and regional strategies, action plans and programs on the use of renewable energy resources.

A.2 The Development of a Market Infrastructure subcomponent will include: (i) support to the Government in designing feed-in tariffs, and a "green certificates" system, technical regulations and standards for RE installations; (ii) support to various governmental entities in establishing streamlined permitting procedures, and (iii) support to and strengthening of private sector companies that invest in RER development.

A.3. The Renewable Energy Program in Natural Reserves and National Parks and in Special Tourist-Recreational Economic Zones subcomponent will demonstrate innovative approaches to productive uses of renewable energy for biodiversity conservation and other essential services in natural reserves, national parks and other protected areas. The subcomponent will support the implementation of the

following activities: (i) energy-environmental reviews of selected natural reserves and national parks; (ii) feasibility studies and technical design for the utilization of RER (renewable energy resources) in selected national reserves and natural parks; (iii) development of a model design packages for the construction of renewable energy installations in natural reserves, and national parks (iv) preparation of a long-term strategy on RER development in natural reserves, national parks and other protected areas, and (v) preparation of feasibility studies on RER development in seven Special Tourist-Recreational Economic Zones, established by the Government.

A.4. The Partnership on Innovative Financing Mechanisms and Regulations subcomponent will provide additional financial resources to extend the Renewable Energy and Energy Efficiency Partnership (REEEP) program in Russia, and in particular, to implement additional 5-6 projects competitively selected in accordance with its procedures and criteria. REEEP is a Public-Private partnership, its activities are focused on capturing the experiences, needs, ideas and action of REEEP partners that are working to increase investment through innovative approaches to financing and project development.

A.5. The Knowledge and Information Collection and Dissemination subcomponent will support the following activities:

- Creation and maintenance of an interactive web-portal on renewable energy;
- Establishment of a Network of National Biomass Centers, and
- Long-term educational and training capacity building.

A.6. The Program Management, Monitoring, and Evaluation sub-component will provide financial support for project monitoring and administration.

Component B. Renewable Energy Financial Facility (REFF) (US\$5.0 million GEF and US\$52.6 million counterpart funds). This component will be a financing facility consisting of three instruments: Project Preparation Window, Revolving Soft Loans Window, and Revolving RER Facilities in pilot regions.

B.1. The Project Preparation Window for on-grid electricity generation subprojects (PPW) (US\$1.0 million GEF, US\$4.6 million investment project sponsors) will focus on the development of a strong pipeline of mini-hydro and wind project that can provide deal flow for commercial banks and investors. Grant support will be provided in form of straight and contingent grants to project developers and sponsors to defray the costs of feasibility studies and other project preparatory activities. As a general rule, support will be provided on a cost-sharing basis with a 50% maximum coverage from GEF funds. Contingent grants could be provided for the preparation of bankable projects in cases where high technical and other project risks are expected. Thresholds for the use of contingent grants will be detailed in an Operational Manual of the REFF. In the event that projects supported by PPW reach financial closure, the contingent grant must be repaid out of their proceeds. In the event that the feasibility studies and related work conducted with PPW funding demonstrate that the project is not economically feasible, and all efforts to seek financing for the project are to be terminated, the contingent grant can be forgiven. JSC (Joint Stock Company) "Hydro OGC", which is a daughter company of RAO UESR (Unified Energy System of Russia), indicated an interest to cooperate with the GEF in implementing this task.

B.2. Revolving Soft Loan Window(US\$1.0 million GEF, US\$33.0 million are NPAF lending resources and funds of investment projects sponsors) based on the institutional framework and financial resources of the NPAF (National Pollution Abatement Facility) will constitute a financial mechanism for provision of selective financial support to companies implementing renewable energy development projects. NPAF indicated a readiness to allocate up to US\$20 million of its resources (repayments from initial sub-borrowers and unutilized portion of the Bank's loan and Swiss grant) for co-financing of RREP investment sub-projects. NPAF will provide long-term low-cost loans for project developers of renewable energy utilization in accordance to the following conditions: maximum amount of a sub-loan is US\$7 million for a period to 8 years with a grace period of 2-3 years for principal payment under sub-loans/final loans, which should make no more than 70 % from the sub-project total cost.

GEF support (US\$1.0 million) will allow NPAF to create a pipeline of RER subprojects. The same approach as in PPW will be applied for supporting of subproject developers and sponsors in the form of straight grants through cost sharing of feasibility studies and other project preparation activities. NPAF will also allocate up to US\$1.0 million for the RER pipeline creation.

B.3. The Revolving RER Facilities (US\$3.0 million GEF, US\$15.0 million counterpart funds) will be created in several pilot regions for the development of regional structures and testing of similar financial instruments (cost-sharing of project preparation and contingent grants and soft loans) at the sub-national level. These funds will allow adjusting the flow of potential RER development investment projects in regions. The general conditions of granting funds under this subcomponent may include: i) conformity of financed investment subprojects to RREP eligibility criteria; ii) competitive selection process for the procurement of goods, works, and services; iii) ability of an applicant to provide co-financing of subprojects from their funds; iv) financing is carried out on fixed-term, irrevocable and gratuitous basis, and v) GEF's share in subproject financing shall not be more than 20 percent of the investment cost.

Several regions were identified at the preparatory stage. Apparently, Krasnodar krai, the Republic of Karelia and Komi Republic are the best prepared and committed to host the Revolving RER Facilities. The final selection of pilot regions and design of the facilities will be done before the RREP start up as one of the conditions for grant effectiveness. It is expected that NEFCO (Nordic Environment Finance Corporation) will be involved in supporting the creation and operations of Revolving RER Facilities in North-West Russia.

Key indicators, assumptions, and risks (from Logframe)

Key indicators for the Project development and global objectives, include:

- Introduction of an enabling regulatory and incentive framework for RE based power and heat production,
- Total number of RE projects reaching financial closure as a result of REFF,
- New RE power generation capacity installed (MWe),
- New RE heat generation capacity installed (MWt),
- Total amount of electricity and heat additionally generated (MWh) from new RE installations,
- Reduction of greenhouse gases emissions due to project implementation.

The Outcome Indicators will provide the Recipient, the World Bank, and the GEF with basic information on the achievement of an enabling framework for RE investments, and whether the level of financing for RE projects is increasing.

There are a number of risks which are highlighted in the table below, together with proposed or envisaged mitigation measures:

Risks	Risk Mitigation Measures
REFF's size and leverage may not be large enough to create a sustained market impact.	Obtain bilateral and multilateral donor contributions as well as from the Government of Russia during project preparation and implementation. Use early successes and associated rise in the Fund's credibility to mobilize additional donor contributions. Catalyze substantial commercial co-financing through both demonstration effects of successful projects and business partnerships.
Government's commitment to national policy for RE and to streamline state/local decision-making fails over time	Build capacity in the Ministry of Economic Development and Trade (MEDT), Ministry of Industry and Energy (MIE) and other ministries, and develop procedures to streamline decisions affecting RE implementation within Government structures. Maintain policy dialog with all stakeholders to ensure commitment to reform.
The power sector restructuring will be slow and inadequate leaving investors without proper enabling framework	Build capacity with the new power sector entities in RAO UESR, the tariff system regulators, and the MIE.
The private sector will not be willing to invest in RE projects	Support legislation to ensure adequate feed-in tariffs or similar price incentive. Technical assistance to the NPAF and local FIs to enable optimal financial intermediation through appropriate financial support instruments.
Lack of financial support for project preparation	Obtain firm commitment from partners to co-finance preparation of feasibility studies. Market REFF to local FIs early on. Conduct periodic workshops and disseminate early successes to encourage competitive co-financing.
Negative outcome of feasibility studies	Well prepared RER assessments. Share risks among all project participants.
Lack of funding for full project scope developed under the feasibility studies	Active soliciting of project finance.
REFF does not operate effectively, does not disburse funds	Technical assistance support to the National Pollution Abatement Facility Executive Directorate, especially with regard to providing additional internal capacity for RE investments. Lessons learned from numerous relevant projects (many in ECA) will be taken into account. Ensure adequate deal flow through project preparation activities.

2. COUNTRY OWNERSHIP

a) COUNTRY ELIGIBILITY

The Russian Federation ratified the United Nations Climate Change Convention and is, therefore, eligible for GEF assistance in the climate change focal area. Also, the Russian Federation ratified the Kyoto Protocol, and therefore has a significant incentive to promote renewable energies, which help reduce greenhouse gas (GHG) emissions. Russia has a weak but significant renewable energy generation potential that would make this thematic program a high priority.

b) COUNTRY DRIVENNESS

The importance of developing Russia's renewable energy resources (RER) has been recognized by its authorities based on the need to diversify fuel utilization and the need to protect the environment. The Russian "Energy Strategy of Russia until 2020" stipulates the development of new capacities for RER utilization, and at the same time the gradual reduction of subsidies. This will increase the incentives for investments in energy efficiency and the use of renewable energy resources. In particular, areas remote from fossil fuel resources and being served only by very high-priced energy are prime candidates for an enhanced development of local RER. While a federal law on renewable energy development has not yet been adopted, there are several regions that have adopted laws and regulations on renewable energy. Additionally, at the sub-national level exists a well developed institutional framework for energy efficiency improvements that can serve as well as umbrella for RER. 43 regional laws on energy saving, 24 energy saving funds and 75 energy efficiency centers have been established at the regional level. Regional and municipal authorities are the main driving force for renewable energy development in Russia. More than 650 energy efficiency programs are under implementation, including 45 programs at the sub-national level, and more than 537 municipal programs.

The potential for RE project was confirmed at the preparatory stage of RREP. About 50 investment projects with total investment cost of more than US\$270 million were identified.

In the course of the Project preparation, many Russian regions (Krasnodarsky Krai, Stavropolsky Krai, Rostov oblast, Arkhangelsk oblast, Republic of Buryatia, Republic of Karelia, Republic of Komi, etc.) developed proposals to design and implement investment projects to tap RER. Administrations of several regions (Krasnodarsky krai, Arkhangelsk oblast, Republic of Komi, Republic of Karelia) came up with initiatives to pilot implementation of the RREP.

The Ministry of Economic Development and Trade of the Russian Federation confirms the intention to use the National Pollution Abatement Facility (NPAF) and to direct some of available financial resources to the implementation of the investment component of RREP.

3. PROGRAM AND POLICY CONFORMITY

a) FIT TO GEF OPERATIONAL PROGRAM AND STRATEGIC PRIORITY

The project is proposed to the GEF under Operational Program No. 6 (OP-6): Promoting the Adoption of Renewable Energy by Removing Barriers and Reducing Implementation Costs. The specific strategic priorities supported by project in the context of the new GEF 4 replenishment strategy are: a)

Promote of supply and demand for grid electricity from renewable resources (CC-4), b) Promote use of renewable energy for the provision of rural energy services (CC-5).

RREP supports the creation of a comprehensive power sector regulatory framework for the development of a sustainable market for renewable energy by promoting the development of enabling policies inter alia for grid-based renewable energy, institutional capacity and new financing mechanisms. This will include generation from wind, biomass, and small hydro – with regulatory frameworks and policies that provide fair and competitive grid access to renewable energy producers for heating and electricity generation applications.

The Project also focuses on support of renewable energy development in remote areas with relatively difficult economic and social conditions by removing actual and perceived barriers to renewable investments. .

The GEF funds under the proposed project would be used to remove barriers and leverage additional financing in renewable projects by as much as 7-8 times.

b) SUSTAINABILITY (INCLUDING FINANCIAL SUSTAINABILITY)

The project is expected to be financially and institutionally sustainable. Project activities are linked to long-term national programs on energy efficiency and renewable energy utilization and to the intention of the Government of the Russian Federation to diversify fuel utilization and to protect the environment.

To ensure sustainability beyond the implementation period, the project would:

- Assist with the development and implementation of the long-term strategies and detailed operational action plans for nationwide roll-out of activities;
- Influence the regulatory framework to ensure adequate federal/regional support in the forms of funding mechanisms, electricity buyback policy, preferential taxation, etc. and enforcement of environmental regulations;
- Build capacity of the federal/regional authorities and local communities through adequate training, technical advice, and critical infrastructure and equipment support; and
- Strengthen the awareness and understanding of the benefits of indigenous renewable energy utilization by the local population, general public and key stakeholders, and their involvement in the above mentioned activities.; and
- Create the long-term Renewable Energy Financial Facility to help overcome financial and institutional barriers for renewable energy development.

The final exit strategy for GEF funds will depend on the success of the project. The Government of the Russian Federation, the World Bank and GEF will finalize the exit strategy in year 4 of project implementation or when 75% of the combined REFF funds have been committed, whichever comes earlier.

If monitoring and evaluation reports indicate that program objectives are being met, remaining funds could be used to continue support for successful elements of the Program. If monitoring and evaluation reports indicate that program objectives are not being met, remaining funds could be (i) granted to the most successful REFF, (ii) granted to the GOR for the use of other GHG mitigation activities or (iii) returned to GEF. Analysis of performance will determine which of the GEF modalities may still serve a useful function and which should be converted for better use in Russia.

c) REPLICABILITY

The Program's replicability is ensured by its robust focus on removing barriers to the development of renewable energies in Russia which will finally lead to a change in the current unfavorable investment and incentive structure and create an enabling environment. Once the financial, information, institutional, ownership and implementation capacity barriers are removed, renewable energy development will become competitive and attract private financing to suitable resource bases throughout the country. There is an enormous potential to replicate the subprojects from pilot regions to more than 80 subprojects throughout the Russian Federation. Active involvement of four key ministries in RREP will ensure a wide replication of innovative financial instruments and regulations through federal, sectoral and regional programs. A special subcomponent (A.5) will support the information dissemination through the web-portal, and the network of RER centers.

d) STAKEHOLDER INVOLVEMENT

To ensure adequate development impact, the implementation of the program will be based on a broad stakeholder involvement, including actors in the relevant sectors, such as the electricity sector, municipal sector (DH), and the forestry sector in the case of biomass projects in Northwestern Russia. On the federal level, the MEDT, the MIE, the MNR, and the MEST as well as institutions and organizations under their administration will be the counterparts. On the local/regional levels the administrations of the oblasts will play a leading role. Strong interest and willingness to participate in project preparation and implementation was expressed by NGOs (WWF, several professional associations and other organizations) and private sector (commercial banks, engineering and consulting companies, equipment producers, etc.).

e) MONITORING AND EVALUATION

A monitoring and evaluation system will be put in place to assess the project's effectiveness during implementation and after the project is completed. A results monitoring framework will be set up focusing on the global development objective to be achieved and the intermediate and/or final results expected from implementing each project component. The framework will include specific and monitorable performance indicators such as the number of subprojects supported by the REFF, the RE investments leveraged by REFF and the associated GHG emission reductions. Project monitoring and evaluation activities will be carried out under the responsibility of the NPAF ED, which will submit semi-annual progress reports to the Bank. The NPAF OI should be updated with the aim to contain more detailed indicators, including those tailored to some specific types of investment subprojects supported by RREP.

A mid-term review will be carried out to assess overall project progress. This review will include an in-depth assessment of the institutional and financial sustainability of REFF, its initial impact on the broader RE landscape and the lessons learnt. Based on the outcome of the mid-term review, the Bank will advise the Government of the Russian Federation to take measures to ensure that the project is successfully completed.

On the subproject level, all beneficiaries of financial assistance (grants/loans) will establish an incremental cost analysis that includes a baseline scenario and a project scenario for energy performance and emissions, including CO₂.

4. FINANCIAL MODALITY AND COST EFFECTIVENESS

a) PROJECT COSTS

Project Components/Outcomes	Co-financing (\$)	GEF (\$)	Total (\$)
1. Technical Assistance for Policy Development, Institutional Strengthening and Capacity Building	13,400,000	4,200,000	17,600,000
2. Renewable Energy Financing Facility	52,600,000	5,000,000	57,600,000
3. Project management budget/cost*	800,000	800,000	1,600,000
Total project costs	66,800,000	10,000,000	76,800,000

b) PROJECT MANAGEMENT BUDGET/COST

Component	Estimated staff weeks	GEF (US\$)	Other sources (US\$)	Project total (US\$)
Locally recruited personnel*	2,247	500,000	5,00,000	1,000,000
Internationally recruited consultants*	–	–	–	–
Office facilities, equipment, and communications		210,000	210,000	420,000
Travel		50,000	50,000	100,000
Miscellaneous		40,000	40,000	80,000
Total		800,000	800,000	1,600,000

c) CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

Component	Estimated staff weeks	GEF (US\$)	Other sources (US\$)	Project total (US\$)
Personnel	–	–	–	–
Locally recruited consultants	25,000	1,900,000	10,600,000	12,500 000
Internationally recruited consultants	920	2,300,000	–	2,300 000
Total	25 920	4,200,000	10,600,000	14,800,000

d) CO-FINANCING SOURCES

Name of Co-financier (source)	Classification	Type	Amount (US\$)	Status*
National Pollution Abatement Facility	Executive Agency	Credit line	21,000,000	Funds earmarked in the Project concept approved by the NPAF Supervisory Board
Government of the Russian Federation	National Government	Counterpart co-financing	12,600,000	Tasks included in federal targeted programs to be financed in 2008-2011
Renewable Energy and Energy Efficiency Partnership	International program	Counterpart co-financing	300,000	Letter of Interest provided at the preparatory stage.
Administrations of Subjects of the Russian Federation	Local governments	Cash and in kind contributions	6,000,000	Letters of Interest provided at the preparatory stage. Firm commitments will be agreed during the project appraisal.
Private sector and municipal companies			26,900,000	Identified, will be confirmed by CEO endorsement.
Sub-Total Co-financing			66,800,000	

5. INSTITUTIONAL COORDINATION AND SUPPORT

a) CORE COMMITMENTS AND LINKAGES

The concept and objectives of the Russia - Renewable Energy Program (RREP) support the Bank's strategy to assist the Russian Federation in the sustainable development of its energy resources.

One of the priorities of the Country Partnership Strategy (CPS), approved by the Board of Executive Directors on November 20, 2006, is to support Russia's increasing global role, and to assist the country in fulfilling its global commitments. The CPS refers to TA operations on the introduction of low-carbon technologies and climate change mitigation. Another priority area of cooperation between the Government and the Bank are diverse activities at the sub-national level. The design of the RREP with a focus on proactive participation of regions is fully consistent with this strategic priority.

Furthermore during an ongoing policy dialog between the Bank and Russia on energy security issues the importance of diversifying energy supplies are emphasized by accelerating the development of renewable energy and distributed energy. At the joint statement of Minister Kudrin and President Wolfowitz at the G8 Meeting in St. Petersburg on June 9, 2006 both agreed on the obligation to scale up access to affordable and clean energy to meet the Millennium Development Goals.

Currently, there are two World Bank Group/GEF projects under implementation, which are directly related to the development of renewable energy in Russia: The Geothermal Energy Development Program for the ECA region (GeoFund), and the Russia – Sustainable Energy Finance Program, implemented by IFC. RREP is to be effectively coordinated with these projects to achieve the maximum combined impact.

Further is the pilot project under preparation by IFC - Sri Lanka “Portfolio Approach to Distributed Generation Opportunities (PADGO) “. The RREP project would be interested in a possible replication in RREP some positive outputs of the PADGO, when they become evident.

b) CONSULTATION, COORDINATION AND COLLABORATION BETWEEN IAS, AND IAS AND EXAS, IF APPROPRIATE.

UNDP (United Nations Development Program) and UNEP (United Nations Environmental) Program participated in discussions on the RREP design. A special meeting of Environmental Donors Working Group, chaired by UNDP-Russia, was arranged in 2005 to discuss a cooperation of UNDP, UNEP and other donors with RREP.

The Ministry of Economic Development and Trade (MEDT), the Ministry of Finance (MOF), and the National Pollution Abatement Facility (NPAF) will be the main partners of the Bank. The Ministries of Industry and Energy (MIE), Natural Resources (MNR), and Education, Science and Technology (MEST) will provide co-financing for relevant project tasks under the technical assistance component. The NPAF and its clients (project investors) will be the main partners in financing RE projects under the Renewable Energy Financial Facility. The administrations of pilot regions will provide co-financing for the creation of regional Revolving RER Facilities.

The Renewable Energy and Energy Efficiency partnership (REEEP) indicated to allocate at least US\$300,000 in support of renewable energy development in Russia during 2007-2011. The upcoming TACIS project "Renewable energy policy and the rehabilitation of small scale hydropower plants in the Russian Federation", with a budget 2.0 million EUR, will provide an important input in achieving of RREP objectives. The World Bank and TACIS intend to sign a document stipulating the relations between two operations on REP development in Russia.

It is envisaged that bilateral donors such as the European Union (EU), Austria, Denmark and other Nordic countries will also contribute to renewable energy development in Russia. The World Bank intends to deepen its cooperation with donors prior to effectiveness and in particular during the implementation phase.

Consultations with EBRD (European Bank for Reconstruction), IFC (International Finance Cooperation), NEFCO (Nordic Environment Finance Corporation), the Deutsche Energie Agentur and the European Center for Renewable Energy on their participation in the RREP are under way and will be completed by the project appraisal.

It is envisaged that bilateral donors such as the EU, Austria, Denmark and other Nordic countries, will also contribute to renewable energy development in Russia. The World Bank intends to deepen cooperation with donors prior to effectiveness and in particular during the implementation phase.

C) PROJECT IMPLEMENTATION ARRANGEMENT

The project design and implementation arrangements have been developed in close consultation with the key stakeholders, namely MEDT, NPAF, regional administrations, existing and potential project developers and NGOs dealing with renewable energy, environmental and energy efficiency issues.

MEDT is the Ministry responsible for overall coordination of RREP. A project Steering Committee under the chairmanship of MEDT was established to provide overall policy guidance and to coordinate the implementation of the RREP with national and international programs on renewable energy development. The Steering Committee will also oversee operations of bilateral donors such as the EU, Austria, Denmark and other Nordic countries and programs of multilateral development agencies related to renewable energy development in Russia.

MIE, MNR, and MEST are the agencies responsible for supervision of the following technical assistance subcomponents (i) renewable energy policy, (ii) market infrastructure development, (iii) renewable energy program in natural reserves and national parks, and (iv) and knowledge and information collection and dissemination. In their function they will ensure consistency of RREP operations with the Government strategy on energy, environmental and technological issues in the Russian Federation.

The investment component will be executed by the NPAF which was established by the Government of the Russian Federation in 1995 to fund financially viable, high priority resource recovery/pollution abatement projects. The NPAF ED is the project implementation unit for the Bank's Environmental Management Project and some other international projects; therefore, its staff possesses the needed experience and skills. The NPAF ED will assume overall fiduciary responsibilities for the use of the GEF grant funds. To manage the project, the NPAF ED will establish a Project Management Unit (PMU).

NPAF is functioning in accordance with the Operating Instructions (NPAF OI) developed in 1996 and updated in 2002. In addition to maintenance of NPAF ED operating activities, the NPAF OI formalizes the process of IP selection, preparation and implementation on the basis of requirements of the Russian legislation and the World Bank rules. The NPAF OI contains formats of documents used in all operations of the investment cycle.

MEDT, jointly with the Ministry of Finance will supervise activities of NPAF, including budget approvals, setting up of special accounts, authorizing payments and disbursements of GEF funds.

ANNEX A: INCREMENTAL COST ANALYSIS

The Russian Federation has significant renewable energy resources, but they play limited role in the country's energy balance. Not more than 3.5% of total primary energy supply is based on renewable energy.

Although the Energy Strategy until 2020 foresees that large new capacities for utilization of RER can be constructed, this will happen only if the energy policy, legislative base and the institutional framework are significantly improved and create the incentives for investments in increased energy efficiency and the use of renewable energy resources.

There was no serious progress in renewable energy resources development in 2000-2005. Annual electricity production from RER increased by 50% during this period, but its share in total electricity supply only reached 0.7%. Annual heat production from RER is about 4% of total supply, with 23% increase for five years.

As discussed in Annex 1, the main reasons for slow development of renewable energy projects are systemic barriers, most of which require special efforts from the government:

- Legal and regulatory barriers with gaps in regulations; long and often non-transparent process for obtaining the necessary permits, licenses and other required approvals; and tariffs for existing and newly constructed power and heat generating facilities;
- High capital outlay and preparation costs for small renewable projects;
- Limited access to long-term finance and unfamiliar risk for banks and other financial institutions, and related perception of high risk for renewable energy projects;
- Lack of experience of project sponsors, local FIs and engineering and consulting industry with renewable technologies and the appropriate project structures; management capacity constraints;
- Lack of reliable information about potential sites for renewable energy projects.

Rationale for GEF involvement

The justification of this project for GEF participation is based on the removal of barriers and enabling the mobilization of domestic financing from commercial and public sources. GEF funding (\$10 million) is directed to the removal of barriers to create a sustainable renewable energy market in Russia. Without GEF participation, private and municipal developers may not be able to develop and finance projects that benefit project partners and the country at large. Also, without GEF, there would be a lack of resources to build knowledge about renewable energy among private investors, FIs, policy makers, and other stakeholders. GEF support will lead to the creation of sustainable financial mechanisms for the support of renewables at the federal and regional levels resulting in long-term reductions of greenhouse gas emissions.

As a result of GEF participation, total funding of US\$76.8 million will be mobilized, including US\$57.6 million of investments. These investments will allow to create additional renewable energy capacity during five years of project implementation: 66.0 MW(t) and 42.13 MW(e).

The baseline scenario

The baseline scenario describes the project without GEF support. As elaborated in Annex 1 of the PAD, presently Russia's energy sector relies on its rich fossil fuel reserves and on the use of thermal power.

While there are significant renewable energy resources available, most of them are not expected to be implemented due to the barriers stated above. Also, even if some of the renewable projects materialize

without GEF support, they are expected to take longer to be implemented (relative to the alternative scenario below, with GEF intervention).

In the absence of state statistics on renewable energy and of real, verifiable data from the market, the project team has accepted the conservative expert forecast of renewable energy development in Russia to 2010 recently prepared by the Institute on Energy Researches (ENIN). This forecast assumes an additional 1 million MWh(t) production of heat from biomass, and 0.8 million MWh electricity from mini hydro, wind, solar and biomass resources by 2010.

Greenhouse gas reduction benefits: The greenhouse gas reductions resulting from the electricity and heat production under the baseline scenario (0.5 million tCO₂ from new RER heat generation and 0.8 million tCO₂ from electricity generation) would result in 20.8 million tons of CO₂ emission reductions over 20 years, including 19.5 million tons of CO₂ over 15 years after the project completion.

GEF Alternative Scenario

Under the alternative scenario, GEF support (along with co-financing from the government and other sources) is expected to remove most of the existing barriers and reduce the impact of others; thereby making some of renewable projects viable and enhancing the sustainability of renewable energy development in the country.

The Project will include the following components:

Component A. Policy Development, Institutional Strengthening and Capacity Building Component: US\$5.0 million GEF, US\$14.2 million counterpart funds. This component covers the following areas:

A.1 Development of Renewable Energy Policy subcomponent will comprise technical assistance focused on supporting the Government in designing and implementing policy on renewable energy development, improvement of legislation and normative - regulatory framework, preparation of national and regional strategies, action plans and programs on the use of renewable energy resources.

A.2 Market Infrastructure Development subcomponent will include: support to the Government on the feed-in tariff design, support to regional authorities in regulation of heat prices applicable to renewable energy projects, support to development and adoption of renewable energy system and component standards, support to development of a biomass fuel industry, support to various governmental entities in establishing streamlined permitting procedures.

A.3. Renewable Energy Program in natural reserves, national parks, and in special tourist-recreational zones subcomponent will demonstrate innovative approaches to productive uses of renewable energy for biodiversity conservation and other essential services in natural reserves, national parks and other protected areas. The subcomponent will support the implementation of the following activities:

- i) energy-environmental reviews of selected natural reserves and national parks,
- ii) feasibility studies and technical design documentation for renewable energy introduction in 14 reserves and national parks,
- iii) development of model design documentation packages for construction of renewable energy installations in reserves, and
- iv) preparation of a strategy on RER development in natural reserves, national parks and other protected areas for 2011-2015,

v) preparation of the feasibility study on RER development in seven Special Tourist-Recreational Economic Zones, established by the Government of the RF.

A.4. Partnership on Innovative Financing Mechanisms and Regulations subcomponent will provide additional financial resources to extend the Renewable Energy and Energy Efficiency Partnership (REEEP) program in Russia, and in particular, implementation of additional 5-6 projects competitively selected in accordance with its procedures and criteria.

A.5. Knowledge and information collection and dissemination subcomponent will support implementation of the following activities: i) creation and maintenance of interactive web-portal on renewable energy, ii) establishment of a Network of National Biomass Centers; iii) support to implementation of the information-educational projects, selected by the Federal Agency on Science and Innovations.

A.6. Program Management, Monitoring, and Evaluation sub-component is included, along with financial support for project administration.

Component B. Renewable Energy Financial Facility (REFF): US\$5.0 million GEF, US\$52.6 million counterpart funds. This component will be a financing facility consisting of three instruments: Project Preparation Window for on-grid electricity generation subprojects and Revolving RER Facilities in pilot regions as described in the Annex 4.

RSFW will be based on the institutional framework and financial resources of the NPAF and will provide long-term low-cost loans for project developers of renewable energy utilization. NPAF is committed to allocate up to US\$20 million of its resources (repayments from initial sub-borrowers and unutilized portion of the Bank's loan and Swiss grant) for co-financing of RREP investment subprojects. The average share of NPAF sub-loans is assumed to be 66% of a project's costs and an average subproject size would be US\$5.0 million. Total investments for the initial six subprojects will be US\$30 million. The initial capital of RSLW (US\$20.0 million) will allow generating a sustainable reflow of principal and interest payments. For 20 years RSLW would provide sub-loans of more than US\$110.0 million, which will result in project investments at the amount of US\$166.7 million.

An average project size for financing from Revolving RER Facilities in pilot regions is assumed as US\$1.5 million, with a 50% average share of contingent grant/soft loan in project cost. GEF share in contingent grant/soft loan should be not more than 33%. Based on the above assumptions, the GEF contribution of US\$ 3.0 million will allow supporting investments for initially 12 subprojects in pilot regions at a total amount of US\$18 million.

As a result of GEF participation during the initial five years, approximately 66.0 MW(t) and 42.13 MW(e) renewable capacity will be built, accounting subprojects supported by PPW but financed from other than REEF sources. Direct REFF investment will be at least US\$57.6 million (US\$ 39.6 million in projects supported by the PPW and RSLW loans; US\$18.0 million in projects supported by the Revolving RER Facilities in pilot regions) in addition to what is projected for the baseline. These investments are not expected to be made without the GEF involvement.

Greenhouse gas reduction benefits: Under the Alternative (with the GEF project) scenario, greenhouse gas emissions will be reduced (below the baseline level) by more than 4.89 million tons of CO₂ over a period of 20 years (247.7 tons CO₂/yr) from the 66.0 MW(t) and 42.13 MW(e) built in the initial five years of the REFF operation.

Emission reductions due to new energy and heat generation were calculated in the following way:
assumed investments / assumed capital unit cost of 1 MW(e) capacity = assumed capacity
assumed capacity x assumed number of working hours per year = annual MWh production
annual MWh production x emissions factor = annual emissions reductions
annual emissions reductions x 20 years (project life) = project life emissions reductions

Capital unit costs were assumed as follows:

Wind power generation US\$1,475 /kW(e);

Mini hydro US\$1,285/kW(e);

Biomass power generation US\$1,500/kW(e);

Biomass heat production US\$500/kW(t);

Solar heat production US\$ 300/kW(t).

Number of working hours per year:

Wind installations 2,700 hrs ;

Mini hydro 2,700 hrs;

Biomass installation 4,500 hrs;

Solar heat collectors 1,000 hrs (South region); 1,500 hrs (Baikal region).

Average emission factors for replaced coal and mazute power plants and boilers:

1.0 tCO₂ for 1MWt(e) x hrs;

0.5 tCO₂ for 1MWt(t) x hrs.

Local Benefits: include: (i) reduction in local pollution; (ii) building of the institutional capacity and know-how in planning, assessing, and financing renewable projects, and (iii) contribution to the governmental policy to diversify energy sources, in particular, in remote regions.

Also, the project will have a positive impact on Russia's consulting and manufacturing industry. Finally, new financial instruments will become available, such as contingent grants and soft loans.

Incremental Costs and Benefits

A summary of the costs and benefits is presented also in the following table. Since GEF will contribute US\$ 10.0 million, the unit incremental cost for GEF is US\$2.04 per ton of CO₂ removed.

Table: GEF Incremental Cost Matrix

	Baseline	Alternative	Increment
Domestic Benefits	Energy demand would be satisfied with conventional energy sources and pollution would remain high.	Local pollution with particulates, sulfur and nitrogen oxides and other residues resulting from the burning of fossil fuels will be reduced significantly by the use of clean renewable energy.	Reliability of the energy supply will be improved and economic risks associated with volatile pricing for fossil fuels reduced.
	Private sector and local FIs are reluctant to finance renewable energy projects due to the high risk and unfamiliar profile of the business	Investments in renewables by the private sector and local FIs	Increased investments in renewables by the private sector and local FIs
	Weak capacity of local	Competent and strong consulting	Increased capacity to

	organizations (e.g. consulting and engineering industry) to develop and finance renewable projects.	and engineering industry results in lower cost of projects' preparation and implementation and utilization of more efficient technology	develop renewable projects
Global Benefits	Renewable energy sources would remain underutilized; their use would increase very slowly. About 20.8 million tCO2 reduction over life cycle.	Total emission reductions are 25,69 million tons of CO ₂	4.89 million tons CO ₂ reductions as a direct result of RREP implementation
Policy and Institutional Strengthening and Capacity Building Component	Regulatory, institutional, and technical knowledge barriers that currently inhibit renewable investments would remain un-addressed	By systematically addressing these constraints the component will facilitate Renewable Energy Policy and Market Infrastructure Development. \$19.2 million, including \$5.0 million – GEF share	 \$5.0 million
Renewable Energy Financial Facility	None of the identified renewable investment opportunities would be implemented. Existing conventional energy supplies would be used instead.	\$57.6 million investments: \$39.6 million in projects supported by the PPW and RSLW loans and contingent grants; \$18.0 million in projects supported by the Revolving RER Facilities in pilot regions, Including US\$5 million from GEF	 \$5.0 million
Total Cost Including the GEF's share	\$486.0 million -	\$562.8 million \$10 million	\$76.8 million \$10 million

ANNEX B: PROJECT LOGICAL FRAMEWORK

Project Development Objectives	Program Outcome Indicators	Use of Outcome Information
<p>The project development objective is to facilitate a sustainable market for renewable energy in the Russian Federation by supporting the development of enabling policies and institutional capacity, and market oriented financing mechanisms.</p>	<p>Introduction of an enabling regulatory and incentive framework for RE based power and heat production</p> <p>Total number of renewable energy projects reaching financial closure as a result of REFF</p> <p>New RE power generation capacity installed (MWe)</p> <p>New RE heat generation capacity installed (MWt)</p> <p>Total amount of electricity and heat additionally generated (MWh) from new RE installations</p>	<p>Outcome Indicators will provide the Recipient, the World Bank, and the GEF with basic information on: 1) the achievement of an enabling framework for RE investments, and 2) whether the level of financing for RE projects is increasing.</p> <p>Unsatisfactory progress on outcome indicators may signal shortcomings in TA for removing barriers and reducing investment costs and capacity building activities, or indicate change in market conditions leading to the need for a revision of existing regulations and tariffs.</p>
<p>Global Environment Objective</p>		
<p>Reduce GHG emissions on a continuous basis</p>	<p>Reduction of CO₂ emissions at national and subproject levels.</p>	<p>Demonstrate that CO₂ reductions can be achieved by creating an enabling environment for RER</p>
<p>Intermediate Results One per component</p>	<p>Results Indicators for each component</p>	<p>Use of Results Monitoring</p>
<p>Component One: Increased in-country knowledge and improved framework and market for RE development</p>	<p>Laws, regulations, strategies and action plans on RER prepared and introduced. Feed-in tariffs for RE and of a “Green Certificate” system established</p> <p>Streamlined permitting procedures established</p> <p>Number of energy-environmental reviews of natural reserves and national parks, feasibility studies and technical design documentation</p> <p>Implementation of replicable innovative models of policy , regulatory, or financial frameworks</p> <p>Creation of an interactive web portal on RER</p> <p>Establishment of a Network of National Biomass Centers</p>	<p>Slow enactment of laws, regulations and strategies may indicate lack of support from stakeholders and require additional consultations with policy-makers and regulators.</p> <p>Determine whether the component is making progress towards establishing an enabling framework for RER development.</p> <p>Progress in implementation of reviews and feasibility studies will indicate a feasibility of RE introduction in natural reserves and national parks.</p> <p>Progress in implementing of innovative models will indicate which approach needs further improvements to legislation and</p>

		regulations.
Component Two: Increased investment in RE projects	Number of feasibility studies supported by the REFF Volume of additional co-financing to PPW and REFF in pilot regions Total financing of RE by REFF in pilot regions	Determine whether the REFF is operating effectively and meeting expectations for financing deals including the attraction of leveraged finance. Slow disbursement of funds may indicate either weak capacity of REFF to identify viable projects and leverage additional funds for project preparation purposes.

Arrangements for results monitoring

							Data Collection and Reporting		
Outcome Indicators	Baseline (annual)	YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instrument	Responsibility for Collection
Introduction of an enabling regulatory and incentive framework for RE	n/a			Framework in place			Annual	PMU reports, midterm review, completion report, technical and social surveys	PMU
Total number of RE projects reaching financial closure as a result of REEP (number)	n/a	1	3	6	8	10	Annual	PMU reports, midterm review, completion report	PMU
New RE power generation capacity installed (MWe) (cumulative)	n/a	-	4	12	25	42.1	Annual	PMU reports, midterm review, completion report	PMU
New RE heat generation capacity installed (MWt) (cumulative)	n/a	-	6	20	35.0	66.0	Annual	PMU reports, midterm review, completion report	PMU
Electricity generated from new RE installations MWh(e)/year	n/a	-	10800	32400	67500	113670	Annual	PMU reports, midterm review, completion report	PMU
Heat generated from new RE installations MWh(t)	n/a	-	23820	79400	138950	262000	Annual	PMU reports, midterm review, completion report	PMU
Reduction of CO ₂ emissions (th t/y) cumulative	n/a	-	22.7	72.1	137	248	Annual	PMU reports, midterm review, completion report	PMU
Results Indicators for Each Component	Baseline (annual)	YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instrument	Responsibility for Collection
Component One - Market Framework									
Laws, regulations, strategies and action plans are prepared and	n/a	Study of economic feasibility	Strategies and action plans are	The key laws and regulation	-	-	Annual	PMU reports	PMU

introduced		of different RER	prepared	s are introduced					
Conferences and workshops for politicians and decision-makers (cumulative)		2	4	5	6	8	Annual	PMU reports	PMU
Energy-environmental reviews, feasibility studies in natural reserves and national parks	n/a	40 Energy- environme ntal reviews completed	5 feasibility studies prepared	10 feasibility studies prepared			Annual	Consultant reports	MNR
Implementation of replicable innovative models of policy, regulatory or financial frameworks	n/a	1	2	2	2	-	Annual	REEP Secretariat reports	PMU
Component Two – Investment									
PPW support to development of feasibility studies pipeline (US\$)	-	500,000	1,500,000	1,500,000	500,000	-	Annual	PMU reports	PMU
Volume of Additional Co-financing (US\$) to PPW and REFF in pilot regions	-	350,000	1,700,000	3,000,000	4,400,000	4,000,000	Annual	PMU reports	PMU
Total financing of RE projects supported by REFF in pilot regions (US\$)	-	2,500,000	4,000,000	6,000,000	7,000,000	8,000,000	Annual	Administrations of pilot regions reports	PMU

ANNEX C: RESPONSE TO PROJECT REVIEWS

a) Convention Secretariat comments and IA/ExA response

b) STAP expert review and IA/ExA response

Review by Marina Shvangiradze

Georgia's SNC to the UNFCCC,

1. Review

Russia-Renewable Energy Program (RREP)

(Appraisal of GEF proposal)

The document reviewed is the draft version of Project Brief for the "Russia-Renewable Energy Program (RREP)" dated 12 September 2006. The document in total consists of 78 pages: a cover page and a proposal of 21 pages with 24 Technical Annexes and a map. Annexes 7 (Financial Management and Disbursement Arrangements), 8 (Procurement Arrangements), 10 (Safeguard Policy Issues), 11 (Project Preparation and Supervision), 12 (Documents in the Project File) will be developed, in line with World Bank procedures, at a later stage.

The main objective of the proposal is to contribute to the Global Climate Change mitigation process through facilitation of sustainable development of Russia's energy sector and abatement of GHGs. Two key sectors of energy service: renewable energy (75%) and district heating and energy efficiency improvement (25%) are targeted in proposal through implementation of two main project components: **component A (US\$ 8.0 million, GEF)**-institutional and policy measures facilitating the sustainable marketing of RE and **component B (US\$ 12.0 million, GEF)** –investment mechanisms for support of renewable energy projects from the pilot regions and reducing the incremental costs of environmentally friendly projects.

Final conclusion: The proposal (at this stage) and the program as a final product for implementation is very important and timely activity for such country as Russia having unutilized renewable resources; serious institutional, market and other barriers typical for the countries in transition; being Annex I country to the UNFCCC and Annex B country to the Kyoto Protocol with the target stabilization of GHG emission at the 1990 level but oriented on rapid development of its industry including the energy sector and development of market economy. The program could significantly contribute to the facilitation of private sector involvement in sustainable marketing of RE which is vitally important for the increase of RE share in energy industry and the ensuring of the sustainability of whole process thus contributing in Global processes.

Some very important elements of the proposal should be highlighted which would facilitate the success of the Program:

- The standards setting element planned in the program which is really urgent and should be one of the priorities of the component A.
- Reduction of transaction costs of projects implementation. Certainly providing the assistance to project owners in assessment of technical and economical potential of renewable resources to be used and in preparation of tender documentation for bankable project which is the most costly part of a project development process.
- Facilitation of increase participation of private entities which is quite weak in RE sector.
- Demonstration projects in pilot regions are vitally important for improvement the weak statistics existing in transition countries and thus reducing the project risk.
- Coordination of all programs and projects related to the utilization of RE and currently ongoing or planned in Russia. Russia has large territory with considerable renewable energy resources distributed over the country's administrative and territorial units and with inherited from Soviet time low efficiency. Therefore it is not surprising that several programs on promotion of renewable energy sources utilization and improvement of energy efficiency are listed in proposal. Strong cooperation among these programs is important element for successful implementation of program.
- Involvement of regions

Below are listed some issues for improvement which could strengthen the environmental orientation of project and make clearer overall project idea for outside people not being involved at project preparation stage:

a) Barriers analysis

As far as the proposal directly supports the GEF OP#06 **“Promoting the adoption of renewable energy by removing barriers and reducing implementation costs”** the proper identification of barriers to the increase of the renewable energy share in Russia's energy supply system, ensuring of sustainable marketing of RE and improvement of energy efficiency on the basis of cost-benefit analysis are the key points for the reaching of final target. Four types of barriers: financial, institutional and ownership, information and implementation capacity are correctly identified in proposal. Insufficient private sector presence in the sectors considered and weakness of their managerial skills are mentioned among others.

Main focus of the study should be done on this latest one and strengthening of the local private sector acting in renewable and energy efficiency fields could be priority target of the project aiming at the facilitation of sustainable market for RE.

b) Assessment of resources

The proposal mentions feasibility studies conducted in the framework of different programs but nothing is said whether economically and technically feasible potential have been assessed in these studies or it will be the element of the current program.

c) Innovative financing mechanisms

Along with the mechanisms (Renewable Energy Financial Facility-REFF, Revolving Soft Loan Facility-RSLF, Contingent Loan-CL, etc) already considered by the proposal as innovative financial mechanism the Kyoto Mechanisms (Joint Implementation and Emission Trading) could be considered from the point of view of capacity building, preparation of project pipeline and drawing of additional investments.

d) Selection of projects for financing

Making judgment only on the basis of the project titles the preliminary selected projects (listed in attachments 3 and 4 to the Annex 4) should be very interesting however 2/3 of them are submitted (and probably will be implemented) by Governmental and scientific structures. Focusing on the private sector participation as priority requirement in project selection process could improve the marketing elements of the program.

e) Environmental benefit of the program

It is clear that project will seriously contribute to the Global Climate Change problem and that's why it will be submitted to the GEF OP#06 serving the UNFCCC. However the environmental benefit of the project and particularly its contribution in reducing of GHGs is not appropriately reflected in the proposal though some preliminary estimations of reduced GHGs are presented in the matrix for incremental costs.. It would be more impressive if the amount of reduced GHGs will be added to the list of indicators (Technical Annex 3-in column for "outcome indicators" as well as in column "Use of Outcome Information") and accordingly to the appropriate sections and chapters of document. The proposal briefly review most of ongoing in Russia programs and National strategies related with RE. However the National Policy to the Climate Change and the role of this project in achievement of its targets is in lack. Nothing is said in Annex 14 (Country at a Glance) about country's GHGs emission, its share in global emission or share of energy sector in Russia's GHGs emissions trends.

f) Local experience got from similar programs.

It is plausible that the experience (particularly related to the barriers) got from the similar projects from neighboring countries has been overviewed and will be seriously taken into consideration during the project implementation stage. To make the critical analysis of the similar projects and programs ongoing in Russia and how the results will be incorporated in this program would be also very helpful.

g) Project selection criteria

Project selection criteria considered in Annex 9 are oriented only to the economical and financial parameters of a project. Environmental parameters along with others (technology transfer, lifetime of technology, etc) should be also considered at the project selection stage.

h) Incremental costs

I think that consideration of baseline scenario as "nothing will happen or be implemented in renewable sector without this program" is not correct. My understanding is that these other programs (National or International) against which the incrementality is considered are/will implementing something and the current GEF program will increase their efficiency. The matrix of incremental costs should be accordingly revised.

i) Clarification Request

- Cover page of document, the first right box under the sectors is identifying: Renewable energy (75%); District heating and energy efficiency services (25%). My reading of the proposal is that program doesn't cover energy efficiency issues (may be only at the level of general strategy or legislation). Some clarifications would be helpful
- PDO abbreviation from Technical Annex 3 is not in the list of abbreviations and acronyms.
- FSU –some information on the activity of this unit gives more clearness.

Marina Shvangiradze

Coordinator/manager of Georgia's SNC to the UNFCCC
GEF STAP Roster expert

2. Responses to the STAP Review

Below are listed some issues for improvement which could strengthen the environmental orientation of project and make clearer overall project idea for outside people not being involved at project preparation stage:

a) **Barriers analysis**

As far as the proposal directly supports the GEF OP#06 “**Promoting the adoption of renewable energy by removing barriers and reducing implementation costs**” the proper identification of barriers to the increase of the renewable energy share in Russia’s energy supply system, ensuring of sustainable marketing of RE and improvement of energy efficiency on the basis of cost-benefit analysis are the key points for the reaching of final target. Four types of barriers: financial, institutional and ownership, information and implementation capacity are correctly identified in proposal. Insufficient private sector presence in the sectors considered and weakness of their managerial skills are mentioned among others.

Main focus of the study should be done on this latest one and strengthening of the local private sector acting in renewable and energy efficiency fields could be priority target of the project aiming at the facilitation of sustainable market for RE.

Project Team response:

The team agrees that this barrier is one of the most important for RE development in Russia as well as in many other countries of FSU. So far, we put insufficient private sector presence in the power and heat generation sector in the group of “ownership barriers”.

Therefore, the team has added in the project design (para B3. and Annex 4) a new task to support and to strengthen the private sector with regard to RE development. The activities would consist of support to an introduction of ESCO-models and to the development of business planning on RE development by private companies. Training courses on the mechanisms of public-private partnerships in RE development will be arranged for governmental officials and entrepreneurs.

b) **Assessment of resources**

The proposal mentions feasibility studies conducted in the framework of different programs but nothing is said whether economically and technically feasible potential have been assessed in these studies or it will be the element of the current program.

Project Team response:

The OECD/IEA study on renewable energy potential in Russia, published in 2003, is the most comprehensive and professional work so far. In accordance with this study, the volume of renewable energy (economic potential) corresponds to about 30% of the country's current total primary energy supply. Several other studies on the same topic came to similar conclusions. One of the priority tasks of the TA component will be the execution of a “study of economic feasibility of different renewable energy resources in different Russia's regions based on a comparison of RER with traditional fuels, taking into account of full cost for traditional fuels development”.

c) Innovative financing mechanisms

Along with the mechanisms (Renewable Energy Financial Facility-REFF, Revolving Soft Loan Facility-RSLF, Contingent Loan-CL, etc) already considered by the proposal as innovative financial mechanism the Kyoto Mechanisms (Joint Implementation and Emission Trading) could be considered from the point of view of capacity building, preparation of project pipeline and drawing of additional investments.

Project Team response:

Russia's potential for participation in the Kyoto mechanisms is large, and there are good opportunities for an attraction of additional investment resources in renewable energy projects. However, these resources were not considered by the team as the project co financing due to the absence of governmental procedures on JI project approval and selling of Emission Reductions Units or Assigned Amount Units to Parties of Kyoto Protocol. The issue should be considered in details during the project appraisal, when the above mentioned governmental procedures envision will be in place. Also, we would need guidance from GEF SEC if, and if yes, under which circumstances GEF and JI funds can complement each other. So far, GEF and JI funding of the same project is not possible.

d) Selection of projects for financing

Making judgment only on the basis of the project titles the preliminary selected projects (listed in attachments 3 and 4 to the Annex 4) should be very interesting however 2/3 of them are submitted (and probably will be implemented) by Governmental and scientific structures. Focusing on the private sector participation as priority requirement in project selection process could improve the marketing elements of the program.

Project Team response:

The relatively low share of project ideas from private sector developers in the pipeline can be explained by the procedure of project identification. MEDT cooperated closely with regional administration in identifying of investment projects and in assessing the possible demand for investment support. While it is expected that private investors will participate in many of projects formally proposed by governmental entities and/or regional and municipal authorities, the share of projects initiated by private proponents will be increased at the later stage, when open competitive bidding process will be arrange for allocation of GEF support to RE projects.

e) Environmental benefit of the program

It is clear that project will seriously contribute to the Global Climate Change problem and that's why it will be submitted to the GEF OP#06 serving the UNFCCC. However the environmental benefit of the project and particularly its contribution in reducing of GHGs is not appropriately reflected in the proposal though some preliminary estimations of reduced GHGs are presented in the matrix for incremental costs. It would be more impressive if the amount of reduced GHGs

will be added to the list of indicators (Technical Annex 3-in column for "outcome indicators" as well as in column "Use of Outcome Information") and accordingly to the appropriate sections and chapters of document. The proposal briefly review most of ongoing in Russia programs and National strategies related with RE. However the National Policy to the Climate Change and the role of this project in achievement of its targets is in lack. Nothing is said in Annex 14 (Country at a Glance) about country's GHGs emission, its share in global emission or share of energy sector in Russia's GHGs emissions trends.

Project Team response:

Agreed. Text and relevant data will be added.

f) Local experience got from similar programs.

It is plausible that the experience (particularly related to the barriers) got from the similar projects from neighboring countries has been overviewed and will be seriously taken into consideration during the project implementation stage. To make the critical analysis of the similar projects and programs ongoing in Russia and how the results will be incorporated in this program would be also very helpful.

Project Team response:

MEDT and other governmental counterparts are interested in the experience of similar project implementation in other countries. Some approaches and modalities applied in other WB/GEF projects were used by the team in the RREP project design. But, most of the projects in neighboring countries started quite recently (1-2 years ago), therefore, there are not yet many results, which could be directly incorporated in the project. The project team has reached an agreement with the governmental counterparts that certain resources from the GEF grant and from counterpart co-financing will be allocated for lessons learning.

g) Project selection criteria

Project selection criteria considered in Annex 9 are oriented only to the economical and financial parameters of a project. Environmental parameters along with others (technology transfer, lifetime of technology, etc) should be also considered at the project selection stage.

Project Team response:

Agreed. We will add relevant information.

h) Incremental costs

I think that consideration of baseline scenario as "nothing will happen or be implemented in renewable sector without this program" is not correct. My understanding is that these other programs (National or International) against which the incrementality is considered are/will implementing something and the current GEF program will increase their efficiency. The matrix of incremental costs should be accordingly revised.

Project Team response:

Agreed. The incremental project's GHG reductions took into account only those that were directly generated by investment projects supported. There are no calculations of emission reductions generated by activities of the Technical Assistance component. The team will make an assessment of environmental effects of the technical assistance and will discuss the issue with the counterparts in details during the formal project appraisal.

i) Clarification Request

- Cover page of document, the first right box under the sectors is identifying: Renewable energy (75%); District heating and energy efficiency services (25%). My reading of the

proposal is that program doesn't cover energy efficiency issues (may be only at the level of general strategy or legislation). Some clarifications would be helpful

Project Team response: The indicated 25% are not related to energy efficiency services, but to “District heating and energy efficiency services”. As district heating will play an important role in the project, this is justified in our opinion.

- PDO abbreviation from Technical Annex 3 is not in the list of abbreviations and acronyms.

Project Team response: “PDO” stands for Project Development Objective. It has been spelt out in the text.

- FSU –some information on the activity of this unit gives more clearness.

Project Team response: FSU stands for “Former Soviet Union”.

c) **GEFSec Comments and IA/ExA response**

Comments at the GEF Project Pipeline entry;

Comment: No direct investments should be financed from GEF as this type of grants is considered not sustainable. Possible more sustainable designs, e.g. revolving fund for pdf facility for private investors or joint ventures, innovative interactions of GEF with large scale-credit facilities within and outside of World Bank Group could be explored

Response: GEF funds will be used to support investment subprojects preparation only. These activities will supplement two operations of the National Pollution Abatement Facility, established by the Government of Russia with assistance of a World Bank's loan.

Comment: Explicit incremental reasoning. Fully developed logframe, including consistent strategy, in-depth risk analysis and indicators.

Response: Addressed above and in PAD

Comment: More detailed specification of policy-based sustainability strategy. Supplement by a sustainability strategy for the financial mechanism.

Response: Addressed above and in PAD. Introduction of an enabling regulatory and incentive framework for RE based power and heat production and the development of the revolving Renewable Energy Financial Facility will assure a long-term sustainability of the project outcomes.

Comment: The implementation of each pilot project should be centered on its replication from non-GEF resources. Part of the replication strategy should also be an emphasis on open access to the information generated within the project. This has often been criticized in GEF operations, and should be incorporated in future projects as a “lesson from experience”.

Response: Basic principle of RREP implementation is its close linkage to several federal targeted programs, which will finance a replication of innovations and pilot projects. A creation and maintenance of an interactive web-portal on renewable energy will assure an open access to information.

Comment: Elaboration of project details as a result of further stakeholder involvement including the private sector and industry associations of RET equipment suppliers and users; development of a stakeholder strategy as the stakeholders are supposed to be using the services of the RREP, this relates in particular to the questions of how these services can be accessed, and that they are supposed to be in the public domain. The stakeholder strategy of the final project has to integrate over all aspects of the supply chain.

Response: Stakeholders, including NGOs and private sector were actively involved in implementation of the PDF-B grant and preparation of the full-scale project. In particular, they made the main input in a preparation of the investment subprojects pipeline, and of capacity building subcomponent A 5.

Comment: Integration of lessons from similar efforts in the past, e.g. India and China renewable energy projects, district heating projects in Eastern Europe etc.

Response: Lessons learned from other GEF projects are provided in PAD (Annex 2).

Comment: Develop logframe for project. Specify indicators based on logframe. Outline M&E arrangement and indicate budget size.

Response: Addressed above and in PAD (Annex 3). Budget for these activities included in subcomponent A.6

Comment: The PDF is fully financed by the Russian Federation, bilateral donors, IBRD and GEF. Of this, the GEF contribution is 12 %. We expect this also to be the ratio for the total financing package of the full project. (The current suggestion is 33 %).

Response: The GEF share in project financing is USD10 million out of USD77.6 million that amounts to a ratio for the financing package of 13%.

Comment: Better developed strategy and description of institutional setup and coordinating function.

Response. Addressed above and in PAD (Annex 6). Five ministries will be actively involved in RREP implementation, with MEDT being responsible for overall program coordination. The

Interministerial Supervisory Board is established to provide overall policy guidance and to coordinate the implementation of RREP.

Comment: Integration with EE framework for DH systems.

Response. The implementation of subcomponents in three pilot regions (Karelia, Komi, Krasnodar krai) will be focused on the development of a framework for RER use in district heating systems.

Comment: Please ensure collaboration with international networks and institutions, e.g. the REEEP, or knowledge management efforts within the GEF family (e.g. UNDP, IFC, UNEP), as well as direct cooperation with the GEF projects that are mentioned in the Concept.

Response. A direct participation of REEEP in the project is envisioned. REEEP will be executing subcomponent A.4. as outlined in the PAD and actively cooperate with a number of GEF projects as: WB Geothermal Energy Development Project for the ECA region (GeoFund), IFC Russia: Sustainable Energy Finance Program, IFC - Sri Lanka “Portfolio Approach to Distributed Generation Opportunities (PADGO) “ and others.

Comments at the Work Program inclusion;

Comment: - Please obtain new letter or verification that endorsement still holds and that project will come from Russia's RAF allocation.

Response. The required new letter is expected during the next couple of days.

Comment: For the subcomponent A3 (RE in natural reserves and national parks) the text is unclear as to whether or not GEF funds will be used for investments.

Response. GEF funding will be limited to energy-environmental reviews of selected natural reserves and national parks, feasibility studies and technical design documentation, and development of model design documentation packages for construction of renewable energy installations in reserves. As outlined in PAD (Annex 4), investments for RE installations in natural reserves and national parks will be financed under the sectoral program implemented by the Ministry of Natural Resources.

Comment: Clarification of rationale and difference between subcomponent A4 and component B

Response. The subcomponent will provide additional financial resources to extend the REEEP program in Russia, and in particular, to implement projects competitively selected in accordance with its procedures and criteria. REEEP is a Public-Private partnership, its activities are focused on capturing the experiences, needs, ideas and action of REEEP partners that are working to increase investment through innovative approaches to financing and project development. In fact, this subcomponent is medium-size grant program, with a grant amount for one project up to

100,000 euros. In contrast, component B will support a creation of the long-term Renewable Energy Financial Facility (REFF) that will consist of three instruments: Project Preparation Window for on-grid electricity generation subprojects, Revolving Soft Loans Window, and Revolving RER Facilities in pilot regions.

The difference is explained in PAD (Annex 4).

Comment: The distinction between sub-component B1, B2 and B3 needs to be clearly explained.

Response. Subcomponent B.1 focuses on the development of a strong pipeline of mini-hydro and wind subprojects that can provide deal flow for commercial banks and investors interested in implementation of the corporate investment program of JSC RAO UESR. JSC "HydroOGK", which is a daughter company of RAO UESR, will be the leading entity in creating and operating of such mechanism. Subcomponent B.2 focuses on preparatory financing of RE pipeline for the NPAF. This pipeline should be created to match needs for protection of global and local environment. Subcomponent B.3 will support initiatives of regional authorities in creating sustainable mechanisms for RER development. In summary, three subcomponents will introduce innovative financial mechanisms at different levels: corporate, federal, and sub national.

Comment: Project should clarify what happens to GEF-supported innovative financial mechanisms at close of project. Is an exit strategy specified?

Response. It is envisioned to establish a long-term, sustainable Renewable Energy Financial Facility (REFF) based on a clear institutional design of its respective instruments. These instruments will be placed in already established institutions and envisioned to exist after the project closure. The approach to the project exit strategy outlined in PAD. Relevant text has been added to the Executive Summary.

Comment: - The replicability section is a bit too brief to be convincing.

Response. A brief summary of the various avenues for replication of innovative approaches incorporated in the text of the Executive Summary.

Comment: - Perhaps a bit more explanation in the Executive Summary could be made to clarify project outcomes (66MWth/42MWe).

Response. The text has been added to Annex A of the Executive Summary.