



Global Environment Facility

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August 3, 2009

Dear Council Member,

The World Bank as the Implementing Agency for the project entitled ***Russia Federation: Renewable Energy Project (RREP)*** has submitted the attached proposed project document for CEO endorsement prior to final Agency approval of the project document in accordance with the World Bank procedures.

The Secretariat has reviewed the project document. It is consistent with the project concept approved by the Council in June 2007 and the proposed project remains consistent with the Instrument and GEF policies and procedures. The attached explanation prepared by the World Bank satisfactorily details how Council's comments and those of the STAP have been addressed.

We have today posted the proposed project document on the GEF website at www.TheGEF.org for your information. We would welcome any comments you may wish to provide by August 31, 2009 before I endorse the project. You may send your comments to gcoordination@TheGEF.org.

If you do not have access to the Web, you may request the local field office of UNDP or the World Bank to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely

A handwritten signature in black ink, appearing to read 'Barbut', enclosed within a simple rectangular box.

Attachment: Project Document

cc: Alternates, GEF Agencies, STAP, Trustee



GEF

REQUEST FOR CEO ENDORSEMENT/APPROVAL

PROJECT TYPE: Full-sized Project

THE GEF TRUST FUND

Submission Date: July 17, 2009

PART I: PROJECT INFORMATION

GEFSEC PROJECT ID: 2376

GEF AGENCY PROJECT ID: 571107

COUNTRY(IES): Russian Federation

PROJECT TITLE: Russia -- Renewable Energy Program (RREP)

GEF AGENCY(IES): World Bank (IFC)

OTHER EXECUTING PARTNER(S):

GEF FOCAL AREA(S): Climate Change

GEF-4 STRATEGIC PROGRAM(S): CC-SP3 (see preparation guidelines section on exactly what to write)

NAME OF PARENT PROGRAM/UMBRELLA PROJECT:

Expected Calendar (mm/dd/yy)	
Milestones	Dates
Work Program (for FSPs only)	Nov 2003
Agency Approval date	Nov 2009
Implementation Start	Jan 2010
Mid-term Evaluation (if planned)	June 2012
Project Closing Date	Dec 2014

A. PROJECT FRAMEWORK (Expand table as necessary)

Project Objective: Facilitate a sustainable market for renewable energy in the Russian Federation by supporting the development of enabling policies, institutional capacity, market facilitation and financing.

Project Components	Indicate whether Investment, TA, or STA ²	Expected Outcomes	Expected Outputs	GEF Financing ¹		Co-Financing ¹		Total (\$) c=a+ b
				(\$ a)	%	(\$ b)	%	
1. Regulatory and legal environment development	TA	*Legal basis established for Renewable Energy incentives *Awareness of renewable energy quadrupled in selected project regions *Supportive policies are developed	*Data collection and analysis in support of policy development *Multi-agency working group on RE legislation *Consultations and awareness raising *Drafting regional policies and by-laws	3,213,000	83%	635,000	17%	3,848,000
2. Market capacity development	TA, STA	*Resource assessments make targeted information available to investors *Streamlined	*Research on resource availability in pilot regions *Templates for licensing RE projects	2,760,000	75%	900,000	25%	3,660,000

		permitting and supporting procedures established *XX investors and/or IPPs advised or trained by end of project *XX RE projects in development by Year 4 of the project	developed *Support and training for investors and IPPs on project development					
3. Renewable Energy Financing	TA, Investment	*Relevant employees in FIs have taken classes on assessing, structuring and monitoring loans to RE transactions *Feedback on quality and relevance of Program's assistance, materials & tools	*Training and capacity building for FIs to support RE projects *Direct investment and/or investment support for RE projects using investment funds from IFC.	3,027,000	2%	140,000,000	98%	143,027,000
4. Project management				1,000,000	44%	1,250,000	56%	2,250,000
Total Project Costs				10,000,000		142,785,000		152,785,000

¹ List the \$ by project components. The percentage is the share of GEF and Co-financing respectively of the total amount for the component.

² TA = Technical Assistance; STA = Scientific & Technical Analysis.

B. SOURCES OF CONFIRMED CO-FINANCING FOR THE PROJECT (expand the table line items as necessary)

Name of co-financier (source)	Classification	Type	Amount	%
International Finance Corporation (IFC)	Exec. Agency	Investment	70,000,000	49%
European Bank for Reconstruction and Development (EBRD)	Multilat. Agency	Investment	70,000,000	49%
IFC	Exec. Agency	In-kind	2,500,000	1.8%
EBRD	Multilat. Agency	In-kind	150,000	0.1%
World Bank	Multilat. Agency	In-kind	135,000	0.1%
Total co-financing			142,785,000	100%

* Percentage of each co-financier's contribution at CEO endorsement to total co-financing.

C. FINANCING PLAN SUMMARY FOR THE PROJECT (\$)

	<i>Project Preparation a</i>	<i>Project b</i>	<i>Total c = a + b</i>	<i>Agency Fee</i>	<i>For comparison: GEF and Co- financing at PIF</i>
GEF financing	350,000	10,000,000	10,350,000	931,500	20,000,000
Co-financing	1,910,000	142,785,000	144,695,000		60,000,000
Total	2,260,000	152,785,000	155,045,000	931,500	80,000,000

D. GEF RESOURCES REQUESTED BY AGENCY(IES), FOCAL AREA(S) AND COUNTRY(IES)¹N/A

¹ No need to provide information for this table if it is a single focal area, single country and single GEF Agency project.

² Relates to the project and any previous project preparation funding that have been provided and for which no Agency fee has been requested from Trustee.

E. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

<i>Component</i>	<i>Estimated person weeks (GEF only)</i>	<i>GEF amount(\$)</i>	<i>Co-financing (\$)</i>	<i>Project total (\$)</i>
Local consultants *	1140	2,656,000	635,000	3,156,000
International consultants*	793	6,344,000	900,000	7,244,000
Total		9,000,000	1,535,000	10,535,000

* Details to be provided in Annex C.

F. PROJECT MANAGEMENT BUDGET/COST

Cost Items	Total Estimated Person Weeks (PW) (GEF only)	GEF (\$)	Co-financing (\$)	Total (\$)
Local consultants *	150	136,000	350,000	486,000
International consultants*	100	464,000	650,000	1,114,000
Office facilities, equipment, vehicles and communications*		200,000	150,000	350,000
Travel*		200,000	100,000	300,000
Others**		-	-	-
Total PM Budget		1,000,000	1,250,000	2,250,000

* Details to be provided in Annex C. ** For others, it has to clearly specify what type of expenses here in a footnote.

G. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? yes no X

(If non-grant instruments are used, provide in Annex E an indicative calendar of expected reflows to your agency and to the GEF Trust Fund).

Note: the non-grant instruments that will be used in this project do not incorporate any GEF funds.

H. DESCRIBE THE BUDGETED M&E PLAN: The M&E framework will assess the Program’s impact on the development of a sustainable market for renewable power. In developing the M&E plan IFC has drawn on the logframe (see Annex A) to create a results management framework that includes both indicators and targets.

Key program outcomes/impacts are:

- GHG emission reductions (CO_{2eq}) (target: 5 million tons as a direct result of this project over a 20-year investment lifetime), indirect GHG emissions reductions have been estimated to be between 20 and 200 million tons.
- Introduction of an enabling regulatory and incentive framework for renewable based power,
- Total number of renewable energy projects reaching financial closure (target: 30),
- Investment facilitated into RE projects (target US\$ 366 million),
- New renewable power generation capacity installed (MW_{el}) (target: 205 MW_{el}),
- Total amount of electricity additionally generated (GWh) from new renewable energy installations (Target: 770 GWh / year by 2015).

These performance indicators, defined in the logframe, will be monitored semiannually during the program implementation. The M&E plan describing the timeframe, responsibilities and method for data collection for each indicator will be developed prior to project implementation start.

Monitoring and evaluation will combine three complementary processes: (i) internal process of capturing short-term operational results; (ii) data collection on market characteristics from official sources and self reporting from participating banks/sponsors' as a part of financing facility monitoring; (iii) external midpoint and final evaluation.

Internal monitoring process

The implementation team will develop and maintain a client database to capture short-term operational results. The database will build on the existing client database used across IFC's projects in the region and adapt the structure to the needs of the program. The database will allow the project to track all services delivered to clients across all three components and serve as a project management tool to track the implementing team's time and resources spent on each type of activity.

Data collection on market characteristics and self reporting from banks/sponsors

The project will collect market level data from official sources, partner government officials and agencies on an annual basis in order to track growth in the renewable energy market. In addition banks/sponsors engaged under component three will be provided with a template on data they will report on on a semi-annual basis in order to track the level of implementation renewable energy related policies and procedures and training received by their staff.

Midpoint and final evaluations

The objective of the external evaluations is to provide stakeholders with an independent assessment of the program's progress, results and recommendations on any changes in the project implementation, and in addition capture lessons learned for other initiatives.

The midpoint evaluation's main objectives will be to (i) measure program status with respect to its results based management logframe for outputs, outcomes and impacts (across the indicators, where relevant, measurement will be provided with respect to baseline); (ii) identify opportunities to improve Project execution effectiveness; (iii) refine the initial framework for evaluation being used by the Implementation Team, and (iii) as necessary, recommend adjustments in the Project execution strategy and implementation processes to the Implementation Team.

The mid-term evaluation will allow the project team to reevaluate and reassess the overall strategy and make adjustments as necessary to enhance project impact.

The final project evaluation will be performed by the independent evaluator at the conclusion of the Project execution, and will review the similar areas to the mid-term evaluation and measure the Project's direct impacts.

The total M&E costs are estimated at \$300,000. A budget of \$150 000 has been set aside for contracting external monitoring and evaluation contractors. Other costs associated with data collection will be included in the staff costs for team members in the day-to-day execution of their tasks, and, while not tracked separately is likely to account for about \$150,000 during the course of the project.

PART II: PROJECT JUSTIFICATION:

A. STATE THE ISSUE, HOW THE PROJECT SEEKS TO ADDRESS IT, AND THE EXPECTED GLOBAL ENVIRONMENTAL BENEFITS TO BE DELIVERED:

Background Summary and Analysis of Issue:

The state of the Russian energy sector has become a prominent issue for a number of energy-importing states, including many members of the EU. The benefits to Russia from exporting energy resources such as oil and gas have increased dramatically over recent years. At the same time, domestic energy demand in Russia is increasing at a much higher rate than previously forecast.

Russia's current electricity generation portfolio is estimated at more than 200GW installed capacity, of this, 67% is thermal (oil, gas, coal). Some experts, including the International Energy Agency (IEA), have forecast that Russian gas supply could, without significant additional upstream investment, fall short of projected domestic and export demand within the next few years. Russia may increasingly face the uncomfortable choice of using its gas to either serve domestic or export markets.

Russia's gas production has increased since the Russian financial crisis of 1998 but is currently only slightly higher than it was in 1990. In contrast, domestic gas consumption grew on average 1.7 percent per year between 1999 and 2006 and is currently growing at 2.5 percent, despite a quadrupling in the domestic tariff for natural gas. European natural gas import demand, meanwhile, is expected to continue to climb rapidly, from roughly 500 to 800 billion cubic meters by 2030. As domestic supply falls, Europe will need to import a much larger percentage of the natural gas it uses. The EU countries currently import roughly 50 percent of their natural gas needs, but by 2030 are expected to import 84 percent of those needs. Russia currently supplies roughly 25 percent of Europe's natural gas needs.

Russia also needs to add a minimum of 20,000 MW of new generating capacity over the next two to four years to meet growing electricity demand. The country will not come anywhere near this goal; having added only 1,000-2,000 MW per year in recent years. Electricity consumption has been increasing at a rate of roughly 2-4 percent per year, but supply has failed to keep pace, with Russia importing roughly 200-800 MWh per month from Ukraine as of late 2006. Finland, which has been importing electricity from Russia for years is now preparing to reverse the electricity flow and become a net exporter to Russia rather than a net importer.

This market environment raises the importance of energy efficient and environmentally friendly technologies. There is a growing realization in Russia that energy saved by increasing deployment of energy efficient and renewable energy technologies can substantially contribute to the benefits from international trade in energy resources. In addition, given the uneven distribution of energy resources across Russia's vast territory, there are many regions in Russia where energy is just as expensive as in its European neighbor-states. An estimated 10 million people are paying very high prices for electricity either as a result of being at the end of long transmission lines or connected to isolated grids, and, even in the absence of incentives, renewable energy could be viable if other market barriers were removed. In its efforts to increase the market penetration of renewable energy technologies, Russia faces many of the same challenges as other eastern European countries, including inefficient energy tariff structures inherited from the past.

The priorities of the federal energy policy of the Russian Federation were formulated in the “Energy Strategy of Russia until 2020”. Since approval of the document by the Government on 28 August 2003, significant changes have taken place both in the external macroeconomic environment and in the Russian domestic market. In 2008 the Russian Government amended the “Energy Strategy of Russia until 2020”, and published a “Correction to the ‘Energy Strategy of Russian Federation’ to target 4.5 % of Renewable Energy by 2020”. This amendment sets the target to the installed renewable electricity generation to 1.5% by 2010, 2.5% by 2015, and eventually 4.5% by 2020, while 2005 electricity generation from renewable sources represents less than 0.5% (excluding hydro with installed capacity over 25MW). This was followed with Governmental Decree № 426 “About qualification of energy generating objects based on RE sources.”

Finally, in January 2009, the Government of Russia passed *Order 1-p*¹, which defines the main directions in the field of energy efficiency of electricity power industry on the basis of application of renewable energy sources for the period to 2020. This order reiterates the 4.5% targets, and outlines the following implementation measures: coordination of initiatives; provision of state support for renewable energy development; information support; technical and technological support; utilization of stakeholder expertise; improvements in measurement indicators/monitoring for renewable energy development; improvements in statistical data; a plan for renewable energy development; attraction of investment in renewable energy development; and assistance to small and medium enterprises (SMEs) working on renewable energy development.

Bylaws and implementation modalities are currently under discussion, with draft decrees and documents believed to include:

- «About setting bonus for renewable energy producers...»
- «Scheme of providing subsidies for interconnection of renewable energy installations...»
- «Scheme for immediate purchasing renewable energy by energy network organizations»
- «About measures of state support for renewable energy...»
- «About corresponded correction of other legislative documents in connection with above mentioned Decrees...»

According to an OECD/IEA study (2003), renewable energy with economic potential totals approximately 30% of the country's actual total primary energy supply (270 million tons of coal equivalent), while the technical potential is estimated to be more than five times greater than current energy supply. Therefore, given Russia's plentiful resource base of renewable energy sources, achieving the 4.5% target, and going beyond it, is certainly viable – but only once the required enabling regulations and other industry support mechanisms are in place.

Reaching the renewable energy target of 4.5%, could require approximately 22GW of new installed capacity and displace more than 36 million tons of CO₂/per year, representing approximately \$44 billion in capital investment.² To put this into context, it is estimated that Russia's power generation base will require \$250-300 billion in investment through to 2020, in order to meet growing energy demands, retrofit aging assets, and replace retiring power generation assets. According to Order 1-p, slow development of electricity generation from renewable sources is primarily due to lack of economic incentives vis-à-vis more traditional fossil fuels, institutional and regulatory barriers, lack of federal and

¹ 8.01.2009 – Governmental Decree “Main Directions in the field of energy efficiency of electricity power industry on the basis of application of renewable energy sources for the period to 2020” with a target of 4.5% of renewable electricity.

² These figures come from the 8 January governmental decree. According to the decree, current Renewable Energy generation is 2.2GW; 4.5% of 550GW (which is the estimated total installed capacity in 2020) is 24.75GW, and therefore, the new installed capacity for RE is estimated at approx 22GW.

regional renewable support programs, lack of infrastructure, inadequate scientific and technical support to design and use renewable energy power generators, and lack of appropriate information support and training.

The Russian Energy Strategy stipulates the development of new capacities for renewables, and at the same time the gradual reduction of subsidies for all energy sources. This will increase the incentives for investments in energy efficiency and the use of renewable energy resources. In particular, areas remote from sources of fossil fuels and being served by very high-priced energy are prime candidates for an enhanced development of local renewable energy.

While the by-laws needed to implement Order 1-p, January 2009, have not yet been adopted, there are several regions that have adopted laws and regulations on renewable energy. Additionally, at the sub-national level there exists a well-developed institutional framework for energy efficiency improvements that can serve as well as umbrella for renewables. Forty-three 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 (2007 data).

During the period 2002-2009, several programs³ with components related to renewable energy have been implemented with only limited impacts to date. The main reasons for the slow development of renewable energy projects are systemic barriers, the removal of which requires special efforts from the government.

Although some organisations have managed to navigate the complexities of renewable energy project development in Russia, these cases are rare, and developments costly and complex.

The time is now right to address the systemic barriers to renewable energy: there are indications of willingness to address these issues at the highest level, and scope to build on current momentum from addressing barriers to energy efficiency, in part as a result of efforts of the IFC. President Medvedev recently stated (July 2009), during a State Council meeting in Arkhangelsk, “We should no longer burn our energy reserves”. Medvedev also called for the enhanced generation of alternative energy, saying that “alternative energy sooner or later will replace hydrocarbons”⁴.

The following barriers impede the development of renewables in Russia:

Regulatory Barriers: Despite recent developments of the major legislative directions including a target of 4.5% for renewable energy by 2020, there is a significant gap in regulations in order to foster the market development of renewables. There are many measures proposed by different agencies, but to date, most have failed to achieve their purpose. It has been difficult to develop a national renewable electricity policy in the Russian Federation for several reasons, including the following:

- Responsibilities are fragmented between agencies and ministries with the lead recently shifting to the State Energy Policy Department within the Ministry of Energy from the Ministry of Economic Development. Other relevant stakeholders that have an important role in renewables include the State Duma Committee on Energy, Federal Tariff Agency, and RosHydro, which inherited a mandate for renewables from RAO UES and now implements most renewable energy projects for the state. The Ministries of Natural Resources, Regional Development, Science and

³ e.g. "Energy-efficient Economy", "South Russia", "Ecology and Natural Resources of Russia", "Studies and Research under the Priority Directions of Science and Engineering", and "Economic and Social Development of the Far East and Transbaikalian Region", "RusHydro / New Energy Fund programme on small hydropower development"

⁴ <http://www.barentsobserver.com/medvedev-highlights-energy-saving-alternative-energy.4612432-116321.html>

Technology, and Agriculture all have responsibilities that relate to (some types of) renewable energy;

- Representatives of electricity generating companies have expressed confusion about how the electricity sector operates in Russia due to the large number of pending changes, and this lack of clarity and transparency is a significant disincentive to investment in new and innovative investment capacity, and it is directly related to the lack of good communication channels between utilities and other potential investors and key decision-making bodies in the electricity sector;
- There is inadequate information for decision-makers on renewable energy resources, especially to derive resource cost curves required to develop national policies, estimate the value of renewable resources to the grid, calculate incremental costs and economic benefits, and set targets;
- There is a lack of federal regulation that institutionalizes incentive mechanisms that are necessary for renewable energy to compete with traditional generation sources, which are often subsidized. Mechanisms such as tax incentives, portfolio standards, feed-in-tariffs, and accelerated depreciation. The current subsidy system for fossil fuels and electricity is distorted: it does not reflect the external costs of fossil fuel use associated with environmental damage and it fails to link consumer prices and production costs;
- There is a lack of transparent, predictable, and efficient processes and approvals to ensure that private sector development / investment (e.g., by Independent Power Producers – IPPs) is sufficiently supported, ranging from land leasing to permitting, licensing, and interconnection processes. While, in exceptional cases, some organizations have managed to navigate the process of developing renewable energy projects in Russia, it is complex and highly costly to do so, adding risks, delays and costs to project development;
- Under ‘business as usual’ conditions, the lack of potential cost reductions provides a disincentive to investors. Investment costs are unlikely to fall under these conditions because:
 - There is insufficient competition because the few renewable energy projects to date have been developed at the federal level for smaller hydro projects and under bilateral agreements for wind power projects (with limited sizes and no competition for equipment procurement);
 - Price regulation based on debt repayment formulae does not encourage price reduction, and there are front loaded electricity prices for technologies with high capital and low operation costs;
- There is a lack of regional and oblast-level regulation to support renewable energy development and propagation.

Technical barriers include the following:

- Resource data is piecemeal, inaccurate in many instances, and often not public. Only rough estimates exist on the potentially exploitable renewable resources in most regions.
- There is a lack of information about technologies and opportunities, such as the conversion of existing large fossil fuel-fired boilers to biomass, large-scale biomass co-generation systems, the establishment and operation of modern double-circuit geothermal heat supply systems, and binary low-boiling geothermal power plants;

- The small, local renewable energy industry cannot meet commercial or competitive requirements. Local equipment is often of low quality and performs poorly (although it is favored by government support schemes), while the service industry is inadequate to design, engineer, operate, maintain or service installations. The ability of IPPs to develop renewable energy projects and successfully commercialize and monetize the electricity generated, including dispatch processes, wholesale market structure, etc., is limited.
- The small, local renewable energy industry cannot meet commercial or competitive requirements. While renewable energy technology has advanced significantly worldwide, local production has not kept pace in terms of quality and performance (although it tends to be favored by government support schemes), while the service industry is inadequate to design, engineer, operate, maintain or service installations. The ability of IPPs to develop renewable energy projects and successfully commercialize and monetize the electricity generated, including dispatch processes, wholesale market structure, etc., is limited.
- There is a lack of experience in developing renewable energy projects in Russia outside of the large-scale hydro sector, particularly in the areas of wind power, solar, biomass, and geothermal energy. In order to foster a successful renewable energy market in Russia, there must be sufficient local knowledge, expertise and awareness among the technical community for a variety of renewable resources.

Financial/Commercial barriers: the following financial and commercially related barriers impede the development of renewable energy markets in the Russian Federation:

- Lack of domestic capital and volatile flows of foreign investments: Domestic companies have limited own resources and insufficient access to project financing resources of sufficiently long tenor. Foreign investments are volatile (30% drop in foreign investments in 1st Q of 2009 vis-à-vis 1st Q of 2008) and are discouraged partly by the perceived risky business climate, unstable economic conditions and partly by the lack of strong legal institutions and contract enforcement;
- Lack of longer-term affordable debt financing: Domestic commercial banks are unwilling to lend because investment returns in the longer-term are perceived as being risky (fuel price volatility, etc.).
- Financial institutions are unfamiliar with analyzing the financial aspects of renewable energy investments;
- High project preparation and transaction costs: Project preparation costs accrue prior to – and without the assurance of – obtaining financing for the actual implementation of the project. A lack of demonstration projects increases the transaction costs associated with project preparation;

Project Summary

RREP aims to facilitate a sustainable market for renewable energy in the Russian Federation by supporting the development of enabling policies, institutional capacity, market facilitation and financing.

The program will be implemented within three components, namely:

Component 1: Regulatory and legal environment development addressing key legal and regulatory issues, in particular the incentive frameworks for renewable electricity. Sub-components will include Improving the information basis for policy development (1.1), Support to multi-agency working group on renewable energy legislation (sub-component 1.2), Consultation, consensus building and awareness creation (1.3), and Development of supporting policies and bylaws (1.4).

Component 2: Market capacity development will address market feasibility and removal of barriers related to the market infrastructure for various renewable energy technologies, and the applicability of those in Russia. To ensure that the actions are not overly diluted these activities will focus on 2 to 3 selected program regions. Sub-components include Renewable energy resource assessments (2.1), Contract and legal support to investors (2.2) and Development of Market Infrastructure (2.3).

Component 3: Renewable energy financing, addressing availability of financial products needed by renewable energy developers and investors such as long term financing and the requirements to enable these products to be offered on the market to IPP's and other investors/developers. Sub-components include Capacity building in the banking sector (3.1) and Financing facility (3.2).

To ensure effectiveness of market development activities the program will focus on two to three regions selected on a voluntary basis, to pilot the development and implementation of market support and financing activities. While component 1 will mostly take place at a federal level (with sub-component 1.3 aiming to provide a bridge between federal legislation and legislation at the regional level), components 2 and 3 will focus on the selected regions. Regional governments will be offered incentives such as: assistance to set up monitoring systems and enforcement procedures; early grant assistance for resource assessment and, if required, feasibility studies to develop renewable energy according to international best practice.

Description of Project Activities

Component 1: This component will address key legal and regulatory issues including: incentive mechanisms; the analysis and subsequent promotion of various options such as tax incentives, feed-in-tariffs, accelerated depreciation; transparent, predictable, and efficient processes and approvals related to land leasing, permitting, licensing, and interconnection processes to enable private sector development/investment (e.g. by IPPs); and regulation specific to renewable energy that is required at the regional (okrug) and provincial (oblast) level, which may require support in development and propagation.

There is wide scope for IFC to play both a convening and catalytic role in the renewable energy sector. With climate change as one of the World Bank Group's strategic pillars, IFC's significant exposure in the infrastructure sector, existing transaction advisory mandate to attract private capital in areas where the potential for renewable energy use is large, and ongoing advisory programs on energy efficiency finance, IFC is in a strong position to shape the regulatory framework for renewable energy in the Russian Federation.

In order to successfully achieve investment in renewable energy in Russia, within the time frame of the RREP program, it will be necessary to achieve the appropriate regulatory reform within the first 2-3 years of the program.

The program will focus providing strategic support on the following key legal and regulatory issues:

- regulation that institutionalizes needed incentive mechanisms to allow RE to compete with, often subsidized, traditional generation sources; including the analysis and promotion of various options such as tax incentives, subsidies or feed-in-tariffs, accelerated depreciation;
- transparent, predictable, and efficient processes and approvals related to land leasing, permitting, licensing, interconnection processes, etc., to ensure that private sector development/investment (e.g. by IPP) is sufficiently supported;

- renewables-specific regulations related to the above issues that are required at the regional (okrug) and provincial (oblast) level, and potentially at local level.

Sub-components addressing the regulatory and legal frameworks will include:

1.1 Improving the information basis for policy development: Support aimed at improving policy development by analyzing the justification of renewable energy development in economic terms, identifying the environmental benefits and other externalities, presenting policy analysis on the trade-offs involved in using different instruments such as portfolio standards, green certificates, feed-in tariffs, and tax incentives,⁵ analysis of resource cost curves and value of renewable electricity to the grid (avoided cost), and economic and financial analysis to assist in setting incentive levels and targets.

1.2 Support to multi-agency working group on renewable energy legislation: A multi-stakeholder working group, or Advisory Committee, providing for balanced input to these decisions and anticipated new laws, will support the Ministry of Energy's decision-making and implementation process for the creation of a renewable energy incentive framework. This working group will be coordinated and supported by the RREP.

1.3 Consultation, consensus building and awareness creation: Activities focused on consultation, consensus building and awareness creation will address policy-makers, industry, and other stakeholders, nationally and in the pilot regions, to inform policy development and build support for introduction of policy and legislative frameworks. Activities will ensure that information about opportunities from federal-level legislative developments are communicated to the regions and local legislation aligned with these developments.

Reducing perceived risks in the implementation of sustainable energy programs through awareness raising, monitoring project successes and disseminating information in a targeted and focused manner will encourage more widespread adoption of renewable energy in Russia. By leveraging GEF resources, IFC will play a more proactive role in engaging the wider community in raising awareness of the business case. IFC will develop a communications strategy that will provide accurate information, technical information and assistance, financing advisory and policy facilitation/advice and developing awareness through dissemination of pertinent information. It will support the promotion of the Ministry of Energy's sustainable energy policies and complement the existing activities of government, development agencies and the private sector in the renewable energy field. It will also work closely with development partners (e.g. IBRD, EBRD, EU and others, with whom discussions have been on-going) to coordinate our efforts in this area. The major activities will be designed to lead awareness-raising on the business case for renewable energy projects through documentation of success stories globally and within the Russian Federation during the project implementation to learn the experience and lessons within and outside the Russian Federation. This awareness-raising will inform and strengthen the policy and legislative development.

1.4 Development of supporting policies and by-laws: This sub-component will encourage investment in renewable electricity, especially by the private sector by addressing supporting policies and legislative frameworks. This sub-component will aim to provide information for decision-making on streamlined approval procedures, appropriate power purchase agreements and pricing arrangements, etc. Efforts will support the relevant government agencies in mapping out and streamlining the regulatory requirements needed to obtain the necessary renewable energy permits and consents.

⁵ Although the Government of Russia has preliminarily decreed that it will use feed-in-tariffs as the chosen incentive instrument, the tariffs will be available only to a shortlist of approved organisations. Further policy development work will apply to a broader and more accessible incentive framework which would maximize value for money and economic benefits.

This sub-component provides assistance in developing Russian technical regulations and by-laws for design and operation of Renewable Energy facilities, since this can significantly reduce transaction costs for these projects at the design stage. International standards will be used as a basis. This sub-activity will also provide technical assistance to help improve the national methodology which assesses GHG emissions and absorption. The RREP technical assistance contribution to this methodology will focus on the possible introduction of the GHG emission reductions targets for newly constructed and existing power generation facilities and the contribution of renewable energy toward meeting those emissions reductions targets.

Component 2: Overall, RREP will address market feasibility and the removal of barriers related to the market's capacity, knowledge and ability to maneuver within the power infrastructure for various renewable energy technologies. To ensure that these actions are not overly diluted, these activities will focus on two to three selected program regions (oblasts). These regions, although not currently selected, will be defined based on several key criteria such as:

- The region's demonstrated interest to participate in the RREP program expressed by i) letter of interest, ii) allocated resources to program objectives, iii) readiness to implement demonstration projects;
- power prices in the region that would contribute to increased economic viability for renewable energy with the support of the incentive framework;
- availability of renewable resources in the region: type, amount, and quality of renewable sources located within the region (based on readily available information);
- existence of ongoing initiatives promoting power generation with renewable (local) sources of energy;
- IFC additionality: is the region considered a region in which IFC can play a catalytic role and meet the 'additionality' criteria according to IFC's classification?

Activities under sub-component 2 will be implemented within the context of concrete investments opportunities (i.e., abstract assessments will not be supported; only those which are likely to lead to direct investment opportunities will be included). Envisioned sub-components include:

2.1 Renewable Energy Resource Assessments: Under this sub-component, funds will be used to carry out targeted resource assessments and make resource information available to potential investors. Resources will be quantified in terms of gross, technical, and economic potential; assessing the most feasibly and commercially realizable RE technologies, in a scalable way; the geographical distribution of renewable resource rich areas providing accessible information to market participants, and focusing proposed demonstration projects on the most viable technologies. Databases on selected resources and relevant grid characteristics will be made available to encourage renewable energy development and investment.

These resource assessments will be carried out for the regions selected as above, and be applied in a logical way to the renewable energy resource. For example, these activities would include overlaying existing information (or information readily available by remote sensing), on small hydro resource locations with available transmission/distribution networks, as an inventory of concessions for development.

2.2 Contract and Legal Support for Investors: Best practice templates for contracts developed within the framework of the GEF medium-scale project "Developing the Legal and Regulatory Framework for Wind Power in Russia" will be updated to reflect the emerging renewable energy policy frameworks, and put into use. For other technologies (for example biomass where there are air pollution, fuel storage, and waste management issues to be addressed), where there are differences, these will be adapted to meet the particular needs. In addition, IFC and the World Bank have specific experience, in multiple countries within the region and worldwide, with the legal and contractual process of tendering and awarding small

hydro power plant (SHPP) and other concessions⁶. This experience highlights some of the challenges and inefficiencies of normal tendering process, which prevent the development of SHPP and other renewable resources once they've been awarded to developers (e.g. projects tend to be over-engineered, developers under price in their tender submissions, tariffs are insufficient to make the projects economical, interconnect processes are unclear or undefined etc). It is anticipated that for each technology type in a region the legal, procedural and regulatory issues will be common so only need describing once, and made available for use as a template.

Analysis might include:

- Land Use, Building and Planning Issues: the legal basis on which renewable energy projects are able to enjoy use of land and the commercial models used to give effect; approval and planning processes including building permits and other required permissions and how these are granted;
- Environmental Issues: the legal basis and process for environmental assessment and approval of renewable energy projects;
- Licensing: the legal basis and process for application and award of licenses for generation of power (and heat) from renewable energy sources;

2.3 Development of Market Infrastructure:

This sub-component will focus on building capacity of:

Developers: Building know-how for those developing renewable energy projects to navigate the power market, to help them to understand the processes for and pathways to participate in the renewable energy market in Russia. The project sponsors identified under sub-component 2.2 have emphasized that they will require agreements with regional or federal authorities and electricity companies and local distribution companies to address grid connection and renewable energy “must-take” arrangements, and need support in how to do this effectively.

Power market: Supporting capacity of the power sector utilities and grid operators in relevant areas where investments are considered / in focus regions, to accept developers into the network including interconnecting renewable energy and integrating renewables into loads. This capacity building would also raise awareness on emerging tactics to integrate increasing proportions of renewable energy into grid systems, including tools and techniques such as dispatch methods, competitive renewable energy zones, balancing, and forecasting.

Other service providers: Selectively supporting service providers to improve quality and cost effectiveness of design, engineering, construction, commissioning, to operations, maintenance, rehabilitation and decommissioning.

Component 3: This component aims to address barriers to renewable energy financing and will consist of two sub-components.

3.1 Capacity building in the banking sector: While a number of commercial renewable energy projects in Russia may currently be cost-effective, the technology and business models are not widely available nor understood by investors.

In preparation of the RREP a survey was carried out of Financial Institutions (FIs) and their experience with and knowledge of renewable energy. Partner-banks of the GEF co-funded IFC RSEFP program on

⁶ The standardized purchase agreement approach has adopted in several countries that have led to streamlining project development and reduced time and transaction cost. A summary is available here <http://esmap.org/filez/pubs/KES7.pdf>. The same approach is now being applied successfully in Vietnam and Tanzania.

energy efficiency proved to be most responsive and interested in the topic of Renewable Energy, with other banks also expressing interest in entering this market. A number of banks already have instruments that could be applied to renewables projects (developed with the help of RSEFP), which are based on long-term funding provided by IFC or other Financial Institutions. Debt financing is the only available instrument for financing of renewable energy projects, and only one bank has renewable energy projects of over 1% of its portfolio. Lack of experience in renewable energy, perceived or real poor commercial viability, and lack of desired clients and investors are the main barriers seen by the banks. Smaller regional banks see projects of up to \$1m as optimal, whereas larger banks are willing to deal with larger projects (up to \$5m).

All banks expressed an interest in receiving additional information about financing renewable energy projects.

During the RREP, IFC expects to engage with 3-4 FIs to start work in renewable energy to support investments in renewable energy, cultivate increasing expertise in renewable energy and participation in renewable energy projects. By accessing GEF funds, the program will have the capacity to provide the necessary advisory and financial products to appropriate FI partners.

Based on current engagements and client needs, IFC will undertake the following activities:

- a) Support in market identification, such as: detailed research and providing technical support to profile target segments, identify potential borrowers, profile projects, and define risks. This work will be formally co-ordinated with the project component on economic and technical analysis in the selected regions.
- b) Support in deal origination, such as: assisting in the identification of sources of deals in the market (such as IPPs, equipment vendors, end-users, utilities, etc.) and assisting in product development and promotion. In addition to ensuring a sustainable deal flow in the market, where required the program will also engage end-users, equipment vendors, and energy service companies to develop the necessary awareness and capacity to expand the number and quality of sustainable energy deals originated. A key lesson from prior programs, particularly the China Utility Based Energy Efficiency Finance Program (CHUEE) and the IFC-GEF Russia Sustainable Energy Finance Program (RSEFP), is the important role building project pipelines plays in encouraging full commitment from FI partners to invest in the program and mobilize internal resources.
- c) Support in capacity building, such as training for deal origination teams and in conducting due diligence on projects etc.
- d) Development and dissemination of software tools such as RETScreen⁷ to evaluate renewable energy projects.

IFC will require that FIs pay a portion of the direct costs associated with delivering the advisory service. This approach has already been successfully tested in Russia under the RSEFP, and is in accordance with IFC's Pricing Policy for Technical Assistance and Advisory Services (see Annex H). This pricing policy is based on two main principles: that subsidy levels should balance public benefits (for which subsidies could be justified), and private benefits (for which client contributions are justified); and that some level of client contribution will often be appropriate to strengthen commitment.

3.2 Financing facility: As mentioned previously, the Russian Government estimates that the investment requirement for renewable energy projects up to 2020 is approximately \$44 billion. This figure represents the funds necessary to achieve the target of 4.5% of electricity generated from renewable sources by 2020. If even a portion of this investment is made it is essential for financial institutions, in particular, to actively engage in this market segment to increase the overall level of investment in renewable energy.

⁷ RETScreen is a software tool to evaluate renewable energy projects partly funded by the GEF:
<http://www.retscreen.net/ang/home.php>

IFC focuses on maximizing energy access while minimizing GHG emissions and emphasizes investments which (i) promote energy efficiency in generation, transmission and end-use and (ii) prioritizes renewable energy within its generation investments. IFC's Road Map FY2009-2011 commits to "triple its total renewable energy/energy efficiency (RE/EE) investments from the US\$1.1 billion invested [globally] in FY2005-2007". High prospects of the Russian renewables sector with estimated investment requirements of \$44 billion throughout 2020 provide a room for IFC involvement and support.

IFC has a critical role to play in facilitating private sector investments in the emerging renewable energy markets by sharing knowledge, providing environmental, technical and financial expertise, as well as extending long term financing. The financial arrangement described in this section derives from this analysis of: market potential, IFC's ability to deliver a meaningful financial product, the bilateral donor funds that IFC can mobilize through its various Trust Funds; the funds that GEF can provide for incremental costs that cannot be borne by IFC or other market players.

IFC will support the Russian renewable energy sector with a range of financial instruments and advisory services, including the following:

1) Direct financing by IFC. This type of financing could consist of direct equity, quasi-equity, debt, guarantees, integrated carbon finance and any combination of these options. IFC would consider greenfield opportunities and expansion projects. Depending on the project type and risk profile, the investments may be structured as project or corporate financing. There is no established limit to the project size (both lower and higher end) although these projects tend to be 'larger' projects, greater than \$5 million. Advisory Services would then be provided directly to project developers/recipients of financing. It is also important to mention here that direct investment by IFC (and other IFI/FI's) will be likely only after the appropriate renewable energy incentive legislation is in place which would allow renewable energy to be economically viable.

Globally, IFC priority sectors in Renewable Energy - biomass, hydro, wind, biofuels, geothermal and solar PV – have been identified based on the combination of expected market growth, stage of technological development, cost competitiveness and IFC investment experience.

Annex G gives an overview of the existing pipeline of projects in the Russian renewables sector. The pipeline is not exhaustive. It was prepared on the basis of pipeline of selected private developers and utilities, and includes some concepts which have been discussed extensively in the past, but have not been developed because of the systemic market barriers that will be addressed in the RREP. The total cost of the pipeline projects is estimated at \$2.5 billion and breaks down into 92% of wind projects, 1% hydro and 7% geothermal and biomass.

There are no projects committed by IFC in the renewable energy sector in Russia to date. IFC considered several renewable energy opportunities in the past but none of them materialized for the reasons of limited economic viability in absence of feed-in tariffs. Given availability of renewable resources in Russia the key areas of focus for Russian renewable energy sector would include: wind, hydro, geothermal and biomass. The existing Russian renewables sector pipeline concentrated in these areas provides a rationale for such focus.

The primary goal is to identify and explore 2-3 opportunities with highest developmental impact, strong demonstration effect and sustainable economics. IFC's approach to the sector would be based on:

- leveraging IFC's ability to extend long-term financing through mobilization of resources from local and international banks, sponsors and other partners;
- enhancement of IFC's role and additionality as a provider of financing to pioneer renewable energy projects;
- support of innovative financing solutions (e.g. PPP's).

During the first years of program implementation IFC will review the potential to identify viable projects and establish direct financing, a credit line or other dedicated financing instrument(s), on its own or together with the EBRD to stimulate the financing of renewable energy projects in Russia.

IFC estimates its potential commitments to the Russian renewable energy sector over the next 5 years at \$50-70 million as direct finance and \$20 million as financing through partner financial institutions⁸. EBRD has indicated a similar level of finance to be made available for investment in renewable under the RREP during the next five years. EBRD and IFC have slightly different business models and experiences and will tailor the financial instruments to be used to match their strengths.

2) Financing through partner financial institutions, including:

Using a model similar to the IFC-GEF RSEFP by providing Advisory Services and investment services to partner-banks with focus on reducing transaction costs of renewable energy and helping adjust the risk model for renewables projects based on technical expertise provided. These would be smaller projects with up to 5 years payback.

Working with banks that are experienced in project finance and construction finance transactions by providing Advisory Services for renewable energy project financing.

In discussions with financial institutions during project preparation it was clear that the level of financing provided to date is marginal. The thesis of this program is, therefore, to give financial institutions the tools and confidence to build a renewable energy finance business.

The crisis in the banking sector started in Russia in September 2008 and is still on-going. Although the Central Bank of Russia (CBR) measures, taken in the fall 2008, brought temporary liquidity relief to the banking sector, the situation remains fragile and Russian banks are facing numerous challenges including refinancing of foreign debt and asset quality problems.

Russia's economy, the world's eighth largest according to the International Monetary Fund, is contracting for the first time in a decade as the global recession damps demand for oil and other commodities the country exports. Industrial production contracted last month (May 2009) at a record annual rate of 17.1%. During this crisis, problem assets may reach \$213 billion and Russian banks may have to write off as much as 14% of all loans, or \$80 billion, over the next two and half years.

Russian banks also remain susceptible to liquidity risk as the share of liquid assets excluding banks' liabilities to the Central Bank of Russia (CBR) and the Ministry of Finance (MF) is a mere 6% of total assets, twice lower than in 2007-2008. CBR is the largest creditor of the banking system, accounting for about 12% of banks' liabilities. However, CBR's funding is predominantly short-term, hence, fails to stimulate new loan origination. As a result, banks are reducing lending to SMEs and individual borrowers.

In the current environment, there is a high need for recapitalization. However, many banks' shareholders are not able to inject sufficient funds that may ultimately result in a second wave of the crisis in the banking sector.

IFC has carried out internal discussions to determine the level of appetite within IFC's financial markets department to provide financial instruments to stimulate investment in renewable energy in Russia. In IFC's estimation a well timed intervention that stimulates an incremental investment by financial institutions of \$20 million, over the next 5 years is feasible: there is adequate capacity in the market to supply this level of goods and services, and, there is sufficient interest by the financial institutions known to IFC who, as "early adopters", can pioneer the market development and lead other institutions into this business area thus generating the additional private sector investment demanded by the Government target.

B. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL AND/OR REGIONAL PRIORITIES/PLANS:

⁸ IFC's decision in relation to financing any project would be subject to the satisfactory due diligence, the project's economic and financial viability, compliance with IFC environmental standards and guidelines, as well as to available headroom/country exposure limits at the time of closing of the transaction. Any investment by IFC would require full appraisal by IFC and the satisfaction of IFC's Management and Board.

As stated in Section A, the Russian Government has set clear targets for the share of installed renewable electricity generation: 1.5% by 2010, 2.5% by 2015, and eventually 4.5% by 2020. In addition, Order 1-p, which was issued by the Russian Government in January 2009 and defines the main directions in the application of renewable energy sources for the period to 2020, proposes measures that are directly aligned with RREP activities. Finally, RREP activities in pilot regions using a combination of investment, improved information for decision-makers, and capacity building for improved regional-level regulations will provide strong support for regional priorities in renewable energy development.

C. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH GEF STRATEGIES AND STRATEGIC PROGRAMS:

RREP is submitted under GEF focal area Climate Change covering OP3: Promoting Market Approaches for Renewable Energy. The use of GEF funding is in line with overall GEF strategy to facilitate, leverage, and complement other sources of financing, in this case mainly commercial financing. The proposed program is in accordance with the Climate Change focal area overarching goal to support market transformation outcomes that contribute to GHG emissions reduction and avoidance.

D. JUSTIFY THE TYPE OF FINANCING SUPPORT PROVIDED WITH THE GEF RESOURCES.

The IFC has conducted numerous meetings with stakeholders in the Russian renewable energy market, including policy-makers, partner banks, utilities, project developers, and companies that provide products and services related to renewable energy. On the basis of these discussions and a thorough analysis of existing market barriers (see Section A), the IFC has ascertained that the most effective approach to developing the Russian renewable energy market is through a combination of technical assistance, which is incorporated into all project components, and investment, which forms the foundation of the finance component. GEF support will be highly leveraged, and IFC will both cost-share technical assistance activities and provide investment funds unilaterally.

E. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:

The concept and objectives of the Russia - Renewable Energy Program (RREP) support IFC's strategy to assist the Russian Federation in the sustainable use of its energy resources and related climate change impacts. The program is fully consistent with the World Bank and IFC Country Partnership Strategy (CPS), approved by the Board of Executive Directors on November 20, 2006. The CPS aims to support Russia's increasing global role and assist the country in fulfilling its global commitments, and it refers to technical assistance to support the introduction of low-carbon technologies and climate change mitigation. IFC is already supporting energy efficiency financing in the Russian Federation through the Russia Sustainable Energy Finance Program (RSEFP), which provides a wide range of Advisory Services to financial institutions, their clients, and other market players to support investments in energy efficiency.

In order to ensure the additionality of IFC's role, IFC has initiated and maintained dialogue with numerous development partners, including the IBRD, EBRD, and a number of bilateral donors. These discussions were used initially to identify the role of IFC in augmenting ongoing work. This dialogue has since been used to ensure that all stakeholders are aware of the project goals and activities. The World Bank Group in general and IFC in particular have made mitigating climate change a key strategic pillar. As IFC develops the role in this emerging field, it is clear that the Sustainable Energy Finance product is an IFC product that has gained traction around the world, showing success both in the region and within the Russian Federation.

F. DISCUSS THE VALUE-ADDED OF GEF INVOLVEMENT IN THE PROJECT DEMONSTRATED THROUGH INCREMENTAL REASONING :

As detailed in Annex F, the reasoning behind GEF participation in the proposed project 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 renewable energy resulting in long-term reductions of greenhouse gas emissions.

The direct reductions that can be attributed to this project are expected to be approximately 5 million tonnes of CO_{2eq} (savings from investments made during the 5-year project period, over a 20-year investment lifetime) as a result of increased uptake of renewable energy through the financing facility to be established during this project. A detailed break-down of direct and indirect emission estimates for the project are provided in Annex F.

G. INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS, THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED AND OUTLINE RISK MANAGEMENT MEASURES:

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

Risks	Risk Mitigation Measures	Risk Rating with Mitigation
Government's commitment to national policy for renewables and to streamline state/local decision-making fails over time; or inappropriate / inefficient legislation is passed.	Carry out research to provide economic justification for renewable energy development and its importance for Russia's long term development goals; Reinforce capacity in the Ministry of Energy and other ministries, to develop procedures to streamline decisions affecting renewables implementation within Government structures. Monitor and evaluate progress of regulatory reform, and adjust strategy as necessary to enhance effectiveness. Maintain policy dialog with all stakeholders to ensure commitment to reform.	Substantial
The current financial crisis is protracted and private sector funding remains severely constrained	The strategic programs and targeted federal spending through incentive mechanisms, which will be addressed in component 1, could alleviate this risk.	Modest
The private sector will not be willing to invest in renewable energy projects	Support legislation to ensure adequate feed-in tariffs or similar price incentive. Technical assistance to local FIs to enable optimal financial intermediation through appropriate financial support instruments	Modest
Investors from outside Russia perceive the Russian market as highly risky	The involvement of IFC (and potentially other development banks such as the EBRD) bring reassurance to investors	Modest
Overall Risk Rating		Modest

Risk ratings:

High Risk (H)	Greater than 75% probability that the outcome/result will not be achieved
Substantial Risk (S)	Probability of 50 – 75% that the outcome/result will not be achieved
Modest Risk (M)	Probability of 25 - 50 % that the outcome/result will not be achieved
Low or Negligible Risk (N)	Probability of less than 25% that the outcome/result will not be achieved

H. EXPLAIN HOW COST-EFFECTIVENESS IS REFLECTED IN THE PROJECT DESIGN:

As indicated in the incremental cost analysis, under the most likely case scenario, at USD 2/tCO_{2eq} (10 million USD from GEF, resulting in 5 million tones direct reduction over the project lifetimes) equivalent GHG abated, the Program provides a cost effective intervention to reduce the GHG emissions. In line with the GEF strategy to leverage its funding from other resources, the GEF funds of USD 10 million will be leveraged to USD 140 million, or by the ratio 1:14. In the terms of total investment supported, the GEF funds will be leveraged to USD 366 million, or by ratio of 1:36.

PART III: INSTITUTIONAL COORDINATION AND SUPPORT

A. INSTITUTIONAL ARRANGEMENT: The project will be executed by the IFC through its Advisory Services Facility for the Russian Federation.

B. PROJECT IMPLEMENTATION ARRANGEMENT:

Advisory Committee

A proven technique IFC has employed in regulatory reform, and programs addressing the Business Enabling Environment in the past to ensure balanced input and stakeholder dialogue is to organize an Advisory Committee consisting of representatives from stakeholder groups. In the case of RREP, in the Advisory Committee to be established under sub-component 1.2, those relevant groups would include ministries, government agencies, NGOs, private companies, utilities, and end-user associations with interest in renewable energy project development and finance. The main role of the RREP Advisory Committee is to provide advice and feedback on component 1: Regulatory and legal environment development, in order to design and support implementation during program operations with policy support and by facilitating key partnerships across the market. The Advisory Committee members typically play important roles in promoting and sustaining a favorable policy environment for investments.

The Advisory Committee will be convened quarterly to advise the Program on policy and regulatory issues and promote its coordination with other national initiatives and policies. The first Advisory Committee meeting will be organized after launching the Program. The RREP Advisory Committee will be overseen by the Ministry of Energy, but coordinated by the RREP Project Implementation Team.

Implementation Team

To ensure the necessary responsiveness to the regulatory development, FIs, project developers, IPPs, and other local participants, as conditions change in the Russian market, the Project will be implemented via a Russian-based Implementation Team located in the IFC office in Moscow, and eventually, potentially with satellite offices in the regions. The Implementation Team will benefit from cross-fertilization of expertise with IFC's sustainable energy team staff with experience implementing programs in Russia, Central Europe and China as well as working with the World Bank, which is co-located with IFC in Moscow.

The Implementation Team functions and implementation plan will be carried out by core staff members based in Moscow. The Implementation Team will be balanced with appropriate resources to reflect the three Components of the RREP. This will include, in addition to program management resources, expertise in the areas of law and policy analysis, renewable energy, power generation and power market technical expertise, and investment expertise.

In addition, a stable of consultants (managed by the Implementation Team) will be drawn upon to support component work, including analysis that will be done to feed into the regulatory reform, to provide market development support, and to develop the private sector and FIs in developing self-sustaining renewable energy investments, projects and product lines, conducting technical appraisals of projects, and supporting Program monitoring.

With respect to Component 3, it is anticipated that FI technical assistance may be provided through renewable energy finance specialists co-located at the FI partner facilities and also through one-on-one and group seminars that focus on building capacity to evaluate, profile, and perform due diligence on

renewable energy investments as well as develop financing products that are needed by renewable energy investors/developers. FI co-funding resources providing these services, is expected, and may include eventual absorption of renewable energy finance specialists into the FIs' self-funded staff.

Monitoring and Evaluation (M&E) will be supported by an externally-hired independent evaluator. Program monitoring, including the establishment of baselines for each financial institution, will be the primary responsibility of the Project Implementation Team, with M&E consultant providing validation of the baseline, as well as completing the mid-term and final program evaluations.

It is anticipated that the make-up of the team will vary over time as the various Component deliverables are achieved, and with the fluctuating dynamic of market development. During project appraisal IFC will explore in detail the staffing requirements and refine the implementation plan. The plan will seek to exploit the full capacity of the IFC team in the Russian Federation as well as any synergies with the parallel implementation of the IFC-GEF RSEFP where program documentation, guidelines, and "program technology" will also draw from the work of IFC program implementation staff in China and Central Europe.

Finally, the Implementation Team will be responsible for overseeing all the activities of the Program, and be the key point of contact with the Russian Government stakeholders, FIs, IPPs and other local stakeholders, ensuring execution of all aspects of the project. Product structuring and pricing, as well as oversight of the financial portfolio (direct investment, as well as other financial instruments offered to eligible FIs, etc.) will be supported by IFC investment staff with appropriate credit and deal structuring expertise, while IFC advisory staff will oversee the technical assistance offerings.

Stakeholder Involvement

IFC is engaging in extensive consultations with local stakeholders. Local stakeholder participation in the Program (in particular related to Component 1 where public policy instruments will be the focus), will be formalized through a Program Advisory Committee that will include representatives from government, developers, financial institutions, transmission infrastructure management, utilities, civil society and the complementary project teams. This list is by no means exhaustive and simply serves to illustrate the profile of select interested parties. Relevant partners will be added as and when they are identified.

Ministry of Energy: The Russian Ministry of Energy, which is partly responsible for developing and implementing Russian renewable energy policy and programs, is the primary government agency counterpart for the Program. During implementation, the Ministry of Energy will be a key member of the program's advisory committee. The engagement with the State Energy Policy Department will be particularly important during implementation of this program because of the role this department has in development of policy.

Market Council: in order to facilitate the development of renewable energy in Russia it is crucial to engage the Market Council. It is a non-commercial body with the mandate to arrange effective operations of the energy system as well as the whole-sale and retail trade of electric energy and capacity. Currently the Council is involved in maintaining the registry of energy utilities and power producers, and the regulation of connection rules, rules of market operation, energy trading, and other normative regulatory and legislative issues

Ministry of Natural Resources (MNR): Responsible for some aspects of climate change as an issue for Russia at the Federal level, MNR is the GEF national focal point, responsible for environmental protection of Russia's natural resources, and has a stake in how Renewable Energy projects are planned and permitted in relation environmental protection.

RosHydro: RosHydro has inherited a mandate for renewable energy from RAO UES and now implements the bulk of state renewable energy projects. IFC will engage with RosHydro to ensure complementarities and co-ordination of activities.

Regional governments: To ensure effectiveness of market development activities the program will focus on two to three regions selected using criteria described under component 2 above, to pilot the development and implementation of market support and financing activities. While component 1 will mostly take place at a federal level (with sub-component 1.3 aiming to provide a bridge between federal legislation and legislation at the regional level), components 2 and 3 will focus on the selected regions.

Project developers: broadly defined as IPPs which market renewable energy services and equipment through a wide array of business delivery models – represent the primary vehicle (along with financial institutions) through which the Program will be delivered. The Program design directly reflects the needs of project developers, and the market opportunities they face.

Financial institutions: Discussions have been held to date with a number of financial institutions and a survey carried out. Further discussions will be held during implementation of the program when IFC will enter into a competitive process to identify the best match between FI capacity and comparative advantage and the renewable energy market segments where the market is poised to develop. The process is intended to focus the FIs on the market opportunity and mobilize bank management to commit resources to RREP. Most banks expressed interest in RREP, and they have requested to remain in the pool of banks being considered for partnership with IFC in the development of this market. The banks represent a range of sectoral strengths, consistent with IFC's strategy (and experience in other markets) of working with multiple banks operating in a diverse range of sectors, offering very specific financial products to address niche markets.

Power generation, transmission, and distribution sector, and the wholesale power market administrators: this includes generation companies operating in the wholesale electricity market (OGKs), and other existing players in the Russian power generation sector, as well as the government owned transmission and distribution network owners/operators, who also manage and oversee interconnection requests and processes.

Multilateral agencies (e.g., World Bank, EBRD, EU, etc.): The World Bank and EBRD are currently developing sustainable energy programs that are catered to specific market segments. IFC engaged these organizations in discussions to ensure complementarities between the programs being implemented by the organizations during the implementation. IFC will actively pursue the creation of financial instruments under sub-component 3.3 with the EBRD and other international banks and donor initiatives.

Civil society: Non-governmental organizations such as the World Wide Fund for Nature (WWF) are active in advocacy related to renewable energy and in proposing approaches to climate mitigation and adaptation.

PART IV: EXPLAIN THE ALIGNMENT OF PROJECT DESIGN WITH THE ORIGINAL PIF:

It is important to note that the current Request for CEO Endorsement reflects a change in the executing agency for the project. The Russia Renewable Energy Program has been in development since 2003, and throughout that time, many circumstantial changes have occurred, both in terms of the global and national economic situation, but also in terms of the strategy and business model of the World Bank (IBRD) and IFC.

In early April 2009, it was decided to transfer the Russia Renewable Energy Project (RREP) from the World Bank to IFC. At that time, the program was evaluated based on the current political and economic

circumstances, as well as the business model of IFC, which is focused on private sector investment. Based on that evaluation, several factors required that the proposal be slightly modified:

- After peaking at more than \$140/bbl in early 2008, energy prices were fluctuating through to mid 2009, but appeared to be trending toward stabilizing at approximately \$60/bbl
- The economic crisis of 2008-9 caused a contraction of the financial markets sector, and overall capital investment declined
- Russia ratified the Kyoto Protocol in late 2004 and became a Joint Implementation party to UNFCCC
- Between 2007 and 2009, Russia adopted several key pieces of legislation which would in principle support the development of renewable energy, but still the market was not developing on its own
- A growing number of private sector developers were expressing interest in developing renewable energy projects, and these developers have partially-developed projects that are stalled because of low power prices and other insurmountable market barriers
- IFC, which has a different business model and various investment departments (Financial Markets, Infrastructure, General Manufacturing), is equipped to target private sector investment in renewable energy demonstration projects.


Based on these changes, as well as a close review of other similar programs (e.g., the China Renewable Energy Scale-up Program) and an up-to-date dialogue with key stakeholders – who included Russian Government officials, private sector developers, existing power generation owners/operators, financial institutions, NGOs and other participants in the (albeit small) renewable energy community in Russia -- it was determined that the program should take a more programmatic approach by tackling those market mechanisms that would most effectively enable investment. The RREP program offers the opportunity for true market transformation which would require sharp focus on key activities such as a renewable energy incentive framework, building capacity in the renewable energy market, and facilitating tangible investment in projects within this sector which can together unlock and demonstrate the viability of a market, which is one of the most competitive industries in many countries around the world.

Additional revisions to the program include the development of, and investment in renewable energy projects and an industry which will focus on broad market development, and not those that are specific to any one land-use. Projects that are targeted for direct investment will be sufficiently sizeable that they will justify transaction costs, but will also be generic in a way that allows for a replicable demonstration effect. The program design has also benefitted from lessons learnt over the past few years from the China: Renewable Energy Scale Up Program (CRESP).

Despite these changes, RREP is largely the same, both in principle and in objective, as it was originally proposed in 2003 and 2007. However, the implementation mechanisms are broadened to apply at the market level, and the activities are focused to achieve the greatest impact possible. In addition, IFC will continue to work with the World Bank in the design and implementation of the RREP in order to lever the strengths and capacities of both organizations.

PART V: AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for CEO Endorsement.

Agency Coordinator, Agency name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
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ANNEX A: PROJECT RESULTS FRAMEWORK

OUTPUT		OUTCOME	IMPACT
Objective 1: Support development of legal and regulatory environment enabling RE in Russia			Strategic GEF Priority
Implement federal RE framework law	Completed assessment of global best practices of RE policy frameworks (Target: 1 report, covering minimum 6 countries, 2 in emerging markets)		
To improve the info basis for law development	Multi-stakeholder working group is established and meets quarterly (Target: 8 meetings over 2 years)	RE framework law adopted (Target: 1 law, addressing minimum 4 of 9 RE technologies)	Total renewable power generation capacity installed (MWel). Target: 205 MWel by 2015
To support multi-agency working group on RE legislation	Working group is composed of representatives of diverse stakeholder groups including NGO's, regional and federal government, IPP's, other players in power market etc (Target: minimum 5 stakeholder groups represented)		
	Federal RE framework law(s) drafted, based on best practice, and broad stakeholder input (Target: 1 law; enabling economic viability of a minimum of 4 RE technologies of the 9 RE technologies listed in Decree 250-FZ)		
	Complete an inventory of relevant bylaws requiring development or reform (Target: 1 report)		Total renewable power generated (GWh). (Target: 770 GWh by 2015)
To support development of related policies /by laws	Complete assessment of global best practices of RE bylaws (Target: 3 reports)		
	Number of by-laws drafted per RE technology. (Target: 24; Baseline: unknown)	Federal bylaws enabling/supporting RE adopted (80%)	
To raise awareness on RE laws through consultations and educational events	Number of participants in regulatory related workshops, training events, seminars, conferences, etc. (Target: 1000 unique participants)		
	Number of participants reporting satisfied or very satisfied with regulatory related workshops, training, seminars, conferences, etc. (Target: 80% of participants)	Number of companies pursuing interest in RE following on from awareness campaigns and other RREP activity (Target: 100; Baseline: unconfirmed)	Total CO2eq emissions avoided as a result of the installation of renewable energy. Target: 4.6 million tonnes over 20-year investment lifetime
Objective 2: Support development of market knowledge and capacity in power market for RE technologies in Russia (focusing on 2-3 selected regions)			

To assess RE resource in the selected regions and make info available to investors	4 RE resource types are mapped/inventorized in each of 3 selected regions (Target: 12; Baseline: unknown)	Number of regions adopting RE enabling by-laws (Target: 3; Baseline: unknown)	
To create and improve RE guidance documents and public templates	Number of accessible RE guidance documents and contract templates drafted and translated (Target: 8; Baseline: 3 wind energy templates from former GEF project)	Development cycle streamlined: reduced average time to complete development cycle of RE projects (Target: 3 years; Baseline: ~6 years+)	Investment facilitated into RE projects from IFC/ EBRD as well as project sponsors. Target: \$366M
To raise market awareness and build capacity in RE	<p>Number of RE publications by project (Target: 3)</p> <p>Number of participants in power market related workshops, training events, seminars, conferences, etc. (Target: 1000 unique participants)</p> <p>Number of participants reporting satisfied or very satisfied with power market workshops, training, seminars, conferences, etc. (Target: 80% of participants)</p>	<p>More RE projects in development. (Target: 150 by year 4; Baseline: unconfirmed)</p> <p>Number of active RE industry networks/associations (Target: 4; Baseline: 2 - wind & solar)</p> <p>Number of existing Russian power generation companies developing RE projects (Target: 6; Baseline: 1)</p>	
	Percentage of participants in capacity building events which are IPP's or developers (35%)	Number of Russian based firms providing RE services: law firms (Target: 30; Baseline: unknown) engineering firms (Target: 30; Baseline: unknown) construction firms (Target: 10; Baseline: unknown)	
	Percentage of participating IPP's or developers which are non-Russian (Target: 20%)		

Objective 3: Support development of RE financing, including through local FIs

To build capacity on RE finance product in the local banking sector	Number of domestic banks attending capacity building events. (Target: 10)	Number of banks offering RE related products. (Target: 6; Baseline: 1)	
To support the development of RE financing facility	<p>Number of workshops delivered to banks (Target: 5)</p> <p>Number of participants reporting satisfied or very satisfied with banking training/seminars (Target: 80% of participants)</p>	<p>Amount of money disbursed by IFC and EBRD in RE by project close (Target: \$112M = 80% of 140M)</p> <p>Number of loans facilitated by IFC/EBRD (Target: 30)</p>	<p>Number of RE projects receiving financing (including IFC and EBRD and other sources). (Target: 30 by project's end)</p> <p>Number of foreign investors or developers active in RE in Russia by project end (Target: 30; Baseline: 2 (unconfirmed))</p>

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF)

Response to the STAP Review

STAP: 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 RER 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 RER.”

Project Team response (2009): Components 2 and 3 of the project now directly address capacity building to support private sector investment in the renewable energy sector in Russia.

STAP: “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 (2009): 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 tradition fuels, taking into account of full cost for traditional fuels development” (Component 1.1) and support for mapping renewable energy resources in pilot regions (Component 2.1).

STAP: c) Innovative financing mechanisms

Along with the mechanisms (Renewable Energy Financial Facility-REFF, Revolving Soft Loan Window-RSLW, 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 (2009): While addressing Kyoto mechanisms is outside of the sphere of this proposed project (and falls outside of the eligibility for GEF funding), it is assumed that the capacity building activities in RREP for FIs and project developers will provide these key stakeholders with the skills necessary to develop and finance renewable energy projects – skills that are directly transferable to projects that will consider carbon finance.

STAP: 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 (2009): The revised project will now focus on private sector investment.

STAP: 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 RER. 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 (2009): A more detailed section on incremental reasoning has been added to the project proposal (see Annex F), and GHG emission reductions have been labeled as a key indicator for project monitoring and evaluation and listed in the project results framework in Annex A.

STAP: 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 (2009): Additional information has been added to Section II.E. and in Section III.B. regarding the involvement of stakeholders to learn lessons from ongoing programs in Russia and to coordinate with other programs that promote renewable energy. This project builds on approaches used successfully under the China: Renewable Energy Scale Up Program (CRESP).

STAP: 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 (2009): The document as modified no longer contains the above-mentioned selection criteria, but environmental and technological parameters will be included as criteria for the selection of renewable energy resource projects in the pilot regions. Agreed.

STAP: 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 (2009): The section on incremental reasoning has been updated to reflect current and anticipated activity in the renewable energy sector while taking into account proposed economic trends.

STAP: 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

*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.

Project Team response (2009): All requests for clarification have been addressed in the modified RCE.

ANNEX C: CONSULTANTS TO BE HIRED FOR THE PROJECT USING GEF RESOURCES

<i>Position Titles</i>	<i>\$/ person week*</i>	<i>Estimated person weeks**</i>	<i>Tasks to be performed</i>
For Project Management			
Local			
Program assistant	913	150 (note: includes only GEF financed allocation)	Program administration and support
International			
Program manager	4640	100 (note: includes only GEF financed allocation)	Day-to-day program management and oversight
Justification for Travel, if any: Travel will be required to different locations in Russia for e.g., appraisals, meetings with the sub-national governments, supervision missions, and international travel for dissemination and coordination with IFC/WB Management.			
For Technical Assistance		(GEF Financed Allocation)	
Local			
Technical Expert (s)	2,051	425	Technical advice to IPPs, FIs, project developers and companies
Communication Expert	2,051	120	Preparation of public launching events, materials for different dissemination events, publications in external magazines, Expert advice to banks on marketing renewable energy finance
Policy Advisor (s)	2,051	220	Specific legal advices, case studies
Legal Advisor (s)	3,000	190	Legal expertise supporting contractual arrangements
Economists and Financial Analysts	3,000	145	Analysis of costs and benefits of renewable energy at financial and economic levels
External Evaluator(s), incl. M&E	2,051	40	Independent evaluators of the program's progress (indicators)
International			
Senior Specialist (s)	8,000	340	Strategic advices on all three components (including to government and banks)
Technical Experts	8,000	435	Strategic advice and technical/economic and financial analysis on the market infrastructure (project developers) including wind mapping and other resource assessments required to meet objectives
M&E	8,000	18	International expertise on evaluation

Justification for Travel, if any: Travel will be required to different locations in Russia for e.g., meetings with the sub-national governments and with project beneficiaries.

* Provide dollar rate per person week. ** Total person weeks needed to carry out the tasks.

ANNEX D: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS

Note: These activities took place prior to the transfer of the project to IFC

A. EXPLAIN IF THE PPG OBJECTIVE HAS BEEN ACHIEVED THROUGH THE PPG ACTIVITIES UNDERTAKEN.

The PDF-B activities aimed to support the development of an institutional and operational framework for implementation of the RREP, as well as for the preparation of the full scale GEF Project. Work carried out under the PDF-B included 6 key components:

Component 1 - Analysis of Russian and foreign legislations and development of concepts of regulatory documents regulating use of renewable energy resources (RER) in Russia. Development of the concept of renewable energy development in Russia;

Component 2 - Preparation of the list of renewable energy objects with indication of preliminary technical and economic parameters and plan of their construction in the South Russia.

Component 3 - Development of the program of implementation of measures on renewable energy resources development in state natural reserves and national parks. Preparation of the list of renewable energy objects with indication of preliminary technical and economic parameters and plan of their construction in the Baikal Natural Area.

Component 4 - Preparation of the List of priority demonstration projects of renewable energy resources development recommended for co-financing from GEF grant. Development of the concept of capacity building related to personnel training and dissemination of information in the field of renewable energy resources, including generation of interregional informational databases, international informational-training workshops and centers.

Component 5 - Elaboration of tasks under components of the Project "Russia - Renewable Energy Program". Development of provisions and operating instructions for Project Development Fund, Investment Fund for Demonstration and Pilot Project Support and Small Grant Program. Development of proposals on formation of investment channeling system, including use of financial tools of the National Pollution Abatement Facility.

Component 6 - Realization of an international conference on renewable energy resources development in Russia with participation of international financial institutions and donors.

The PPG (PDF-B) objective was achieved through the PPG activities undertaken.

B. DESCRIBE FINDINGS THAT MIGHT AFFECT THE PROJECT DESIGN OR ANY CONCERNS ON PROJECT IMPLEMENTATION, IF ANY:

The improved knowledge and understanding of the potential and challenges to the development of renewable energy in Russia as a result of the PDF-B activities influenced all aspects of the current RREP proposal.

Analysis of Russian and international legislation underlined the importance of policy and regulations at the federal level as a prerequisite to significant regional progress, and this has been reflected in the emphasis of the proposed project on facilitating the development of sound policy and legislative frameworks.

C. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES AND THEIR IMPLEMENTATION STATUS IN THE TABLE BELOW:

<i>Project Preparation Activities Approved</i>	<i>Implementation Status</i>	<i>GEF Amount (000 \$)</i>				<i>Co-financing (000 \$)</i>
		<i>Amount Approved</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>	<i>Uncommitted Amount*</i>	
1. Analysis of the Russian and foreign legislation and development of legislative instrument drafts. Elaboration of the concept of RES development in Russia.	Completed	40				190
2. Preparation of the list of units indicating their preliminary technical and economic characteristics and action plan of their construction in the South of Russia.	Completed	50				140
3. Preparation of the list of RES units including biomass utilization for energy purposes and action plan of their construction in the North-West of Russia.	Completed					150
4. Preparation of the list of RES units indicating their preliminary technical and economic characteristics and action plan on their realization in the region of Baikal lake natural area	Completed	35				50
5. Program development and arrangement realization on renewable energy sources application in state natural reserves and national parks;	Completed	25				150
6. Elaboration of the list of priority pilot and demonstration projects RES development included into the federal targeted programs of RF, recommended to co-financing from GEF grant funds.	Completed	30				320
7. Preparation of detailed tasks for the components. Development of structure and operational framework of the Project Preparation Fund, the Investment Fund on Pilot Project Proposals and Small Grant Program Demonstration and Support. Development of proposals on formation of	Completed	40				125

institutional systems which will ensure investment operations including use of the NPAF financial mechanism.						
8. Analysis of costs and benefits of RREP project implementation.	Completed					290
9. Development of a concept for capacity building connected with training and information dissemination (regional data centers, energy centers, international workshops, etc.).	Completed	20				135
10. Holding of international conference on renewable energy development in Russia with participation of international financial institutions and donor countries.	Completed	25				10
11. Development of the project brief and the request to GEF on the full scale project.	Completed	40				10
12. Construction of the boiler house with capacity of 5 MVt using woodworking waste in the village Kalevala of the Republic of Karelia	Completed					890
13. Coordination of project development and administrative expenses	Completed	45				10
Total		350				2470

* Any uncommitted amounts should be returned to the GEF Trust Fund. This is not a physical transfer of money, but achieved through reporting and netting out from disbursement request to Trustee. Please indicate expected date of refund transaction to Trustee.

ANNEX E: CALENDAR OF EXPECTED REFLOWS

GEF funds will not be used for the financial mechanism to be developed by the IFC and EBRD in Sub-component 3.2. The financial mechanisms will be funded by IFC and EBRD using a combination of direct finance and the provision of financing to partner FIs in Russia. There are thus no reflows of the GEF grant.

ANNEX F: INCREMENTAL REASONING

Introduction

The Russian Federation has significant renewable energy resources, but they play limited role in the country's energy balance. Less than 0.5 % of power is currently based on renewable energy.

Although the Energy Strategy until 2020 foresees that large new capacities for utilization of renewable energy 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 renewable energy increased by 50% during this period, but its share in total electricity supply only reached 0.5%.

As discussed in the body of this proposal, the main reasons for slow development of renewable energy projects are systemic barriers, most of which require special efforts to address. These include:

- Legal and regulatory barriers with gaps in regulations and enabling tariffs; 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;
- 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 resulting in long-term reductions of greenhouse gas emissions.

As a result of GEF participation, total funding of US\$366 million will be mobilized in the form of investments. Total funding has been estimated as follows:

Financing instrument	Instrument size	Debt/Equity ratio	Total investment
IFC financial markets	\$ 20,000,000	3.0	\$ 26,666,667
IFC direct lending	\$ 50,000,000	0.3	\$ 200,000,000
EBRD credit lines	\$ 20,000,000	1.0	\$ 40,000,000
EBRD direct investment	\$ 50,000,000	1.0	\$ 100,000,000
TOTAL	\$ 140,000,000		\$ 366,666,667

System boundary

The geographical boundary of the proposed project is the national territory of the Russian Federation.

The baseline scenario

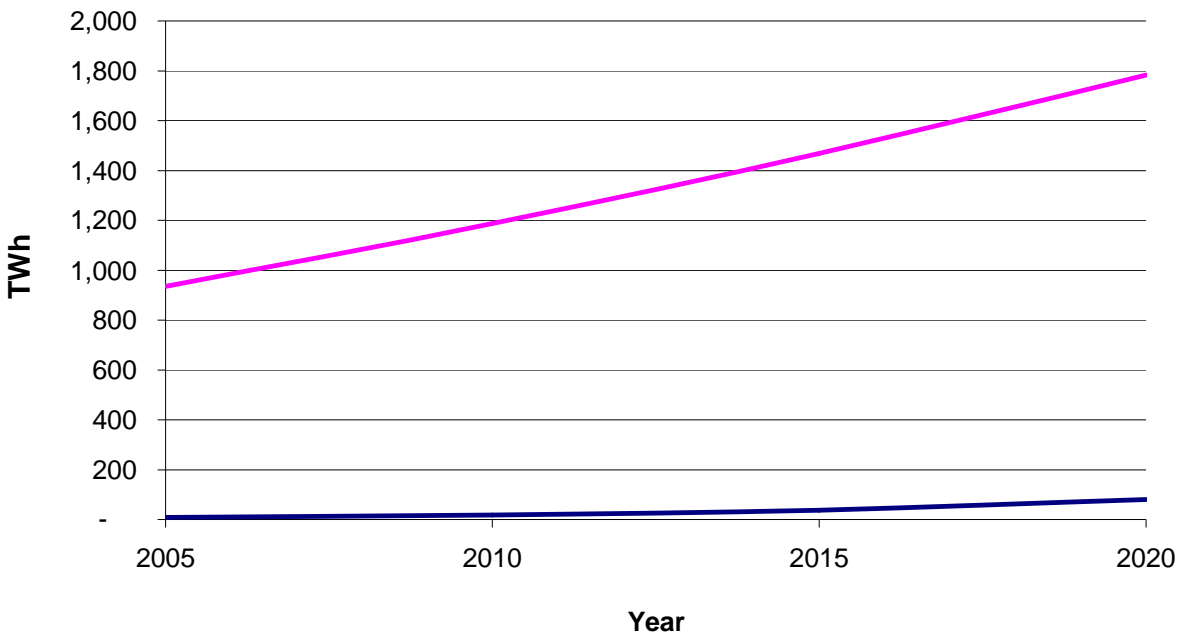
The baseline scenario describes the project without GEF support. Presently Russia’s energy sector relies on rich fossil fuel reserves and on the dominant use of thermal power (67%).

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 2008 the Russian Government however published a “Correction to the ‘Energy Strategy of Russian Federation’ to target 4.5 % RE by 2020” and Order 1-p (8.1.2009). This amendment sets the target to the installed renewable electricity capacity (excluding hydroelectricity with installed capacity over 25MW) to 1.5% by 2010, 2.5% by 2015, and eventually 4.5% by 2020, while 2005 electricity generation from renewable sources represents less than 0.5%. Government plans also foresee a substantial growth in total electricity power generation installed capacity up to 2020.

These targets are taken as a possible baseline growth scenario for the GEF RREP. It should however be noted that many commentators, including the team developing this proposal, believe that this target is highly ambitious and improbable given the current speed of market development and policy response.

Renewable Energy Targets



Greenhouse gas reductions: The greenhouse gas reductions resulting from the electricity under the baseline scenario would result in 26 million tons of CO_{2eq} emission reductions per year in 2020, and assuming a 20 year investment lifetime and linear growth, amount to 520 million tons of CO_{2eq} from 2010 to 2020.

GEF Alternative Scenario

Under *the alternative scenario*, GEF support (along with co-financing) is expected to remove many 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 1: Regulatory and legal environment development: This component will address key legal and regulatory issues including: incentive mechanisms; the analysis of various options such as tax incentives, subsidies or feed-in-tariffs, accelerated depreciation; transparent, predictable, and efficient processes and approvals related to land leasing, permitting, licensing, interconnection processes etc to ensure that private sector development/investment (e.g. by Independent Power Producers – IPP’s) is possible; renewable energy specific regulation required at the regional, and oblast level, that may require support in development and propagation. Sub-components include:

- 1.1 Improving the information basis for policy development
- 1.2 Support to multi-agency working group on renewable energy legislation
- 1.3 Consultation, consensus building and awareness creation
- 1.4 Development of supporting policies and by-laws

Component 2: Market capacity development: Under component 2 the program will address market feasibility and removal of barriers related to the market infrastructure for various renewable energy technologies, and the applicability of those in Russia. Sub-components include:

- 2.1 Renewable energy resource assessments
- 2.2 Contract and legal support to investors
- 2.3 Development of Market Infrastructure

Component 3: Renewable energy financing: Component 3 aims to address barriers to renewable energy financing, and will include 3 sub-components:

- 3.1 Capacity building in the banking sector
- 3.2 Financing facilitation

To determine the emissions reductions resulting from the RREP we have used the project-level calculation formulae provided by the GEF for direct, direct post-project, and indirect CO₂ reductions. The following figures were used as inputs into the emission reduction estimations:

Summary of key figures	
Estimated size of financing	\$ 140,000,000
Average debt-equity ratio from private sector sources	0.62
Total size of investment funds	\$ 366,666,667
Emission factor ⁹	0.327 tCO ₂ /MWh

⁹ Source: RETScreen v4. Figure covers entire power sector and assumes no net GHG emissions from renewables

Estimated Renewable Energy Capacity installed during the project		2015	Cost per kW (USD)	Approx investment size (USD)	Annual CO _{2eq} savings in 2015 (tons)
Small hydro	TWh ¹⁰	0.19			61,313
	MW	45	1 350	60,750,000	
Wind power	TWh	0.36			98,100
	MW	120	1 800	216,000,000	
Geothermal	TWh	0.13			43,600
	MW	20	2 500	50,000,000	
Biomass co-gen	TWh	0.09			29,076
	MW	20	2 000	40,000,000	
TOTAL	MW	205		\$ 366,750,000	232,088

Using the above figures, and assuming a linear investment profile over the 5-year project, starting from year 3, projections of emission reductions in the GEF alternative can be estimated.

Direct reductions

The direct reductions that can be attributed to this project are expected to be approximately 5 million tonnes of CO_{2eq} (savings from investments made during the 5 year project period, with a lifetime estimate of 20 years) as a result of increased uptake of renewable energy through the financing facility to be established during this project. The annual and cumulative emission reductions are shown in the table below.

CO ₂ savings	Annual reductions	Cumulative reductions
Year 1	-	-
Year 2	-	-
Year 3	83,903	83,903
Year 4	167,806	251,708
Year 5	251,708	503,417
Year 6	251,708	755,125
Year 7	251,708	1,006,834
Year 8	251,708	1,258,542
Year 9	251,708	1,510,251
Year 10	251,708	1,761,959
Year 11	251,708	2,013,667
Year 12	251,708	2,265,376
Year 13	251,708	2,517,084
Year 14	251,708	2,768,793
Year 15	251,708	3,020,501
Year 16	251,708	3,272,210
Year 17	251,708	3,523,918
Year 18	251,708	3,775,626
Year 19	251,708	4,027,335
Year 20	251,708	4,279,043
Year 21	251,708	4,530,752
Year 22	251,708	4,782,460
Year 23	167,806	4,950,266
Year 24	83,903	5,034,168
Year 25	-	5,034,168

¹⁰ Capacity factors used to convert MW installed to TWh are: 42% for small hydro, 30% for wind, 67% of geothermal, and 44% for biomass.

Direct post-project emission reductions

Since it is currently not known whether the financing facility to be established by IFC under this program will be renewed, no Direct Post Project emission reductions have been counted in this analysis.

Indirect emission reductions – top down

Starting from resources, and based on assessments carried out by local experts, the market potential for renewable energy over the next 10 years is estimated to be 22 GW. The GHG emission reduction per year would be 26 million tons CO₂eq. With a linear growth, and a 20-year investment lifetime, this would amount to approximately 520 million tons. Using a GEF causality factor of 40% since the project impact is considered to be “modest”, the attributable indirect emission reduction impact is 208 million tons CO₂.

Indirect emission reductions – bottom up

Based on a replication factor of 4 and the direct impact of 5 million tons we expect an additional indirect reduction of 20 million tons.

Calculations

The outcome of calculations is shown in the following table:

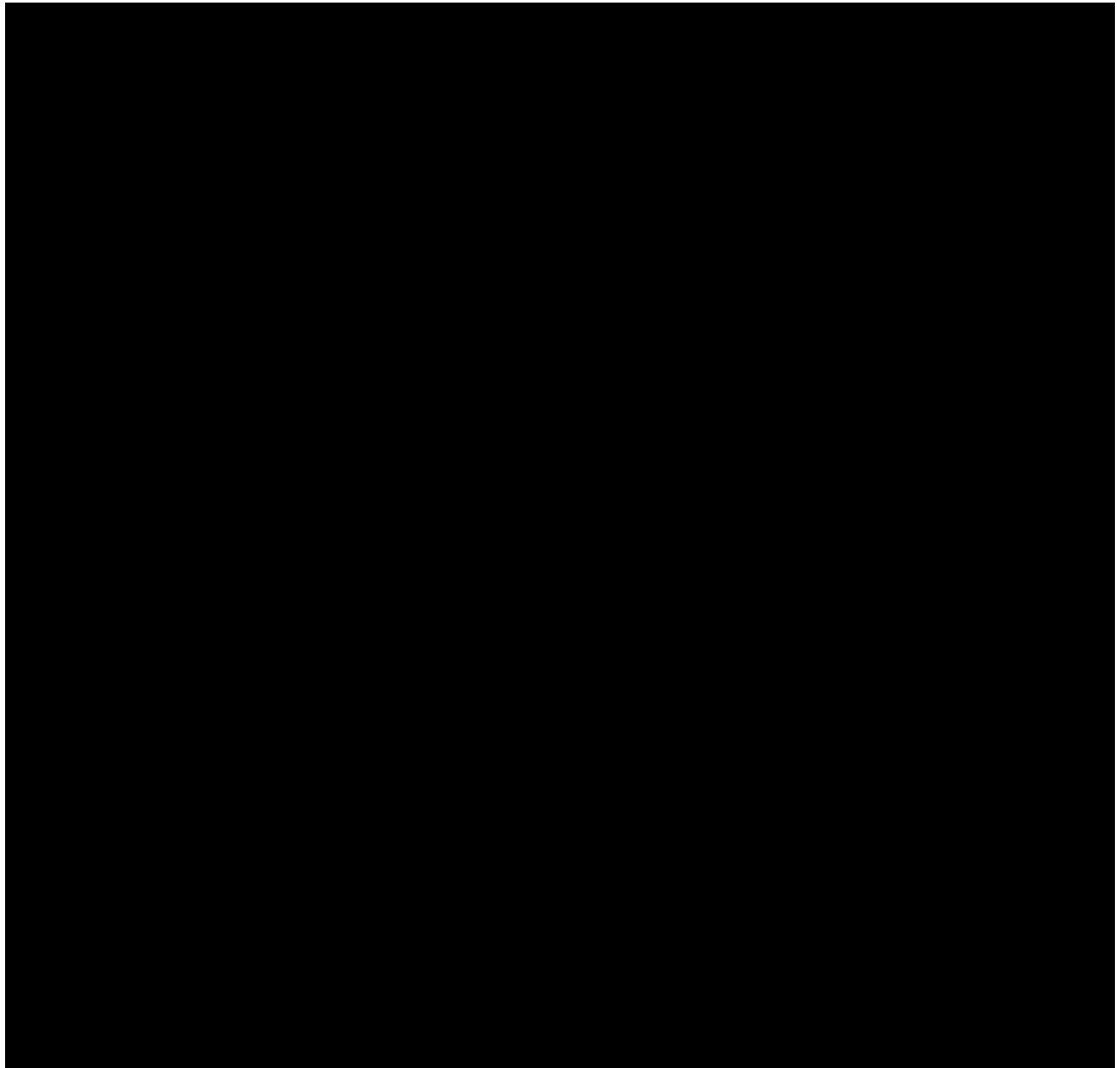
Sources of reduction	Emission reductions (tons CO ₂)	GEF Contribution factor	Total (tons CO ₂)
Direct (5 years)	5,000,000	1	5,000,000
Indirect – top down (10 yrs)	520,000,000	0.4	208,000,000
Indirect – bottom up (10 yrs)	20,000,000	1	20,000,000
TOTAL			5 million to 208 million

Note: in the above table the top-down indirect emission calculations include the project period, whereas the bottom-up figures do not.

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

In addition, 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.

ANNEX G: POTENTIAL RENEWABLE ENERGY PROJECT PIPELINE



Note: Although some of these projects have been identified a number of years ago, they have to date not been developed because of the systemic market barriers that will be addressed in this GEF program. This list is a preliminary list based on existing knowledge and subject to improvement based on analysis to be carried out within the scope of the RREP.

ANNEX H: IFC TECHNICAL ASSISTANCE & ADVISORY SERVICES (TAAS) PRICING GUIDELINES

1. Overarching Principles

The pricing of IFC's TAAS is based on two overarching principles:

- Any subsidies embedded in the pricing of our TAAS should be justified by the balance of public and private benefits reflected in the particular intervention.
- Even when a substantial subsidy is justified, some level of client contribution will often be appropriate to strengthen commitment to implementation.

2. Extent of Client Contribution

The above principles apply to both government and private sector clients. For purposes of illustration, however, it is useful to distinguish between the two categories of client.

2.1 Government clients

- (a) Policy, regulatory, and institutional reforms: TAAS to support policy, regulatory and institutional reforms to improve the business enabling environment can confer broad public benefits. Governments can capture the benefits of such reform through improved social welfare (including jobs and taxes) and so in principle should be willing to pay for TAAS to support reform. In practice, however, governments tend to under-invest in reform due to interest group politics and delays or uncertainties associated with the expected benefits. Governments in low-income countries may also face severe budget constraints.

These circumstances mean that a substantial subsidy is often justified for TAAS aimed at promoting reform, particularly at the diagnostic, advocacy, and consensus-building phases. Given the critical role of commitment to implement the proposed reforms, however, some level of client contribution will often be appropriate to the design and implementation phases of such reforms. The level and form of that contribution may vary according to the issue and client in question, as well as the presence of other objective indicators of client commitment to implementation.

- (b) Public-private partnerships for infrastructure or other public services: TAAS to support public-private partnerships for infrastructure and other public services has the potential to deliver considerable public benefits. Governments capture the benefits of such projects through reduced public outlays and improved infrastructure, which are typically more tangible and immediate than in the case of policy reforms. However, particularly for pioneering transactions, governments may still under-invest in these projects due to interest group politics, delays or uncertainties associated with the expected benefits, or budget constraints.

These circumstances mean that a significant subsidy may be justified to support the design and implementation of transactions, particularly when the transaction is pioneering in the country in question or the client faces severe budget constraints. Even in these cases, however, a significant client contribution will usually be appropriate to strengthen commitment to implementation.

2.2 Private sector clients

- (a) TAAS focused on benefiting firms in general: TAAS intended to benefit firms in general, rather than identifiable individual firms, is difficult to fund through user fees due to free-rider and other problems. De facto, this means substantial subsidy may be required for activities like broad education campaigns or the development of market-facilitating infrastructure.

When the TAAS in question includes a product or service that can be priced, however, the pricing should reflect the balance between the value captured by the recipients and any broader public benefits. Examples include registration fees for training courses, or the pricing of toolkits or manuals.

- (b) TAAS focused on assisting individual firms without broader public benefits: TAAS focused on assisting individual firms to improve their operating or managerial capacity, or to comply with regulatory requirements, does not typically warrant a subsidy, as the benefits are fully captured by the recipient firm. Except as noted below, the same is generally true for TAAS to help individual firms adopt practices or behaviors for which there is a clear business case, including improved corporate governance, or social or environmental sustainability practices.
- (c) TAAS that confers a mix of private and public benefits: Some TAAS to individual firms involves a mix of private and public benefits, and so merits a partial subsidy.

For example, a partial subsidy may be justified when the intervention has clear demonstration effects that provide benefits beyond those captured by the recipient firm. This will generally require that: (i) the behavior or practice being supported is desirable from a social welfare standpoint; (ii) the behavior or practice is genuinely novel in the particular market; (iii) in view of that novelty, the recipient firm would be reluctant to adopt the behavior or practice without a partial subsidy; and (iv) the general content and results of that behavior or practice will be disseminated to other firms rather than being kept proprietary to the recipient firm. It may thus be appropriate to provide a partial subsidy for TAAS aimed at assisting a firstmover in a particular market to pioneer better corporate governance or sustainability practices, or to pioneer a new market segment with broader public benefits, such as microfinance or housing finance.

Similarly, linkages projects that involve the dominant firm undertaking outreach or related activities that extend beyond those for which it has regulatory obligations or commercial incentives to pursue may also merit a partial subsidy.

When partial subsidy is justified, the extent of subsidy should be based on an assessment of the balance of private and public benefits conferred by the intervention. The starting point should be a 50 percent client contribution, which can be adjusted upwards or downwards based on the expected incidence of benefits. For TAAS interventions comprising multiple components, it will often be appropriate to price each component individually following the same principles.

3. Estimating Costs and Contributions

3.1 Project Costs

For the purposes of these guidelines, the total project costs should include an estimate of the costs of designing, implementing, and supervising the TAAS intervention. This should include contributions from IFC, donors, other partners, and recipients, including an estimate of verifiable in-kind contributions to the TAAS project.

3.2 Client Contributions

Relevant client contributions towards project costs may take many forms. These include: Payments to IFC; verifiable in-kind contributions (e.g., earmarking of dedicated staff or other resources to help implement the TAAS project); and payment towards costs of services provided by a third party.

**DOCUMENT OF
THE INTERNATIONAL FINANCE CORPORATION**

**RUSSIA – RENEWABLE ENERGY PROGRAM
RREP**

GEF Project Appraisal Document

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RUSSIA - RENEWABLE ENERGY PROGRAM (RREP)

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RUSSIA – RENEWABLE ENERGY PROGRAM (RREP)

PROJECT APPRAISAL DOCUMENT

EXECUTIVE SUMMARY

This five-year IFC-GEF co-funded “Russia – Renewable Energy Program” aims, in close co-operation with the European Bank for Reconstruction and Development (EBRD) and the World Bank to facilitate a sustainable market for renewable energy in the Russian Federation by supporting the development of enabling policies, institutional capacity, market facilitation and financing.

The program will include both Advisory Services and investment to enable a sustainable renewable energy market in Russia. The program will:

- I. address the component barriers in a prioritized way to maximize impact early and remain focused on the most critical barriers first (i.e. regulatory and legal framework for renewable energy and market based incentive mechanisms will be a key priority)
- II. focus on those regions of Russia which are better prepared for renewable energy projects implementation and determine opportunities for investment/demonstration projects in these regions (e.g. where there are existing projects in the pipeline, and where sufficient renewable energy resources such as wind, geothermal, biomass, small hydro exist, sufficient load/demand and infrastructure);
- III. focus on the most realizable renewable energy technologies in Russia, and
- IV. raise awareness among the major stakeholders and decision makers, which will ultimately result in tangible investment in this industry in Russia.

The key components of the program include:

Component 1: Regulatory and legal environment development addressing key legal and regulatory issues and in particular an incentive framework which would support investment in renewable energy. Sub-components will include, Improving the information basis for policy development (sub-component 1.1), Support to multi-agency working group on renewable energy legislation (1.2) Consultation, consensus building and awareness creation (1.3), and Development of supporting policies and bylaws (1.4).

Component 2: Market capacity development will address market feasibility and removal of barriers related to the market infrastructure for various renewable energy technologies, and the applicability of those in Russia. To ensure that the actions are not overly diluted these activities will focus on 2 to 3 selected program regions. Sub-components include Renewable energy resource assessments (2.1), Contract and legal support to investors (2.2) and Development of Market Infrastructure (2.3).

Component 3: Renewable energy financing, addressing availability of financial products needed by renewable energy developers and investors such as long term financing and the requirements to enable these products to be offered on the market to IPP’s and other investors/developers. Sub-components include Capacity building in the banking sector (3.1) and Financing facility (3.2).

Through the three program components the market for renewable energy in Russia will be facilitated. Key program indicators, which will demonstrate success, are:

- Direct GHG emission reductions (CO_{2eq}), estimated at a cumulative 5 million tons over a 20 year investment lifetime, and estimated indirect GHG emissions reductions between 20 and 200 million tons,
- Introduction of an enabling regulatory and incentive framework for renewable based power, including:

- regulation that institutionalizes needed incentive mechanisms to allow renewable energy to compete with, often subsidized, traditional generation sources; including the analysis and promotion of various options such as tax incentives, subsidies or feed-in-tariffs, accelerated depreciation;
 - transparent, predictable, and efficient processes and approvals related to land leasing, permitting, licensing, interconnection processes, etc., to ensure that private sector development/investment (e.g., by Independent Power Producers – IPP’s) is sufficiently supported
 - renewable energy-specific regulations related to the above issues that are required at the regional (okrug), provincial (oblast), and -- potentially -- local level of government, and that require support in development and propagation.
- Total number of renewable energy projects reaching financial closure (target: 30),
 - Investment facilitated into renewable energy projects from IFC and EBRD financial instruments as well as project sponsors (target US\$ 366 million),
 - New renewable power generation capacity installed (MW_{el}) (target: 205 MW_{el}),
 - Total amount of electricity additionally generated (GWh) from new renewable energy installations (Target: 770 GWh / year by 2015).

STRATEGIC CONTEXT AND RATIONALE

1. Country and Sector Issues

The state of the Russian energy sector has become a prominent issue for a number of energy-importing states, including many members of the EU. The benefits to Russia from exporting energy resources such as oil and gas have increased dramatically over recent years. At the same time, domestic energy demand in Russia is increasing at a much higher rate than previously forecast.

Russia’s current electricity generation portfolio is estimated at more than 200GW installed capacity, of this, 67% is thermal (oil, gas, coal). Some experts, including the International Energy Agency (IEA), have forecast that Russian gas supply could, without significant additional upstream investment, fall short of projected domestic and export demand within the next few years. Russia may increasingly face the uncomfortable choice of using its gas to either serve domestic or export markets.

Russia’s gas production has increased since the Russian financial crisis of 1998 but is currently only slightly higher than it was in 1990. In contrast, domestic gas consumption grew on average 1.7 percent per year between 1999 and 2006 and is currently growing at 2.5 percent, despite a quadrupling in the domestic tariff for natural gas. European natural gas import demand, meanwhile, is expected to continue to climb rapidly, from roughly 500 to 800 billion cubic meters by 2030. As domestic supply falls, Europe will need to import a much larger percentage of the natural gas it uses. The EU countries currently import roughly 50 percent of their natural gas needs, but by 2030 are expected to import 84 percent of those needs. Russia currently supplies roughly 25 percent of Europe’s natural gas needs.

Russia also needs to add a minimum of 20,000 MW of new generating capacity over the next two to four years to meet growing electricity demand. The country will not come anywhere near this goal; having added only 1,000-2,000 MW per year in recent years. Electricity consumption has been increasing at a rate of roughly 2-4 percent per year, but supply has failed to keep pace, with Russia importing roughly 200-800 MWh per month from Ukraine as of late 2006. Finland, which has been importing electricity from Russia for years is now preparing to reverse the electricity flow and become a net exporter to Russia rather than a net importer.

This market environment raises the importance of energy efficient and environmentally friendly technologies. There is a growing realization in Russia that energy saved by increasing deployment of

energy efficient and renewable energy technologies can substantially contribute to the benefits from international trade in energy resources. In addition, given the uneven distribution of energy resources across Russia's vast territory, there are many regions in Russia where energy is just as expensive as in its European neighbor-states. An estimated 10 million people are paying very high prices for electricity either as a result of being at the end of long transmission lines or connected to isolated grids, and, even in the absence of incentives, renewable energy could be viable if other market barriers were removed.

In its efforts to increase the market penetration of renewable energy technologies, Russia faces many of the same challenges as other eastern European countries, including inefficient energy tariff structures inherited from the past. There is also some regional cross subsidies with tariffs in the Far East being subsidised by other Federal Regions and with tariffs in some oblasts within a Federal Region being subsidised by others within that same Federal Region. For instance, tariffs in Archangelsk oblast, which has significant oil-fired generation, are cross-subsidised by other oblasts in the North-West Federal Region. Industry continues to cross-subsidise the population in most regions.

The priorities of the federal energy policy of the Russian Federation were formulated in the "Energy Strategy of Russia until 2020". Since approval of the document by the Government on 28 August 2003, significant changes have taken place both in the external macroeconomic environment and in the Russian domestic market.

In 2008 the Russian Government amended the "Energy Strategy of Russia until 2020", and published a "Correction to the 'Energy Strategy of Russian Federation' to target 4.5 % of Renewable Energy by 2020". This amendment sets the target to the installed renewable electricity generation to 1.5% by 2010, 2.5% by 2015, and eventually 4.5% by 2020, while 2005 electricity generation from renewable sources represents less than 0.5% (excluding hydro with installed capacity over 25MW). This was followed with Governmental Decree № 426 "About qualification of energy generating objects based on RE sources". Finally, in January 2009, the Government of Russia passed **Order 1-p**¹, which defines the main directions in the field of energy efficiency of electricity power industry on the basis of application of renewable energy sources for the period to 2020. This order reiterates the 4.5% targets, and outlines the following implementation measures: coordination of initiatives; provision of state support for renewable energy development; information support; technical and technological support; utilization of stakeholder expertise; improvements in measurement indicators/monitoring for renewable energy development; improvements in statistical data; a plan for renewable energy development; attraction of investment in renewable energy development; and assistance to small and medium enterprises (SMEs) working on renewable energy development.

Bylaws and implementation modalities are currently under discussion, with draft decrees and documents believed to include:

- «About setting bonus for renewable energy producers...»
- «Scheme of providing subsidies for interconnection of renewable energy installations ...»
- «Scheme for immediate purchasing renewable energy by energy network organizations»
- «About measures of state support for renewable energy...»
- «About corresponded correction of other legislative documents in connection with above mentioned Decrees...»

According to an OECD/IEA study (2003), renewable energy with economic potential totals approximately 30% of the country's actual total primary energy supply (270 million tons of coal equivalent), while the technical potential is estimated to be more than five times greater than current

¹ 8.01.2009 – Governmental Decree "Main Directions in the field of energy efficiency of electricity power industry on the basis of application of renewable energy sources for the period to 2020" with a target of 4.5% of renewable electricity.

energy supply. Therefore, given Russia's plentiful resource base of renewable energy sources, achieving the 4.5% target, and going beyond it, is certainly viable – but only once the required enabling regulations and other industry support mechanisms are in place.

Reaching the renewable energy target of 4.5%, could require approximately 22GW of new installed capacity and displace more than 36 million tons of CO₂/per year, representing approximately \$44 billion in capital investment.² To put this into context, it is estimated that Russia's power generation base will require \$250-300 billion in investment through to 2020, in order to meet growing energy demands, retrofit aging assets, and replace retiring power generation assets.

According to Order 1-p, slow development of electricity generation from renewable sources is primarily due to lack of economic incentives vis-à-vis more traditional fossil fuels, institutional and regulatory barriers, lack of federal and regional renewable support programs, lack of infrastructure, inadequate scientific and technical support to design and use renewable energy power generators, and lack of appropriate information support and training.

The Russian Energy Strategy stipulates the development of new capacities for renewables, and at the same time the gradual reduction of subsidies for all energy sources. This will increase the incentives for investments in energy efficiency and the use of renewable energy resources. In particular, areas remote from sources of fossil fuels and being served by very high-priced energy are prime candidates for an enhanced development of local renewable energy.

While the by-laws needed to implement Order 1-p, January 2009, have not yet been adopted, there are several regions that have adopted laws and regulations on renewable energy. Additionally, at the sub-national level there exists a well-developed institutional framework for energy efficiency improvements that can serve as well as umbrella for renewables. Forty-three 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 and energy efficiency 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 (2007 data).

During the period 2002-2009, several programs³ with components related to renewable energy have been implemented with only limited impacts to date. The main reasons for the slow development of renewable energy projects are systemic barriers, the removal of which requires special efforts from the government.

Although some organizations have managed to navigate the complexities of renewable energy project development in Russia, these cases are rare, and developments costly and complex.

The time is now right to address the systemic barriers to renewable energy: there are indications of willingness to address these issues at the highest level, and scope to build on current momentum from addressing barriers to energy efficiency, in part as a result of efforts of the IFC. President Medvedev recently stated (July 2009), during a State Council meeting in Arkhangelsk, "We should no longer burn our energy reserves". Medvedev also called for the enhanced generation of alternative energy, saying that "alternative energy sooner or later will replace hydrocarbons"⁴.

² These figures come from the 8 January governmental decree. According to the decree, current Renewable Energy generation is 2.2GW; 4.5% of 550GW (which is the estimated total installed capacity in 2020 according to government plans) is 24.75GW, and therefore, the new installed capacity for Renewable Energy is estimated at approx 22GW. The Russian government's target is based on the percentage of energy production, not installed capacity, and production has thus been used for the calculations given in Annex B

³ e.g. "Energy-efficient Economy", "South Russia", "Ecology and Natural Resources of Russia", "Studies and Research under the Priority Directions of Science and Engineering", and "Economic and Social Development of the Far East and Transbaikalian Region", "RusHydro / New Energy Fund programme on small hydropower development"

⁴ <http://www.barentsobserver.com/medvedev-highlights-energy-saving-alternative-energy.4612432-116321.html>

The following barriers impede the development of renewables in Russia:

Lack of effective regulatory frameworks

Despite recent developments of the major legislative directions including a target of 4.5% for renewable energy by 2020, there is a significant gap in regulations in order to foster the market development of renewables. There are many measures proposed by different agencies, but to date, most have failed to achieve their purpose. It has been difficult to develop a national renewable electricity policy in the Russian Federation for several reasons, including the following:

- Responsibilities are fragmented between agencies and ministries with the lead recently shifting to the State Energy Policy Department within the Ministry of Energy from the Ministry of Economic Development. Other relevant stakeholders that have an important role in renewables include the State Duma Committee on Energy, Federal Tariff Agency, and RosHydro, which inherited a mandate for renewables from RAO UES and now implements most renewable energy projects for the state. The Ministries of Natural Resources, Regional Development, Science and Technology, and Agriculture all have responsibilities that relate to (some types of) renewable energy;
- Representatives of electricity generation companies have expressed confusion about how the electricity sector operates in Russia due to the large number of pending changes, and this lack of clarity and transparency is a significant disincentive to investment in new and innovative investment capacity, and it is directly related to the lack of good communication channels between utilities and other potential investors and key decision-making bodies in the electricity sector;
- There is inadequate information for decision-makers on renewable energy resources, especially to derive resource cost curves required to develop national policies, estimate the value of renewable resources to the grid, calculate incremental costs and economic benefits, and set targets;
- There is a lack of federal regulation that institutionalizes incentive mechanisms that are necessary for renewable energy to compete with traditional generation sources, which are often subsidized. Mechanisms such as tax incentives, portfolio standards, feed-in-tariffs, and accelerated depreciation. The current subsidy system for fossil fuels and electricity is distorted: it does not reflect the external costs of fossil fuel use associated with environmental damage and it fails to link consumer prices and production costs;
- There is a lack of transparent, predictable, and efficient processes and approvals to ensure that private sector development / investment (e.g., by Independent Power Producers – IPPs) is sufficiently supported, ranging from land leasing to permitting, licensing, and interconnection processes. While, in exceptional cases, some organizations have managed to navigate the process of developing renewable energy projects in Russia, it is complex and highly costly to do so, adding risks, delays and costs to project development;
- Under ‘business as usual’ conditions, the lack of potential cost reductions provides a disincentive to investors. Investment costs are unlikely to fall under these conditions because:
 - There is insufficient competition because the few renewable energy projects to date have been developed at the federal level for smaller hydro projects and under bilateral agreements for wind power projects (with limited sizes and no competition for equipment procurement);

- Price regulation based on debt repayment formulae does not encourage price reduction, and there are front loaded electricity prices for technologies with high capital and low operation costs;
- There is a lack of regional and oblast-level regulation to support renewable energy development and propagation.

Technical constraints

Technical barriers include the following:

- Resource data is piecemeal, inaccurate in many instances, and often not public. Only rough estimates exist on the potentially exploitable renewable resources in most regions.
- There is a lack of information about technologies and opportunities, such as the conversion of existing large fossil fuel-fired boilers to biomass, large-scale biomass co-generation systems, the establishment and operation of modern double-circuit geothermal heat supply systems, and binary low-boiling geothermal power plants;
- The small, local renewable energy industry cannot meet commercial or competitive requirements. While renewable energy technology has advanced significantly worldwide, local production has not kept pace in terms of quality and performance (although it tends to be favored by government support schemes), while the service industry is inadequate to design, engineer, operate, maintain or service installations. The ability of IPPs to develop renewable energy projects and successfully commercialize and monetize the electricity generated, including dispatch processes, wholesale market structure, etc., is limited.
- There is a lack of experience in developing renewable energy projects in Russia outside of the large-scale hydro sector, particularly in the areas of wind power, solar, biomass, and geothermal energy. In order to foster a successful renewable energy market in Russia, there must be sufficient local knowledge, expertise and awareness among the technical community for a variety of renewable resources.

Financial/Commercial barriers

The following financial and commercially related barriers impede the development of renewable energy markets in the Russian Federation:

- Lack of domestic capital and volatile flows of foreign investments: Domestic companies have limited own resources and insufficient access to project financing resources of sufficiently long tenor. Foreign investments are volatile (30% drop in foreign investments in 1st Q of 2009 vis-à-vis 1st Q of 2008) and are discouraged partly by the perceived risky business climate, unstable economic conditions and partly by the lack of strong legal institutions and contract enforcement;
- Lack of longer-term affordable debt financing: Domestic commercial banks are unwilling to lend because investment returns in the longer-term are perceived as being risky (fuel price volatility, etc.) and lack of long term funding.
- Financial institutions are unfamiliar with analyzing the financial aspects of renewable energy investments;

- High project preparation and transaction costs: Project preparation costs accrue prior to – and without the assurance of – obtaining financing for the actual implementation of the project. A lack of demonstration projects increases the transaction costs associated with project preparation;

2. Rationale for IFC involvement

The concept and objectives of the Russia - Renewable Energy Program (RREP) support IFC's strategy to assist the Russian Federation in the sustainable use of its energy resources and related climate change impacts. The program is fully consistent with the World Bank and IFC Country Partnership Strategy (CPS), approved by the Board of Executive Directors on November 20, 2006. The CPS aims to support Russia's increasing global role and assist the country in fulfilling its global commitments, and it refers to technical assistance to support the introduction of low-carbon technologies and climate change mitigation.

IFC is very well suited to implement this Program as it has the following profile:

- (i) significant in-country experience due to well-established financial markets and energy investment portfolios in the Russian Federation;
- (ii) a well-established Advisory Services delivery infrastructure with which to administer the Program; and
- (iii) extensive experience in implementing sustainable energy financing programs.

IFC is already supporting energy efficiency financing in the GEF-co-funded IFC Russian Federation through the Russia Sustainable Energy Finance Program (RSEFP), which provides a wide range of Advisory Services to financial institutions, their clients, and other market players to support investments in energy efficiency. IFC helps financial institutions to develop local expertise in energy efficiency-based lending through product development, advice on transactions, trainings, joint promotional activities, and resource materials. The project also works with end-user companies to assist in analyzing energy efficiency projects under consideration and identifying opportunities to save energy. To encourage growth of the energy efficiency market, the project helps vendors and product developers build relationships with potential clients and with financial institutions. To educate the public about the need for greater energy efficiency, the project also conducts and distributes market surveys and information campaigns. IFC complements these Advisory Services with investment by providing Russian financial institutions with dedicated, long-term, energy efficiency credit lines to promote loan generation.

As of 31 March 2009, RSEFP has achieved the following:

- Five partner financial institutions have launched dedicated energy efficiency finance products.
- RSEFP has enabled financing of more than 100 energy efficiency projects totaling \$92 million through targeted credit lines to partner banks and Advisory Services on energy efficiency. These projects will save \$17.7 million per year in energy costs and reduce CO₂ emissions by almost 2 million tons over the lifetime of the investments.
- IFC energy efficiency financing commitments in Russia amount to \$150 million.
- The joint IFC-IBRD report "Energy Efficiency in Russia: Untapped Reserves", was released in 2008. The paper was designed to provide senior policymakers with a comprehensive analysis of Russia's energy-efficiency potential and give recommendations for tapping into this potential. According to the report, Russia has the potential to save 45 percent of the total primary energy that it consumes.
- Cooperation with the Moscow Department of Fuel and Energy to launch a large-scale social advertising campaign called "Save Energy!" that has helped the Moscow government to develop a systematic approach to promoting energy conservation. The campaign helped to double sales of

compact fluorescent bulbs in Moscow over the course of one year, and it was replicated in other large cities throughout Russia.

In order to ensure the additionality of IFC's role, IFC has initiated and maintained dialogue with numerous development partners, including the IBRD, EBRD, and a number of bilateral donors. These discussions were used initially to identify the role of IFC in augmenting ongoing work. This dialogue has since been used to ensure that all stakeholders are aware of the project goals and activities.

The World Bank Group in general and IFC in particular have made mitigating climate change a key strategic pillar. As IFC develops the role in this emerging field, it is clear that the Sustainable Energy Finance product is an IFC product that has gained traction around the world, showing success both in the region and within the Russian Federation. The product also clearly addresses two of the priority Climate Change Mitigation areas: Energy Efficiency and Renewable Energy.

This program enables IFC and the EBRD to make further use of its experience and expertise as a leading catalyst in encouraging greater energy efficiency in developing economies and the use of renewable energy to displace fossil fuels where there is a clear, robust business case for it, and mainstream this experience into the commercial banking sector.

3. Higher level objectives to which the project contributes

The Project's *global environment objective* is to reduce greenhouse gas (GHG) emissions on a continuous basis by overcoming barriers to the development of renewable energy.

The proposed project is consistent with GEF's Strategic Program 3 on Renewable Energy, which aims at promoting market approaches for renewable energy in grid-based systems. The project will emphasize technical assistance to support adoption of on-grid renewable policy, and related policy reform and regulation, and will address business and information barriers to market growth and private sector investment. In addition, this project will focus on maximizing replication potential through facilitation of investments aimed at stimulating the market for specific renewable energy technology.

PROGRAM DESCRIPTION

1. Program summary

This five-year GEF co-funded "Russia – Renewable Energy Program" aims to facilitate a sustainable market for renewable energy in the Russian Federation by supporting the development of enabling policies, institutional capacity, market facilitation and financing.

The program will be implemented within three components, namely:

Component 1: Regulatory and legal environment development addressing key legal and regulatory issues, in particular the incentive frameworks for renewable electricity. Sub-components will include Improving the information basis for policy development (1.1), Support to multi-agency working group on renewable energy legislation (sub-component 1.2), Consultation, consensus building and awareness creation (1.3), and Development of supporting policies and bylaws (1.4).

Component 2: Market capacity development will address market feasibility and removal of barriers related to the market infrastructure for various renewable energy technologies, and the applicability of those in Russia. To ensure that the actions are not overly diluted these activities will focus on 2 to 3 selected program regions. Sub-components include Renewable energy resource assessments (2.1), Contract and legal support to investors (2.2) and Development of Market Infrastructure (2.3).

Component 3: Renewable energy financing, addressing availability of financial products needed by renewable energy developers and investors such as long term financing and the requirements to enable these products to be offered on the market to IPP's and other investors/developers. Sub-components include Capacity building in the banking sector (3.1) and Financing facility (3.2).

The delivery of the three components is shown in the Gantt chart below:

	Year 1				Year 2				Year 3				Year 4				Year 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Component 1: Regulatory and legal environment development																				
1.1 Improving the information basis for policy development																				
1.2 Support to multi-agency working group on renewable energy legislation																				
1.3 Consultation, consensus building and awareness creation																				
1.4 Development of supporting policies and by-laws																				
Component 2: Market capacity development																				
2.1 Renewable energy resource assessments																				
2.2 Contract and legal support to investors																				
2.3 Development of market infrastructure																				
Component 3: Renewable energy financing																				
3.1 Capacity building in banking sector																				
3.2 Financing facility																				
-- preparation																				
-- implementation																				

2. Program development objective and key indicators

The development objective of the project is to facilitate a sustainable market for Renewable Energy 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 small hydro, biomass, solar, wind and other renewable energy for 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.

Improving the market framework for renewable energy based power and heat production and the implementation of viable renewable energy projects will help accelerate the use of renewable energy and build competence in the private sector to invest into this resource.

Key program outcomes/impacts are:

- GHG emission reductions (CO_{2eq}) (target: 5 million tons as a direct result of this project over a 20-year investment lifetime), indirect GHG emissions reductions have been estimated to be between 20 and 200 million tons.
- Introduction of an enabling regulatory and incentive framework for renewable based power,
- Total number of renewable energy projects reaching financial closure (target: 30),
- Investment facilitated into renewable energy projects (target US\$ 366 million),
- New renewable power generation capacity installed (MW_{el}) (target: 205 MW_{el}),
- Total amount of electricity additionally generated (GWh) from new renewable energy installations (Target: 770 GWh / year by 2015).

3. Global Environment objective and key indicators

The global objective of the project is to reduce the emissions of GHG by removing barriers to the development of markets for Renewable Energy .

Key indicators are GHG emission reductions (CO_{2eq}) (Target: 5 million tons over 20-year investment lifetime as a direct result of this program).

Detailed information is available in the Incremental Cost Analysis given in Annex C.

4. Project components

The project design will include three major components, each of which has a number of sub-components. These are described in detail in this section. The components are:

- *Component 1: Regulatory and legal environment development,*
- *Component 2: Market capacity development, and*
- *Component 3: Renewable energy financing.*

To ensure effectiveness of market development activities the program will focus on two to three regions selected on a voluntary basis, to pilot the development and implementation of market support and financing activities. While component 1 will mostly take place at a federal level (with sub-component 1.3 aiming to provide a bridge between federal legislation and legislation at the regional level), components 2 and 3 will focus on the selected regions and selected projects. Regional governments will be offered incentives such as: assistance to set up monitoring systems and enforcement procedures; early grant assistance for resource assessment and, if required, feasibility studies to develop renewable energy according to international best practice.

Component 1: Regulatory and legal environment development US\$3.848 million, of which US\$3.2 million from GEF, and US\$635 thousand counterpart funds

This component will address key legal and regulatory issues including: incentive mechanisms; the analysis and subsequent promotion of various options such as tax incentives, feed-in-tariffs, accelerated depreciation; transparent, predictable, and efficient processes and approvals related to land leasing, permitting, licensing, and interconnection processes to enable private sector development/investment (e.g. by IPPs); and regulation specific to renewable energy that is required at the regional (okrug) and provincial (oblast) level, which may require support in development and propagation.

There is wide scope for IFC to play both a convening and catalytic role in the renewable energy sector. With climate change as one of the World Bank Group's strategic pillars, IFC's significant exposure in the infrastructure sector, existing transaction advisory mandate to attract private capital in areas where the potential for renewable energy use is large, and ongoing advisory programs on energy efficiency finance, IFC is in a strong position to shape the regulatory framework for renewable energy in the Russian Federation.

In order to successfully achieve investment in renewable energy in Russia, within the time frame of the RREP program, it will be necessary to achieve the appropriate regulatory reform at a federal level, and within a few selected regions within the first 2-3 years of the program.

The program will focus providing strategic support on the following key legal and regulatory issues:

- regulation that institutionalizes needed incentive mechanisms to allow renewable energy to compete with, often subsidized, traditional generation sources; including the analysis and promotion of various options such as tax incentives, subsidies or feed-in-tariffs, accelerated depreciation;
- transparent, predictable, and efficient processes and approvals related to land leasing, permitting, licensing, interconnection processes, etc., to ensure that private sector development/investment (e.g. by IPP) is sufficiently supported;
- renewables-specific regulations related to the above issues that are required at the regional (okrug) and provincial (oblast) level, and potentially at local level.

Sub-components addressing the regulatory and legal frameworks will include:

1.1 Improving the information basis for policy development

Support aimed at improving policy development by analyzing the justification of renewable energy development in economic terms, identifying the environmental benefits and other externalities, presenting policy analysis on the trade-offs involved in using different instruments such as portfolio standards, green certificates, feed-in tariffs, and tax incentives;⁵ analysis of resource cost curves and value of renewable electricity to the grid (avoided cost), and economic and financial analysis to assist in setting incentive levels and targets.

1.2 Support to multi-agency working group on renewable energy legislation

A multi-stakeholder working group, or Advisory Committee, providing for balanced input to these decisions and anticipated new laws, will support the Ministry of Energy's decision-making and implementation process for the creation of a renewable energy incentive framework. This working group will be coordinated and supported by the RREP.

1.3 Consultation, consensus building and awareness creation

Activities focused on consultation, consensus building and awareness creation will address policy-makers, industry, and other stakeholders, nationally and in the pilot regions, to inform policy development and build support for introduction of policy and legislative frameworks. Activities will ensure that information about opportunities from federal-level legislative developments are communicated to the regions and local legislation aligned with these developments.

Reducing perceived risks in the implementation of sustainable energy programs through awareness raising, monitoring project successes and disseminating information in a targeted and focused manner will encourage more widespread adoption of renewable energy in Russia. By leveraging GEF resources, IFC will play a more proactive role in engaging the wider community in raising awareness of the business case. IFC will develop a communications strategy that will provide accurate information, technical information and assistance, financing advisory and policy facilitation/advice and developing awareness through dissemination of pertinent information. It will support the promotion of the Ministry of Energy's sustainable energy policies and complement the existing activities of government, development agencies and the private sector in the renewable energy field. It will also work closely with development partners

⁵ Although the Government of Russia has preliminarily decreed that it will use feed-in-tariffs as the chosen incentive instrument, the tariffs will be available only to a shortlist of approved organisations. Further policy development work will apply to a broader and more accessible incentive framework which would maximize value for money and economic benefits.

(e.g. IBRD, EBRD, EU and others, with whom discussions have been on-going) to coordinate our efforts in this area.

The major activities will be designed to lead awareness-raising on the business case for renewable energy projects through documentation of success stories globally and within the Russian Federation during the project implementation to learn the experience and lessons within and outside the Russian Federation. This awareness-raising will inform and strengthen the policy and legislative development.

1.4 Development of supporting policies and by-laws

This sub-component will encourage investment in renewable electricity, especially by the private sector by addressing supporting policies and legislative frameworks. This sub-component will aim to provide information for decision-making on streamlined approval procedures, appropriate power purchase agreements and pricing arrangements, etc. Efforts will support the relevant government agencies in mapping out and streamlining the regulatory requirements needed to obtain the necessary renewable energy permits and consents.

The sub-component provides assistance in developing Russian technical regulations and by-laws for design and operation of Renewable Energy facilities, since this can significantly reduce transaction costs for these projects at the design stage. International standards will be used as a basis.

This sub-activity will also provide technical assistance to help improve the national methodology which assesses GHG emissions and absorption. The RREP technical assistance contribution to this methodology will focus on the possible introduction of the GHG emission reductions targets for newly constructed and existing power generation facilities and the contribution of renewable energy toward meeting those emissions reductions targets.

Component 2: Market capacity development US\$3.66 million, of which US\$2.8 million from GEF, and US\$900 thousand counterpart funds

Overall, RREP will address market feasibility and the removal of barriers related to the market's capacity, knowledge and ability to maneuver within the power infrastructure for various renewable energy technologies. To ensure that these actions are not overly diluted, these activities will focus on two to three selected program regions (oblasts). These regions, although not currently selected, will be defined based on several key criteria such as:

- The region's demonstrated interest to participate in the RREP program expressed by i) letter of interest, ii) allocated resources to program objectives, iii) readiness to implement demonstration projects;
- power prices in the region that would contribute to increased economic viability for renewable energy with the support of the incentive framework;
- availability of renewable resources in the region: type, amount, and quality of renewable sources located within the region (based on readily available information);
- existence of ongoing initiatives promoting power generation with renewable (local) sources of energy;
- IFC additionality: is the region considered a location in which IFC can play a catalytic role and meet the 'additionality' criteria according to IFC's classification?

Activities under sub-component 2 will be implemented within the context of concrete investment opportunities (i.e., abstract assessments will not be supported; only those which are likely to lead to direct investment opportunities will be included).

Envisioned sub-components include:

2.1 Renewable energy resource assessments

Under this sub-component, funds will be used to carry out targeted resource assessments and make resource information available to potential investors. Resources will be quantified in terms of gross, technical, and economic potential; assessing the most feasibly and commercially realizable renewable energy technologies, in a scalable way; the geographical distribution of renewable resource rich areas providing accessible information to market participants, and focusing proposed demonstration projects on the most viable technologies. Databases on selected resources and relevant grid characteristics will be made available to encourage renewable energy development and investment.

These resource assessments will be carried out for the regions selected as above, and be applied in a logical way to the renewable energy resource. For example, these activities would include overlaying existing information (or information readily available by remote sensing), on SHPP resource locations with available transmission/distribution networks, as an inventory of concessions for development.

2.2 Contract and legal support to investors

Best practice templates for contracts developed within the framework of the GEF medium-scale project “Developing the Legal and Regulatory Framework for Wind Power in Russia” will be updated to reflect the emerging renewable energy policy frameworks, and put into use. For other technologies (for example biomass where there are air pollution, fuel storage, and waste management issues to be addressed), where there are differences, these will be adapted to meet the particular needs. In addition, IFC and the World Bank have specific experience, in multiple countries within the region and worldwide, with the legal and contractual process of tendering and awarding small hydro power plant (SHPP) and other concessions⁶. This experience highlights some of the challenges and inefficiencies of normal tendering process, which prevent the development of SHPP and other renewable resources once they’ve been awarded to developers (e.g. projects tend to be over-engineered, developers under price in their tender submissions, tariffs are insufficient to make the projects economical, interconnect processes are unclear or undefined etc). It is anticipated that for each technology type in a region the legal, procedural and regulatory issues will be common so only need describing once, and made available for use as a template.

Analysis might include:

- Land Use, Building and Planning Issues: the legal basis on which renewable energy projects are able to enjoy use of land and the commercial models used to give effect; approval and planning processes including building permits and other required permissions and how these are granted;
- Environmental Issues: the legal basis and process for environmental assessment and approval of renewable energy projects;
- Licensing: the legal basis and process for application and award of licenses for generation of power (and heat) from renewable energy sources;

2.3 Development of Market Infrastructure

This sub-component will focus on building capacity of:

⁶ The standardized purchase agreement approach has adopted in several countries that have led to streamlining project development and reduced time and transaction cost. A summary is available here <http://esmap.org/filez/pubs/KES7.pdf>. The same approach is now being applied successfully in Vietnam and Tanzania.

Developers: Building know-how for those developing renewable energy projects to navigate the power market, to help them to understand the processes for and pathways to participate in the renewable energy market in Russia. The project sponsors identified under sub-component 2.2 have emphasized that they will require agreements with regional or federal authorities and electricity companies and local distribution companies to address grid connection and renewable energy “must-take” arrangements, and need support in how to do this effectively.

Power market: Supporting capacity of the power sector utilities and grid operators in relevant areas where investments are considered / in focus regions, to accept developers into the network including interconnecting renewable energy and integrating renewables into loads. This capacity building would also raise awareness on emerging tactics to integrate increasing proportions of renewable energy into grid systems, including tools and techniques such as dispatch methods, competitive renewable energy zones, balancing, and forecasting.

Other service providers: Selectively supporting service providers to improve quality and cost effectiveness of design, engineering, construction, commissioning, to operations, maintenance, rehabilitation and decommissioning.

Component 3: Renewable energy financing US\$143 million, of which US\$3 million from GEF, and US\$140 million counterpart funds

Component 3 aims to address barriers to renewable energy financing and will consist of two sub-components:

3.1 Capacity building in the banking sector

While a number of commercial renewable energy projects in Russia may currently be cost-effective, the technology and business models are not widely available nor understood by investors.

In preparation of the RREP a survey was carried out of Financial Institutions (FIs) and their experience with and knowledge of renewable energy. Partner-banks of IFC RSEFP program on energy efficiency proved to be most responsive and interested in the topic of Renewable Energy, with other banks also expressing interest in entering this market. A number of banks already have instruments that could be applied to renewables projects (developed with the help of RSEFP), which are based on long-term funding provided by IFC or other Financial Institutions. Debt financing is the only available instrument for financing of renewable energy projects, and only one bank has renewable energy projects of over 1% of its portfolio. Lack of experience in renewable energy, perceived or real poor commercial viability, and lack of desired clients and investors are the main barriers seen by the banks. Smaller regional banks see projects of up to \$1m as optimal, whereas larger banks are willing to deal with larger projects (up to \$5m).

All banks expressed an interest in receiving additional information about financing renewable energy projects.

During the RREP, IFC expects to engage with 3-4 FIs to start work in renewable energy to support investments in renewable energy, cultivate increasing expertise in renewable energy and participation in renewable energy projects. By accessing GEF funds, the program will have the capacity to provide the necessary advisory and financial products to appropriate FI partners.

Based on current engagements and client needs, IFC will undertake the following activities:

- a) Support in market identification, such as: detailed research and providing technical support to profile target segments, identify potential borrowers, profile projects, and define risks. This

- work will be formally co-ordinated with the project component on economic and technical analysis in the selected regions.
- b) Support in deal origination, such as: assisting in the identification of sources of deals in the market (such as IPPs, equipment vendors, end-users, utilities, etc.) and assisting in product development and promotion. In addition to ensuring a sustainable deal flow in the market, where required the program will also engage end-users, equipment vendors, and energy service companies to develop the necessary awareness and capacity to expand the number and quality of sustainable energy deals originated. A key lesson from prior programs, particularly the China Utility Based Energy Efficiency Finance Program (CHUEE) and RSEFP, is the important role building project pipelines plays in encouraging full commitment from FI partners to invest in the program and mobilize internal resources.
 - c) Support in capacity building, such as training for deal origination teams and in conducting due diligence on projects etc.
 - d) Development and dissemination of software tools such as RETScreen⁷ to evaluate renewable energy projects.

IFC will require that FIs pay a portion of the direct costs associated with delivering the advisory service. This approach has already been successfully tested in Russia under the RSEFP, and is in accordance with IFC's Pricing Policy for Technical Assistance and Advisory Services (see Annex E). This pricing policy is based on two main principles: that subsidy levels should balance public benefits (for which subsidies could be justified), and private benefits (for which client contributions are justified); and that some level of client contribution will often be appropriate to strengthen commitment.

3.2 Financing facility

As mentioned previously, the Russian Government estimates that the investment requirement for renewable energy projects up to 2020 is approximately \$44 billion. This figure represents the funds necessary to achieve the target of 4.5% of electricity generated from renewable sources by 2020. If even a portion of this investment is made it is essential for financial institutions, in particular, to actively engage in this market segment to increase the overall level of investment in renewable energy.

IFC focuses on maximizing energy access while minimizing GHG emissions and emphasizes investments which (i) promote energy efficiency in generation, transmission and end-use and (ii) prioritizes renewable energy within its generation investments. IFC's Road Map FY2009-2011 commits to "triple its total renewable energy/energy efficiency (RE/EE) investments from the US\$1.1 billion invested [globally] in FY2005-2007". High prospects of the Russian renewables sector with estimated investment requirements of \$44 billion throughout 2020 provide a room for IFC involvement and support.

IFC has a critical role to play in facilitating private sector investments in the emerging renewable energy markets by sharing knowledge, providing environmental, technical and financial expertise, as well as extending long term financing. The financial arrangement described in this section derives from this analysis of: market potential, IFC's ability to deliver a meaningful financial product, the bilateral donor funds that IFC can mobilize through its various Trust Funds; the funds that GEF can provide for incremental costs that cannot be borne by IFC or other market players.

IFC will support the Russian renewable energy sector with a range of financial instruments and advisory services, including the following:

1) Direct financing by IFC. This type of financing could consist of direct equity, quasi-equity, debt, guarantees, integrated carbon finance and any combination of these options. IFC would consider

⁷ RETScreen is a software tool to evaluate renewable energy projects partly funded by the GEF:
<http://www.retscreen.net/ang/home.php>

greenfield opportunities and expansion projects. Depending on the project type and risk profile, the investments may be structured as project or corporate financing. There is no established limit to the project size (both lower and higher end) although these projects tend to be 'larger' projects, greater than \$5 million. Advisory Services would then be provided directly to project developers/recipients of financing. It is also important to mention here that direct investment by IFC (and other IFI/FI's) will be likely only after the appropriate renewable energy incentive legislation is in place which would allow renewable energy to be economically viable.

Globally, IFC priority sectors in Renewable Energy - biomass, hydro, wind, biofuels, geothermal and solar PV – have been identified based on the combination of expected market growth, stage of technological development, cost competitiveness and IFC investment experience.

Annex D gives an overview of the existing pipeline of projects in the Russian renewables sector. The pipeline is not exhaustive. It was prepared on the basis of pipeline of selected private developers and utilities, and includes some concepts which have been discussed extensively in the past, but have not been developed because of the systemic market barriers that will be addressed in the RREP. The total cost of the pipeline projects is estimated at \$2.5 billion and breaks down into 92% of wind projects, 1% hydro and 7% geothermal and biomass.

There are no projects committed by IFC in the renewable energy sector in Russia to date. IFC considered several renewable energy opportunities in the past but none of them materialized for the reasons of limited economic viability in absence of feed-in tariffs. Given availability of renewable resources in Russia the key areas of focus for Russian renewable energy sector would include: wind, hydro, geothermal and biomass. The existing Russian renewables sector pipeline concentrated in these areas provides a rationale for such focus.

The primary goal is to identify and explore 2-3 opportunities with highest developmental impact, strong demonstration effect and sustainable economics. IFC's approach to the sector would be based on:

- leveraging IFC's ability to extend long-term financing through mobilization of resources from local and international banks, sponsors and other partners;
- enhancement of IFC's role and additionality as a provider of financing to pioneer renewable energy projects;
- support of innovative financing solutions (e.g. PPP's).

During the first years of program implementation IFC will review the potential to identify viable projects and establish direct financing, a credit line or other dedicated financing instrument(s), on its own or together with the EBRD to stimulate the financing of renewable energy projects in Russia.

IFC estimates its potential commitments to the Russian renewable energy sector over the next 5 years at \$50-70 million as direct finance and \$20 million as financing through partner financial institutions⁸. EBRD has indicated a similar level of finance to be made available for investment in renewable under the RREP during the next five years. EBRD and IFC have slightly different business models and experiences and will tailor the financial instruments to be used to match their strengths.

2) *Financing through partner financial institutions*, including:

- a. Using a model similar to the IFC-GEF RSEFP by providing Advisory Services and investment services to partner-banks with focus on reducing transaction costs of renewable energy and

⁸ IFC's decision in relation to financing any project would be subject to the satisfactory due diligence, the project's economic and financial viability, compliance with IFC environmental standards and guidelines, as well as to available headroom/country exposure limits at the time of closing of the transaction. Any investment by IFC would require full appraisal by IFC and the satisfaction of IFC's Management and Board.

helping adjust the risk model for renewables projects based on technical expertise provided. These would be smaller projects with up to 5 years payback.

- b. Working with banks that are experienced in project finance and construction finance transactions by providing Advisory Services for renewable energy project financing.

In discussions with financial institutions during project preparation it was clear that the level of financing provided to date is marginal. The thesis of this program is, therefore, to give financial institutions the tools and confidence to build a renewable energy finance business.

The crisis in the banking sector started in Russia in September 2008 and is still on-going. Although the Central Bank of Russia (CBR) measures, taken in the fall 2008, brought temporary liquidity relief to the banking sector, the situation remains fragile and Russian banks are facing numerous challenges including refinancing of foreign debt and asset quality problems.

Russia's economy, the world's eighth largest according to the International Monetary Fund, is contracting for the first time in a decade as the global recession damps demand for oil and other commodities the country exports. Industrial production contracted last month (May 2009) at a record annual rate of 17.1%. During this crisis, problem assets may reach \$213 billion and Russian banks may have to write off as much as 14% of all loans, or \$80 billion, over the next two and half years.

Russian banks also remain susceptible to liquidity risk as the share of liquid assets excluding banks' liabilities to the Central Bank of Russia (CBR) and the Ministry of Finance (MF) is a mere 6% of total assets, twice lower than in 2007-2008. CBR is the largest creditor of the banking system, accounting for about 12% of banks' liabilities. However, CBR's funding is predominantly short-term, hence, fails to stimulate new loan origination. As a result, banks are reducing lending to SMEs and individual borrowers.

In the current environment, there is a high need for recapitalization. However, many banks' shareholders are not able to inject sufficient funds that may ultimately result in a second wave of the crisis in the banking sector.

IFC has carried out internal discussions to determine the level of appetite within IFC's financial markets department to provide financial instruments to stimulate investment in renewable energy in Russia. In IFC's estimation a well timed intervention that stimulates an incremental investment by financial institutions of \$20 million, over the next 5 years is feasible: there is adequate capacity in the market to supply this level of goods and services, and, there is sufficient interest by the financial institutions known to IFC who, as "early adopters", can pioneer the market development and lead other institutions into this business area thus generating the additional private sector investment demanded by the Government target.

5. Lessons learned and reflected in the project design

There are numerous renewable energy projects and programs implemented in the Europe and Central Asia region and worldwide with the financial support of IFC, World Bank, GEF and others. Examples of such projects include: *Armenia Renewable Energy Project, China Renewable Energy Scale-up Program, Croatia – Renewable Energy Resources Project; Sustainable Energy Project, Macedonia; Turkey Renewable Energy Project; Zakopane Geothermal Project, Poland; Geothermal Energy Development Program for the ECA region (GeoFund); and "Developing the Legal and Regulatory Framework for Wind Power in Russia" project implemented by IFC in 2005.*

An important lesson is that the development of renewables should be part of an integrated energy strategy that reflects the priority given to renewables, e.g. by allowing different tariffs for renewable energy reflecting their environmental benefits and contribution to energy security. The institutional structures should be in place and the policy framework should be clear and supportive of sustainable renewable

energy development. Government commitment is crucial, and should be reflected in consistent sectoral objectives at the regional and national level.

Experience shows that relatively high transaction costs associated with renewable energy project development and financing, the unfamiliar risk for banks and other financial institutions, and the fact that domestic financial institutions often lack relevant experience, expertise, and capacity with regard to project finance as well as an understanding of renewable energy business potential and associated project risk assessment experience.

Review of other renewable energy programs and respective implementation highlights the importance of good project monitoring and feedback systems to address shortcomings and delays quickly, adequate balance between international and local expertise, appropriate project staff, the importance of not taking a piece-meal approach to studies, avoiding fragmentation in sub-contracting, appropriate use of international expertise, and maintaining sufficient flexibility to learn and adjust financing and project implementation mechanisms.

6. Alternatives considered and reasons for rejection

The following alternatives were considered:

- Stand-alone GEF grants for specific regional projects, namely *Karelia – Biomass Project* and a project *on Promotion of Renewable Energy Development in South Russia*. The Russian GEF Focal Point endorsed both projects. However, after consultations with the GEF Secretariat the project team suggested to the Government to place these activities in a more comprehensive country-wide framework to better meet the key GEF objectives of removing barriers to the utilization of environmentally friendly fuels and to the improvement of energy efficiency.
- The following two alternative options for implementing the program were identified and eventually rejected:
 - *Creation of a new institution* dedicated to provide financial support to the implementation of renewable energy project. This option was rejected because of organizational uncertainties and risks of delay in project implementation. Moreover, new institutions created on the basis of grant contributions often fail to sustain themselves after the grant support is discontinued.
 - *Private institution* Under this option the program would be managed from within a local institution that would be selected through a competitive tender. This option was rejected because it would limit access to the program to just one institute.
- *Broader Technology Focus*: Analysis indicates that the greatest potential for displacing gas and coal by renewable energy is in the power sector. Therefore, it was decided to focus on the development of Russia's renewable energy resources for power, especially small hydro power, wind power and biomass and other mature technologies, for grid connection.
- The project team considered and rejected the idea of including heat applications of renewable energy. This involves a different market more related to demand-side management and other energy efficiency concepts. In addition, district heating is tied to a set location since heat cannot be transported effectively over long distances. The location of renewable energy resources may not be coincident with the current placement of heating distribution systems, and could require excessive investment, therefore making the investment uneconomical. Due to these complexities, district heating is not the focus of this program.

A. IMPLEMENTATION

1. Partnership arrangements

IFC is engaging in extensive consultations with local stakeholders. Local stakeholder participation in the Program (in particular related to Component 1 where public policy instruments will be the focus), will be formalized through a Program Advisory Committee that will include representatives from government, developers, financial institutions, transmission infrastructure management, utilities, civil society and the complementary project teams. This list is by no means exhaustive and simply serves to illustrate the profile of select interested parties. Relevant partners will be added as and when they are identified.

Ministry of Energy: The Russian Ministry of Energy, which is partly responsible for developing and implementing Russian renewable energy policy and programs, is the primary government agency counterpart for the Program. During implementation, the Ministry of Energy will be a key member of the program's advisory committee. The engagement with the State Energy Policy Department will be particularly important during implementation of this program because of the role this department has in development of policy.

Market Council: in order to facilitate the development of renewable energy in Russia it is crucial to engage the Market Council. It is a non-commercial body with the mandate to arrange effective operations of the energy system as well as the whole-sale and retail trade of electric energy and capacity. Currently the Council is involved in maintaining the registry of energy utilities and power producers, and the regulation of connection rules, rules of market operation, energy trading, and other normative regulatory and legislative issues.

Ministry of Natural Resources (MNR): Responsible for some aspects of climate change as an issue for Russia at the Federal level, MNR is the GEF national focal point, responsible for environmental protection of Russia's natural resources, and has a stake in how Renewable Energy projects are planned and permitted in relation environmental protection.

RosHydro: RosHydro has inherited a mandate for renewable energy from RAO UES and now implements the bulk of state renewable energy projects. IFC will engage with RosHydro to ensure complementarities and co-ordination of activities.

Regional governments: To ensure effectiveness of market development activities the program will focus on two to three regions selected using criteria described under component 2 above, to pilot the development and implementation of market support and financing activities. While component 1 will mostly take place at a federal level (with sub-component 1.3 aiming to provide a bridge between federal legislation and legislation at the regional level), components 2 and 3 will focus on the selected regions.

Project developers: broadly defined as IPPs which market renewable energy services and equipment through a wide array of business delivery models – represent the primary vehicle (along with financial institutions) through which the Program will be delivered. The Program design directly reflects the needs of project developers, and the market opportunities they face.

During program implementation, program staff or contracted technical experts will provide direct support to these firms, including technical assistance in deal preparations and brokering multi-project and working capital financing arrangements with commercial financial institutions.

Financial institutions: Discussions have been held to date with a number of financial institutions and a survey carried out. Further discussions will be held during implementation of the program when IFC will enter into a competitive process to identify the best match between FI capacity and comparative advantage and the renewable energy market segments where the market is poised to develop. The process is intended to focus the FIs on the market opportunity and mobilize bank management to commit resources to RREP.

Most banks expressed interest in RREP, and they have requested to remain in the pool of banks being considered for partnership with IFC in the development of this market. The banks represent a range of sectoral strengths, consistent with IFC's strategy (and experience in other markets) of working with multiple banks operating in a diverse range of sectors, offering very specific financial products to address niche markets.

Power generation, transmission, and distribution sector, and the wholesale power market administrators: this includes OGK's, and other existing players in the Russian power generation sector, as well as the government owned transmission and distribution network owners/operators, who also manage and oversee interconnection requests and processes.

Multilateral agencies (e.g., World Bank, EBRD, EU etc.): The World Bank and EBRD are currently developing sustainable energy programs that are catered to specific market segments. IFC engaged these organizations in discussions to ensure complementarities between the programs being implemented by the organizations during the implementation. IFC will actively pursue the creation of financial instruments under sub-component 3.3 with the EBRD and other international banks and donor initiatives.

Civil society: Civil society such as the World Wide Fund for Nature (WWF), are active in advocacy related to renewable energy and in proposing approaches to climate mitigation and adaptation.

2. Institutional and implementation arrangements

Advisory committee

A proven technique IFC has employed in regulatory reform, and programs addressing the Business Enabling Environment in the past to ensure balanced input and stakeholder dialogue is to organize an Advisory Committee consisting of representatives from stakeholder groups. In the case of RREP, in the Advisory Committee to be established under sub-component 1.2, those relevant groups would include ministries, government agencies, NGOs, private companies, utilities, and end-user associations with interest in renewable energy project development and finance. The main role of the RREP Advisory Committee is to provide advice and feedback on component 1: Regulatory and legal environment development, in order to design and support implementation during program operations with policy support and by facilitating key partnerships across the market. The Advisory Committee members typically play important roles in promoting and sustaining a favorable policy environment for investments.

The Advisory Committee will be convened quarterly to advise the Program on policy and regulatory issues and promote its coordination with other national initiatives and policies. The first Advisory Committee meeting will be organized after launching the Program.

The RREP Advisory Committee will be overseen by the Ministry of Energy, but coordinated by the RREP Project Implementation Team Office

Project Implementation Team Office

To ensure the necessary responsiveness to the regulatory development, FIs, project developers, IPPs, and other local participants, as conditions change in the Russian market, the Project will be implemented via a Russia-based Project Implementation Team located in the IFC office in Moscow, and eventually, potentially with satellite offices in the regions. The Implementation Team will benefit from cross-fertilization of expertise with IFC's sustainable energy team staff with experience implementing programs in Russia, Central Europe and China as well as working with the World Bank, which is co-located with IFC in Moscow.

The Implementation Team functions and implementation plan will be carried out by core staff members based in Moscow. The Project Implementation Team will be balanced with appropriate resources to

reflect the three Components of the RREP. This will include, in addition to program management resources, expertise in the areas of law and policy analysis, renewable energy, power generation and power market technical expertise, and investment expertise.

In addition, a stable of consultants (managed by the Implementation Team) will be drawn upon to support component work, including analysis that will be done to feed into the regulatory reform, to provide market development support, and to develop the private sector and FIs in developing self-sustaining renewable energy investments, projects and product lines, conducting technical appraisals of projects, and supporting Program monitoring.

Related to component 3, it is anticipated that FI technical assistance may be provided through renewable energy finance specialists co-located at the FI partner facilities and also through one-on-one and group seminars that focus on building capacity to evaluate, profile, and perform due diligence on renewable energy investments as well as develop financing products that are needed by renewable energy investors/developers. FI co-funding resources providing these services, is expected, and may include eventual absorption of renewable energy finance specialists into the FIs' self-funded staff.

Monitoring and Evaluation (M&E) will be supported by an externally-hired independent evaluator. Program monitoring, including the establishment of baselines for each financial institution, will be the primary responsibility of the Implementation Team, with M&E consultant providing validation of the baseline, as well as completing the mid-term and final program evaluations.

It is anticipated that the make-up of the team will vary over time as the various Component deliverables are achieved, and with the fluctuating dynamic of market development. During project appraisal IFC will explore in detail the staffing requirements and refine the implementation plan. The plan will seek to exploit the full capacity of the IFC team in the Russian Federation as well as any synergies with the parallel implementation of the IFC-GEF RSEFP where program documentation, guidelines, and "program technology" will also draw from the work of IFC program implementation staff in China and Central Europe.

The Implementation Team will be responsible for overseeing all the activities of the Program, and be the key point of contact with the Russian Government stakeholders, FIs, IPPs and other local stakeholders, ensuring execution of all aspects of the project. Product structuring and pricing, as well as oversight of the financial portfolio (direct investment, as well as other financial instruments offered to eligible FIs, etc.) will be supported by IFC investment staff with appropriate credit and deal structuring expertise, while IFC advisory staff will oversee the technical assistance offerings.

3. Monitoring and evaluation of outcomes/results

The M&E framework will assess the Program's impact on the development of a sustainable market for renewable power. In developing the M&E plan IFC has drawn on the logframe (see Annex A) to create a results management framework which includes both indicators and targets.

Key program outcomes/impacts are:

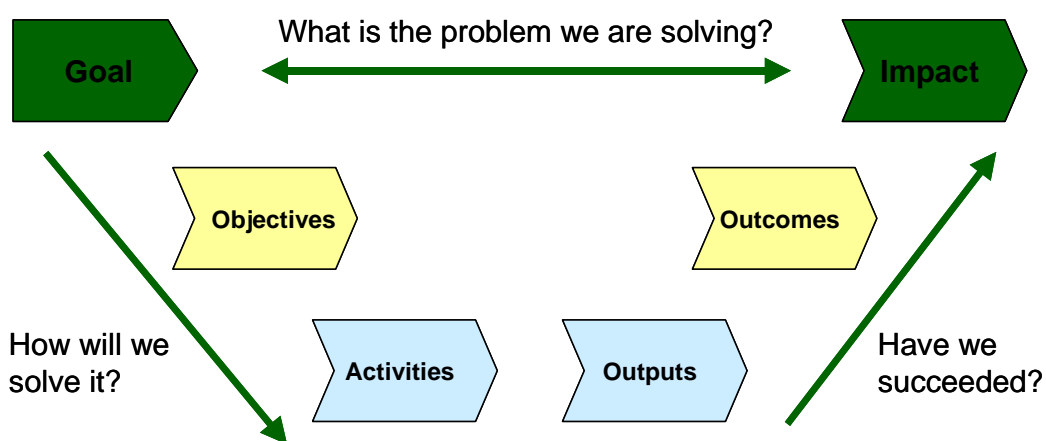
- GHG emission reductions (CO_{2eq}) (target: 5 million tons over a 20-year investment lifetime),
- Introduction of an enabling regulatory and incentive framework for renewable based power,
- Total number of renewable energy projects reaching financial closure (target: 30),
- Investment facilitated into renewable energy projects (target US\$ 366 million),
- New renewable power generation capacity installed (MW_{el}) (target: 205 MW_{el}),
- Total amount of electricity additionally generated (GWh) from new renewable energy installations (Target: 770 GWh / year by 2015).

The basic approach to monitoring and evaluation is shown diagrammatically below. The Program results will be captured on three levels: outputs, outcomes and impact.

Outputs are the direct results of project activities and can normally be measured immediately or in a short term period during the project timeframe. An output, for example, is the number of companies attending a specific training.

Outcomes can usually be observed during the project life and certainly within 1-3 years after the completion of activities. Outcomes measure the achievement of objectives. An outcome, for example, is the specific change that a company attending a training event will finally implement in their operations.

Impact is the desired final change, which measures the achievement of the original project goal and typically can be witnessed within 2-3 years after completion. In some cases, impacts can be measured already during the project timeframe. An example of an impact is the incremental revenue or saving generated in the company thanks to the measures introduced after the training received.



Key performance indicators defined in the logframe will be monitored semiannually during the program implementation. The M&E plan describing the timeframe, responsibilities and method for data collection for each indicator will be developed prior to project implementation start.

Monitoring and evaluation will combine three complementary processes: (i) internal process of capturing short-term operational results; (ii) data collection on market characteristics from official sources and self reporting from participating banks/sponsors' as a part of financing facility monitoring; (iii) external midpoint and final evaluation.

Internal monitoring process

The implementation team will develop and maintain a client database to capture short-term operational results. The database will build on the existing client database used across IFC's projects in the region and adapt the structure to the needs of the program. The database will allow the project to track all services delivered to clients across all three components and serve as a project management tool to track the implementing team's time and resources spent on each type of activity. An example of a list of consultations provided along with details on one sample consultation is presented in the figure below.

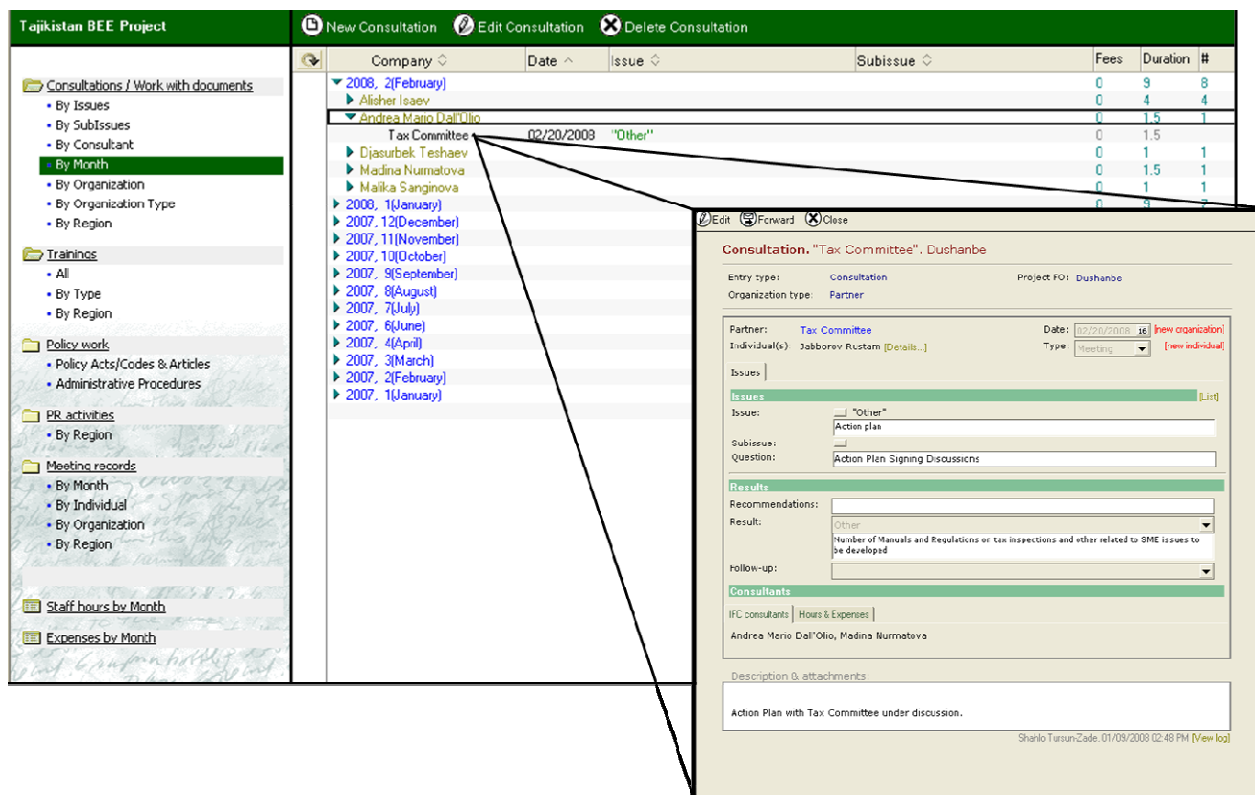


Figure: Sample screen from proposed client database

Data collection on market characteristics and self reporting from banks/sponsors

The project will collect market level data from official sources, partner government officials and agencies on an annual basis in order to track growth in the renewable energy market. In addition banks/sponsors engaged under component three will be provided with a template on data they will report on on a semi-annual basis in order to track the level of implementation renewable energy related policies and procedures and training received by their staff.

Midpoint and final evaluations

The objective of the external evaluations is to provide stakeholders with an independent assessment of the program's progress, results and recommendations on any changes in the project implementation, and in addition capture lessons learned for other initiatives.

The midpoint evaluation's main objectives will be to (i) measure program status with respect to its results based management logframe for outputs, outcomes and impacts (across the indicators, where relevant, measurement will be provided with respect to baseline); (ii) identify opportunities to improve Project execution effectiveness; (iii) refine the initial framework for evaluation being used by the Implementation Team, and (iv) as necessary, recommend adjustments in the Project execution strategy and implementation processes to the Implementation Team. The mid-term evaluation will allow the project team to reevaluate and reassess the overall strategy and make adjustments as necessary to enhance project impact. Some of the key areas of review during the mid-term evaluation would include:

1. Output, outcome and impact achievement; potential for impact given market and regulatory conditions; recommendations for achieving broader development impact; and an assessment of the existing measurement framework and indicators

2. Results from the customer surveys and interviews capturing feedback on level of satisfaction with the Project activities and outcome of advice, training and other assistance provided by the Project. Surveys should include feedback on relevance, value-added, quality of prepared materials and provided services etc.
3. Perception of the Project by other external stakeholders such as relevant business associations, training partners etc.
4. Analysis of program management procedures and administration.
5. Cost efficiency analysis, benchmarking against initiatives of GEF, IFC and/or other technical assistance projects.
6. Lessons learned and recommendations for improvement in Project organization, activities and targets.

The final project evaluation will be performed by the independent evaluator at the conclusion of the Project execution, and will review the similar areas to the mid-term evaluation and measure the Project's direct impacts.

The total M&E costs are estimated at \$300,000. A budget of \$150 000 has been set aside for contracting external monitoring and evaluation contractors. Other costs associated with data collection will be included in the staff costs for team members in the day-to-day execution of their tasks, and, while not tracked separately is likely to account for about \$150,000 during the course of the project.

4. Sustainability and replicability

(a) Sustainability (including financial sustainability)

The Program is expected to be financially and institutionally sustainable. 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 will:

- Influence the regulatory framework to ensure adequate federal/regional support in the form of effective funding mechanisms, electricity buyback policy, preferential taxation, etc. as well as enforcement of environmental regulations;
- Build capacity of federal/regional authorities and local communities through adequate training, technical advice;
- Strengthen the awareness and understanding of the benefits of indigenous renewable energy use for key stakeholders, and their involvement in the above mentioned activities, and
- Build capacity of banks through adequate training and technical advice;
- Create a financing facility to help overcome financial and institutional barriers for renewable energy development.

(b) Replicability

The Program's replicability is ensured by its robust focus on removing barriers to the development of renewables 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.

This program replicates the design and implementation of other programs including the China: Renewable Energy Scale Up Program (CRESP), and it identifies common barriers to the development of renewable energy markets, and sets forth a plan to address those barriers in a systemic way. As a result, replicability is inherent in the design, and potential to replicate in other countries or other regions is certainly possible if not desirable.

The initiative builds on IFC’s experience in Central and Eastern Europe including Russia addressing financing for energy efficiency. IFC’s model in Hungary has proven to be replicable in multiple countries since its inception and it has been replicated in five additional markets (in CEEF), Russia and China. In the RREP, IFC is now developing an important opportunity to innovate in the area of commercial market development for renewable energy. If successful, the project would represent an important model for renewable energy development in other countries and regions.

It is clear, however, that replication will not just happen on its own. IFC will therefore allocate a portion of the operational budget for education activities and information dissemination of targeted stakeholders within the Russian Federation, as well as anticipating emergent opportunities in the other markets where similar instruments might be effective. During implementation the approaches will be developed in such a way as to facilitate replication, through development of, in particular general information, templates, model contracts, case studies, etc., that will be posted to a website giving free access to all interested parties.

(c) Stakeholder Involvement

To ensure adequate development impact, the implementation of the Program will be based on broad stakeholder involvement, including actors in the relevant sectors, such as the electricity sector, and potential suppliers of biomass feedstock in the case of biomass projects in Northwestern Russia. On the federal level, the Ministry of Energy, Ministry of Natural Resource, as well as institutions and organizations under their administration will be project 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 the private sector (commercial banks, engineering and consulting companies, equipment producers, etc.).

(d) Exit Strategy

The final exit strategy for GEF funds will depend on the success of the project. IFC will finalize the exit strategy in year 5 of project implementation or when 75% of the combined financing facility 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.

5. Critical risks and possible controversial aspects

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

Risks	Risk Mitigation Measures	Risk Rating with Mitigation

Government's commitment to national policy for renewables and to streamline state/local decision-making fails over time; or inappropriate / inefficient legislation is passed.	Carry out research to provide economic justification for renewable energy development and its importance for Russia's long term development goals; Reinforce capacity in the Ministry of Energy and other ministries, to develop procedures to streamline decisions affecting renewable energy implementation within Government structures. Monitor and evaluate progress of regulatory reform, and adjust strategy as necessary to enhance effectiveness. Maintain policy dialog with all stakeholders to ensure commitment to reform.	Substantial
The current financial crisis is protracted and private sector funding remains severely constrained	The strategic programs and targeted federal spending through incentive mechanisms, which will be addressed in component 1, could alleviate this risk.	Modest
The private sector will not be willing to invest in renewable energy projects	Support legislation to ensure adequate feed-in tariffs or similar price incentive. Technical assistance to local FIs to enable optimal financial intermediation through appropriate financial support instruments	Modest
Investors from outside Russia perceive the Russian market as highly risky	The involvement of IFC (and potentially other development banks such as the EBRD) bring reassurance to investors	Modest
Overall Risk Rating		Modest

Risk ratings:

High Risk (H)	Greater than 75% probability that the outcome/result will not be achieved
Substantial Risk (S)	Probability of 50 – 75% that the outcome/result will not be achieved
Modest Risk (M)	Probability of 25 - 50 % that the outcome/result will not be achieved
Low or Negligible Risk (N)	Probability of less than 25% that the outcome/result will not be achieved

ANNEX A: PROJECT RESULTS FRAMEWORK

OUTPUT		OUTCOME	IMPACT
<i>Objective 1: Support development of legal and regulatory environment enabling RE in Russia</i>			Strategic GEF Priority
Implement federal RE framework law	Completed assessment of global best practices of RE policy frameworks (Target: 1 report, covering minimum 6 countries, 2 in emerging markets)		
To improve the info basis for law development	Multi-stakeholder working group is established and meets quarterly (Target: 8 meetings over 2 years)	RE framework law adopted (Target: 1 law, addressing minimum 4 of 9 RE technologies)	Total renewable power generation capacity installed (MWel). Target: 205 MWel by 2015
To support multi-agency working group on RE legislation	Working group is composed of representatives of diverse stakeholder groups including NGO's, regional and federal government, IPP's, other players in power market etc (Target: minimum 5 stakeholder groups represented)		
	Federal RE framework law(s) drafted, based on best practice, and broad stakeholder input (Target: 1 law; enabling economic viability of a minimum of 4 RE technologies of the 9 RE technologies listed in Decree 250-FZ)		
	Complete an inventory of relevant bylaws requiring development or reform (Target: 1 report)		Total renewable power generated (GWh). (Target: 770 GWh by 2015)
To support development of related policies /by laws	Complete assessment of global best practices of RE bylaws (Target: 3 reports)		
	Number of by-laws drafted per RE technology. (Target: 24; Baseline: unknown)	Federal bylaws enabling/supporting RE adopted (80%)	
To raise awareness on RE laws through consultations and educational events	Number of participants in regulatory related workshops, training events, seminars, conferences, etc. (Target: 1000 unique participants)		
	Number of participants reporting satisfied or very satisfied with regulatory related workshops, training, seminars, conferences, etc. (Target: 80% of participants)	Number of companies pursuing interest in RE following on from awareness campaigns and other RREP activity (Target: 100; Baseline: unconfirmed)	Total CO2eq emissions avoided as a result of the installation of renewable energy. Target: 4.6 million tonnes over 20-year investment lifetime
<i>Objective 2: Support development of market knowledge and capacity in power market for RE technologies in Russia (focusing on 2-3 selected regions)</i>			

To assess RE resource in the selected regions and make info available to investors	4 RE resource types are mapped/inventorized in each of 3 selected regions (Target: 12; Baseline: unknown)	Number of regions adopting RE enabling by-laws (Target: 3; Baseline: unknown)	
To create and improve RE guidance documents and public templates	Number of accessible RE guidance documents and contract templates drafted and translated (Target: 8; Baseline: 3 wind energy templates from former GEF project)	Development cycle streamlined: reduced average time to complete development cycle of RE projects (Target: 3 years; Baseline: ~6 years+)	Investment facilitated into RE projects from IFC/ EBRD as well as project sponsors. Target: \$366M
To raise market awareness and build capacity in RE	Number of RE publications by project (Target: 3)	More RE projects in development. (Target: 150 by year 4; Baseline: unconfirmed)	
	Number of participants in power market related workshops, training events, seminars, conferences, etc. (Target: 1000 unique participants)	Number of active RE industry networks/associations (Target: 4; Baseline: 2 - wind & solar)	
	Number of participants reporting satisfied or very satisfied with power market workshops, training, seminars, conferences, etc. (Target: 80% of participants)	Number of existing Russian power generation companies developing RE projects (Target: 6; Baseline: 1)	
	Percentage of participants in capacity building events which are IPP's or developers (35%)	Number of Russian based firms providing RE services: law firms (Target: 30; Baseline: unknown) engineering firms (Target: 30; Baseline: unknown) construction firms (Target: 10; Baseline: unknown)	
	Percentage of participating IPP's or developers which are non-Russian (Target: 20%)		

Objective 3: Support development of RE financing, including through local FIs

To build capacity on RE finance product in the local banking sector	Number of domestic banks attending capacity building events. (Target: 10)	Number of banks offering RE related products. (Target: 6; Baseline: 1)	
To support the development of RE financing facility	Number of workshops delivered to banks (Target: 5)	Amount of money disbursed by IFC and EBRD in RE by project close (Target: \$112M = 80% of 140M)	Number of RE projects receiving financing (including IFC and EBRD and other sources). (Target: 30 by project's end)
	Number of participants reporting satisfied or very satisfied with banking training/seminars (Target: 80% of participants)	Number of loans facilitated by IFC/EBRD (Target: 30)	Number of foreign investors or developers active in RE in Russia by project end (Target: 30; Baseline: 2 (unconfirmed))

PROJECT RESULTS ASSUMPTIONS:

- Government will implement an incentive framework which stimulates investments in renewable energy
- Banks and renewable energy service providers will find the line of business profitable
- Implementation of program activities will foster renewable energy and lower CO₂eq emissions
- Regulation currently under discussion is developed with incorporation the support of the program.
- The Program overcomes existing renewable energy market barriers and builds a sustainable renewables market capacity, thus contributing significantly to the GEF's strategic priorities and to IFC's development mission.
- The barriers we identified are indeed the principal constraints to growth in this area.
- There is no major deterioration in the macro economic climate, and Russia emerges from the current financial crisis within the next two years.
- With effective financial and economic assessment and awareness creation the Program can 'make the business case' for investing in renewable energy.
- Institutional and political barriers can effectively be overcome through information and co-ordination activities
- With effective market support barriers to investment can be sufficiently reduced to make the investment profitable.
- Through a process of 'on the job' training, Banks can learn to finance and project developers can learn how to obtain financing for renewable energy transactions.
- Thanks to this training, they will remain active renewable energy market players beyond the Program's term.
- Banks will finance more renewable energy projects if they are provided with long-term capital, a risk management tool, and training. Eventually, these banks will no longer need the Program's support to continue financing renewable energy transactions beyond the Program's term.
- Macro economic conditions are such that investment in renewable energy continues to be attractive, and banks have capital for investment.
- The program's inputs and timeframe are sufficient to achieve its objectives.

PROJECT RESULTS FRAMEWORK REVIEW:

The currently proposed project results framework will be evaluated within the first 6 months after project start up in order to assess how realistic are the results framework metrics outlined in this program. This evaluation will relate to, among others: availability of data, feasibility of collecting data on a regular basis, relative accuracy of sources of data, and how well the metric reflects the growth and success of the Russian Renewable Energy Market. These metrics will be evaluated by all program partners including World Bank, IFC and EBRD.

ANNEX B: PROJECT BUDGET

Component	GEF Financing		Co-Financing		Total (\$)
	(\$)	%	(\$)	%	
1. Regulatory and legal environment development	3,213,000	83%	635,000	17%	3,848,000
2. Market capacity development	2,760,000	75%	900,000	25%	3,660,000
3. Renewable Energy Financing	3,027,000	2%	140,000,000	98%	143,027,000
Project Management	1,000,000	44%	1,250,000	56%	2,250,000
	10,000,000		142,785,000		152,785,000

ANNEX C: INCREMENTAL COST ANALYSIS

Introduction

The Russian Federation has significant renewable energy resources, but they play limited role in the country's energy balance. Less than 0.5 % of power is currently based on renewable energy.

Although the Energy Strategy until 2020 foresees that large new capacities for utilization of renewable energy 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 renewable energy increased by 50% during this period, but its share in total electricity supply only reached 0.5%.

As discussed in the body of this proposal, the main reasons for slow development of renewable energy projects are systemic barriers, most of which require special efforts to address. These include:

- Legal and regulatory barriers with gaps in regulations and enabling tariffs; 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;
- 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 resulting in long-term reductions of greenhouse gas emissions.

As a result of GEF participation, total funding of US\$366 million will be mobilized in the form of investments. Total funding has been estimated as follows:

Financing instrument	Instrument size	Debt/Equity ratio	Total investment
IFC financial markets	\$ 20,000,000	3.0	\$ 26,666,667
IFC direct lending	\$ 50,000,000	0.3	\$ 200,000,000
EBRD credit lines	\$ 20,000,000	1.0	\$ 40,000,000
EBRD direct investment	\$ 50,000,000	1.0	\$ 100,000,000
TOTAL	\$ 140,000,000		\$ 366,666,667

System boundary

The geographical boundary of the proposed project is the national territory of the Russian Federation.

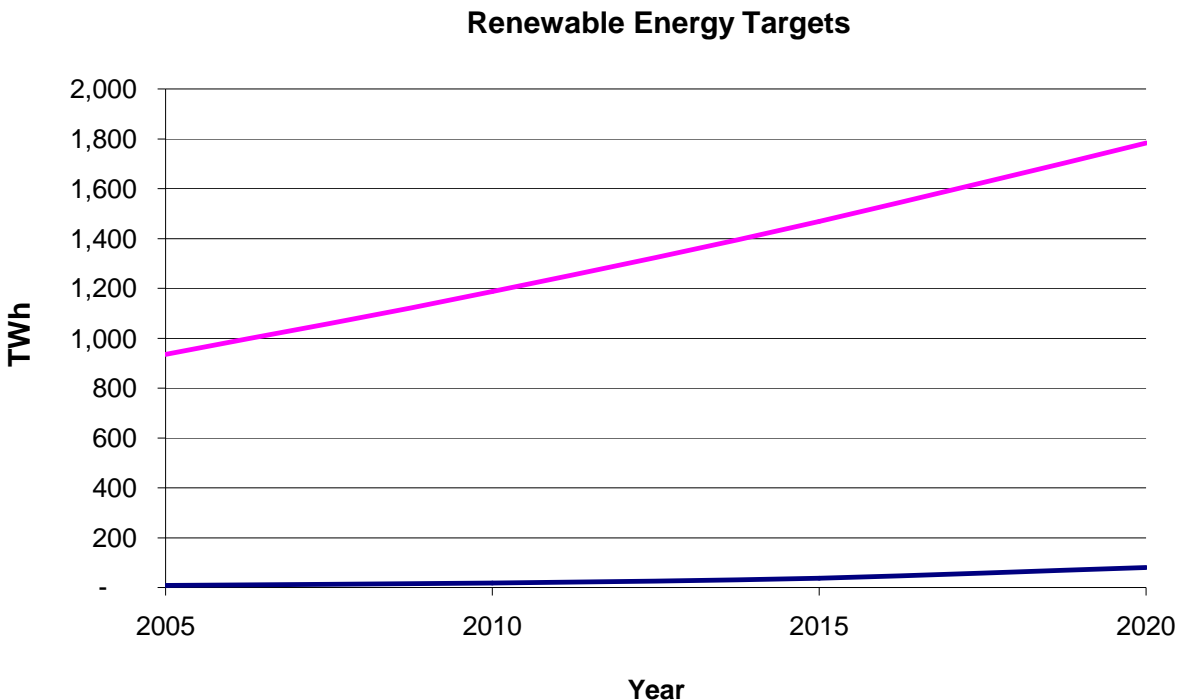
The baseline scenario

The baseline scenario describes the project without GEF support. Presently Russia’s energy sector relies on rich fossil fuel reserves and on the dominant use of thermal power (67%).

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 2008 the Russian Government however published a “Correction to the ‘Energy Strategy of Russian Federation’ to target 4.5 % RE by 2020” and Order 1-p (8.1.2009). This amendment sets the target to the installed renewable electricity capacity (excluding hydroelectricity with installed capacity over 25MW) to 1.5% by 2010, 2.5% by 2015, and eventually 4.5% by 2020, while 2005 electricity generation from renewable sources represents less than 0.5%. Government plans also foresee a substantial growth in total electricity power generation installed capacity up to 2020.

These targets are taken as a possible baseline growth scenario for the GEF RREP. It should however be noted that many commentators, including the team developing this proposal, believe that this target is highly ambitious and improbable given the current speed of market development and policy response.



Greenhouse gas reductions: The greenhouse gas reductions resulting from the electricity under the baseline scenario would result in 26 million tons of CO_{2eq} emission reductions per year in 2020, and assuming a 20 year investment lifetime and linear growth, amount to 520 million tons of CO_{2eq} from 2010 to 2020.

GEF Alternative Scenario

Under *the alternative scenario*, GEF support (along with co-financing) is expected to remove many 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 1: Regulatory and legal environment development: This component will address key legal and regulatory issues including: incentive mechanisms; the analysis of various options such as tax incentives, subsidies or feed-in-tariffs, accelerated depreciation; transparent, predictable, and efficient processes and approvals related to land leasing, permitting, licensing, interconnection processes etc to ensure that private sector development/investment (e.g. by Independent Power Producers – IPP’s) is possible; renewable energy specific regulation required at the regional, and oblast level, that may require support in development and propagation. Sub-components include:

- 1.1 Improving the information basis for policy development
- 1.2 Support to multi-agency working group on renewable energy legislation
- 1.3 Consultation, consensus building and awareness creation
- 1.4 Development of supporting policies and by-laws

Component 2: Market capacity development: Under component 2 the program will address market feasibility and removal of barriers related to the market infrastructure for various renewable energy technologies, and the applicability of those in Russia. Sub-components include:

- 2.1 Renewable energy resource assessments
- 2.2 Contract and legal support to investors
- 2.3 Development of Market Infrastructure

Component 3: Renewable energy financing: Component 3 aims to address barriers to renewable energy financing, and will include 3 sub-components:

- 3.1 Capacity building in the banking sector
- 3.2 Financing facilitation

To determine the emissions reductions resulting from the RREP we have used the project-level calculation formulae provided by the GEF for direct, direct post-project, and indirect CO₂ reductions. The following figures were used as inputs into the emission reduction estimations:

Summary of key figures	
Estimated size of financing	\$ 140,000,000
Average debt-equity ratio from private sector sources	0.62
Total size of investment funds	\$ 366,750,000
Emission factor ⁹	0.327 tCO ₂ /MWh

⁹ Source: RETScreen v4. Figure covers entire power sector and assumes no net GHG emissions from renewables

Estimated Renewable Energy Capacity installed during the project		2015	Cost per kW (USD)	Approx investment size (USD)	Annual CO _{2eq} savings in 2015 (tons)
Small hydro	TWh ¹⁰	0.19			61,313
	MW	45	1 350	60,750,000	
Wind power	TWh	0.36			98,100
	MW	120	1 800	216,000,000	
Geothermal	TWh	0.13			43,600
	MW	20	2 500	50,000,000	
Biomass co-gen	TWh	0.09			29,076
	MW	20	2 000	40,000,000	
TOTAL	MW	205		\$ 366,750,000	232,088

Using the above figures, and assuming a linear investment profile over the 5-year project starting from year 3, projections of emission reductions in the GEF alternative can be estimated.

Direct reductions

The direct reductions that can be attributed to this project are expected to be approximately 5 million tones of CO_{2eq} (savings from investments made during the 5 year project period, with a lifetime estimate of 20 years) as a result of increased uptake of renewable energy through the financing facility to be established during this project. The annual and cumulative emission reductions are shown in the table below.

CO ₂ savings	Annual reductions	Cumulative reductions
Year 1	-	-
Year 2	-	-
Year 3	83,903	83,903
Year 4	167,806	251,708
Year 5	251,708	503,417
Year 6	251,708	755,125
Year 7	251,708	1,006,834
Year 8	251,708	1,258,542
Year 9	251,708	1,510,251
Year 10	251,708	1,761,959
Year 11	251,708	2,013,667
Year 12	251,708	2,265,376
Year 13	251,708	2,517,084
Year 14	251,708	2,768,793
Year 15	251,708	3,020,501
Year 16	251,708	3,272,210
Year 17	251,708	3,523,918
Year 18	251,708	3,775,626
Year 19	251,708	4,027,335
Year 20	251,708	4,279,043
Year 21	251,708	4,530,752
Year 22	251,708	4,782,460
Year 23	167,806	4,950,266
Year 24	83,903	5,034,168
Year 25	-	5,034,168

¹⁰ Capacity factors used to convert MW installed to TWh are: 42% for small hydro, 30% for wind, 67% of geothermal, and 44% for biomass.

Direct post-project emission reductions

Since it is currently not known whether the financing facility to be established by IFC under this program will be renewed, no Direct Post Project emission reductions have been counted in this analysis.

Indirect emission reductions – top down

Starting from resources, and based on assessments carried out by local experts, the market potential for renewable energy over the next 10 years is estimated to be 22 GW. The GHG emission reduction per year would be 26 million tons CO_{2eq}. With a linear growth, and a 20-year investment lifetime, this would amount to approximately 520 million tons. Using a GEF causality factor of 40% since the project impact is considered to be “modest”, the attributable indirect emission reduction impact is 208 million tons CO₂.

Indirect emission reductions – bottom up

Based on a replication factor of 4 and the direct impact of 5 million tons we expect an additional indirect reduction of 20 million tons.

Calculations

The outcome of calculations is shown in the following table:

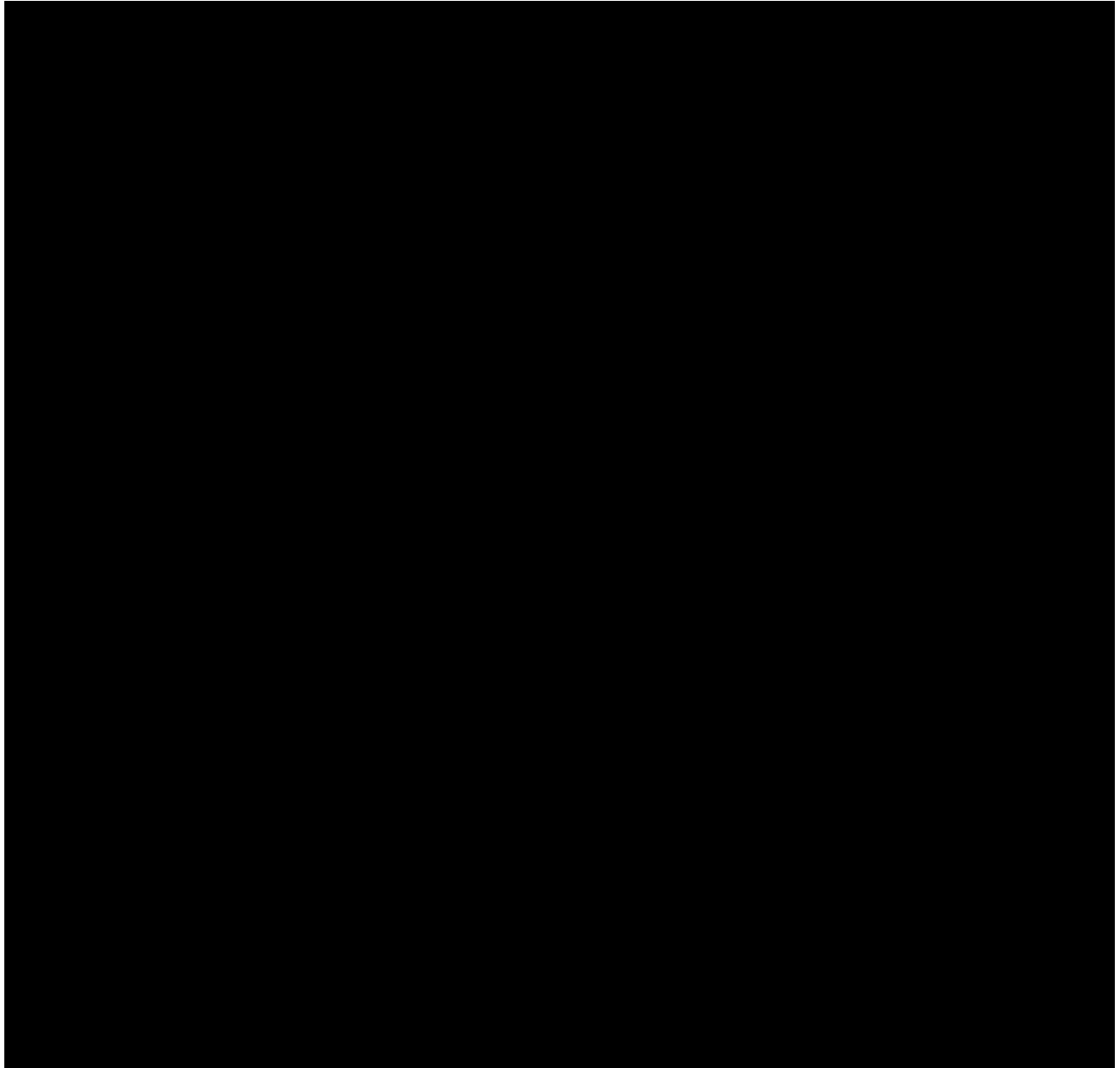
Sources of reduction	Emission reductions (tons CO ₂)	GEF Contribution factor	Total (tons CO ₂)
Direct (5 years)	5,030,000	1	5,030,000
Indirect – top down (10 yrs)	520,000,000	0.4	208,000,000
Indirect – bottom up (10 yrs)	20,000,000	1	20,000,000
TOTAL			5 million to 208 million

Note: in the above table the top-down indirect emission calculations include the project period, whereas the bottom-up figures do not.

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

In addition, 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.

ANNEX D: POTENTIAL RENEWABLE ENERGY PROJECT PIPELINE



Note: Although some of these projects have been identified a number of years ago, they have to date not been developed because of the systemic market barriers that will be addressed in this GEF program. This list is a preliminary list based on existing knowledge and subject to improvement based on analysis to be carried out within the scope of the RREP.

ANNEX E: IFC TECHNICAL ASSISTANCE & ADVISORY SERVICES (TAAS) PRICING GUIDELINES

1. Overarching Principles

The pricing of IFC's TAAS is based on two overarching principles:

- Any subsidies embedded in the pricing of our TAAS should be justified by the balance of public and private benefits reflected in the particular intervention.
- Even when a substantial subsidy is justified, some level of client contribution will often be appropriate to strengthen commitment to implementation.

2. Extent of Client Contribution

The above principles apply to both government and private sector clients. For purposes of illustration, however, it is useful to distinguish between the two categories of client.

2.1 Government clients

- (a) Policy, regulatory, and institutional reforms: TAAS to support policy, regulatory and institutional reforms to improve the business enabling environment can confer broad public benefits. Governments can capture the benefits of such reform through improved social welfare (including jobs and taxes) and so in principle should be willing to pay for TAAS to support reform. In practice, however, governments tend to under-invest in reform due to interest group politics and delays or uncertainties associated with the expected benefits. Governments in low-income countries may also face severe budget constraints.

These circumstances mean that a substantial subsidy is often justified for TAAS aimed at promoting reform, particularly at the diagnostic, advocacy, and consensus-building phases. Given the critical role of commitment to implement the proposed reforms, however, some level of client contribution will often be appropriate to the design and implementation phases of such reforms. The level and form of that contribution may vary according to the issue and client in question, as well as the presence of other objective indicators of client commitment to implementation.

- (b) Public-private partnerships for infrastructure or other public services: TAAS to support public-private partnerships for infrastructure and other public services has the potential to deliver considerable public benefits. Governments capture the benefits of such projects through reduced public outlays and improved infrastructure, which are typically more tangible and immediate than in the case of policy reforms. However, particularly for pioneering transactions, governments may still under-invest in these projects due to interest group politics, delays or uncertainties associated with the expected benefits, or budget constraints.

These circumstances mean that a significant subsidy may be justified to support the design and implementation of transactions, particularly when the transaction is pioneering in the country in question or the client faces severe budget constraints. Even in these cases, however, a significant client contribution will usually be appropriate to strengthen commitment to implementation.

2.2 Private sector clients

- (a) TAAS focused on benefiting firms in general: TAAS intended to benefit firms in general, rather than identifiable individual firms, is difficult to fund through user fees due to free-rider and other

problems. De facto, this means substantial subsidy may be required for activities like broad education campaigns or the development of market-facilitating infrastructure.

When the TAAS in question includes a product or service that can be priced, however, the pricing should reflect the balance between the value captured by the recipients and any broader public benefits. Examples include registration fees for training courses, or the pricing of toolkits or manuals.

- (b) TAAS focused on assisting individual firms without broader public benefits: TAAS focused on assisting individual firms to improve their operating or managerial capacity, or to comply with regulatory requirements, does not typically warrant a subsidy, as the benefits are fully captured by the recipient firm. Except as noted below, the same is generally true for TAAS to help individual firms adopt practices or behaviors for which there is a clear business case, including improved corporate governance, or social or environmental sustainability practices.
- (c) TAAS that confers a mix of private and public benefits: Some TAAS to individual firms involves a mix of private and public benefits, and so merits a partial subsidy.

For example, a partial subsidy may be justified when the intervention has clear demonstration effects that provide benefits beyond those captured by the recipient firm. This will generally require that: (i) the behavior or practice being supported is desirable from a social welfare standpoint; (ii) the behavior or practice is genuinely novel in the particular market; (iii) in view of that novelty, the recipient firm would be reluctant to adopt the behavior or practice without a partial subsidy; and (iv) the general content and results of that behavior or practice will be disseminated to other firms rather than being kept proprietary to the recipient firm. It may thus be appropriate to provide a partial subsidy for TAAS aimed at assisting a firstmover in a particular market to pioneer better corporate governance or sustainability practices, or to pioneer a new market segment with broader public benefits, such as microfinance or housing finance.

Similarly, linkages projects that involve the dominant firm undertaking outreach or related activities that extend beyond those for which it has regulatory obligations or commercial incentives to pursue may also merit a partial subsidy.

When partial subsidy is justified, the extent of subsidy should be based on an assessment of the balance of private and public benefits conferred by the intervention. The starting point should be a 50 percent client contribution, which can be adjusted upwards or downwards based on the expected incidence of benefits. For TAAS interventions comprising multiple components, it will often be appropriate to price each component individually following the same principles.

3. Estimating Costs and Contributions

3.1 Project Costs

For the purposes of these guidelines, the total project costs should include an estimate of the costs of designing, implementing, and supervising the TAAS intervention. This should include contributions from IFC, donors, other partners, and recipients, including an estimate of verifiable in-kind contributions to the TAAS project.

3.2 Client Contributions

Relevant client contributions towards project costs may take many forms. These include: Payments to IFC; verifiable in-kind contributions (e.g., earmarking of dedicated staff or other resources to help implement the TAAS project); and payment towards costs of services provided by a third party.

ANNEX F: MAPS

Map of Federal Regions and OESs



Map of OGKs



Key

- OGK-1
- OGK-2
- OGK-3
- OGK-4
- OGK-5
- OGK-6
- 7 Hydro OGK

Map of TGKs

