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“Standards and Labels for Promoting Energy Efficiency in Russia”

This full-size UNDP/GEF project aims to mitigate greenhouse gas emissions in the Russian Federation through the facilitation of wide-scale market transformation towards energy efficient technical building equipment and household appliances. In the scale of Russia this very ambitious target will be approached through a phased introduction of energy efficiency standards and labeling. This envisaged to be achieved by (1) improving the national legal and regulatory environment and institutional capacities to facilitate the introduction and wide-spread application of a comprehensive energy efficiency standards and labeling programme in Russia by starting it with the implementation of a full-fledged pilot programme in the Moscow region; (2) developing energy efficiency S&L schemes and public procurement models, building the local verification and enforcement capacity and supporting the establishment of state-of-the-art compliance checking and certification systems and infrastructure in accordance with international best practices; (3) supporting manufacturers and other supply-chain stakeholders and establishing public-private partnerships, voluntary agreements and joint strategies to make energy efficient products more competitive and affordable to the population; and (4) raising awareness of and providing access to information to targeted end users and buyers of equipment, including both household consumers and commercial buyers. In doing this, the project will support the federal and regional governments in pioneering efficient regulatory and technological solutions and practices in the public buildings and in setting appropriately ambitious targets to the large commercial buyers among the Russian corporate sector.

Reaching the stated targets of the project is expected to contribute to the reduction of CO₂ emissions by 29.9 Mt until 2020 and by 123.6 Mt until 2030.

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
TABLE OF CONTENTS	2
ACRONYMS	4
SECTION I: ELABORATION OF THE NARRATIVE	6
Part I: Situation Analysis	6
General country and economic background	6
Current appliance market	7
Current energy policy and regulations in force	11
Baseline and barriers analysis	15
Part II : Project Strategy	18
Project Objective	18
Project Outcomes and Outputs	18
Project Indicators, Risks and Assumptions	30
Expected global, national and local benefits	31
Project Rationale and GEF Policy Conformity	32
Country Ownership: Country Eligibility and Country Drivenness	34
Sustainability	35
Replicability	35
Part III : Management Arrangements	37
Stakeholder involvement	38
Part IV : Monitoring and Evaluation Plan and Budget	40
Monitoring and Reporting	40
PART V: Legal Context	47
SECTION II : STRATEGIC RESULTS FRAMEWORK (SRF) AND GEF INCREMENT	48
Strategic Results Framework	48
SECTION III : TOTAL BUDGET AND WORKPLAN	57
SECTION IV: ADDITIONAL INFORMATION	66
PART I : Other agreements	66

Letter of endorsement	66
Letters of Co-financing and Support	67
PART III : Terms of References for key project staff and main sub-contracts	68
PART IV : Stakeholder Involvement Plan	74
PART V: Greenhouse Gas Emission Reduction Analysis	80
Baseline	80
Alternative (Project) Scenario	83
SIGNATURE PAGE	91

ACRONYMS

AVOK	Non-Commercial Partnership - Association of Engineers for Heat Supply, HVAC and Building Thermophysics
AWP	Annual Work Plan
APR	Annual Project Report
CAE	Combined annual expenditures
CFL	Compact fluorescent lamp
CIS	Commonwealth of Independent States
CO ₂	Carbon Dioxide
CTA	Chief Technical Advisor
EDET	Economic development electricity tariffs
EE	Energy efficiency
EE S&L	Energy efficiency standards & labels
ERP	Enterprise Resource Planning System
EU	European Union
GDP	Gross Domestic Product
GEB	Global environmental benefit
GEF	Global Environment Facility
GHG	Greenhouse Gas
GOR	Government of Russia
GOST	Russian National Standard / Russian National Standards Organization
GWh	Gigawatt hour (1 GWh = 1 million kWh)
HVAC	Heating, ventilation, air conditioning
IEA	International Energy Agency
IEC	International Electrotechnical Commission
IR	Inception Report
ISO	International Organization for Standardization
IW	Inception Workshop
kW	Kilowatt
kWh	Kilowatt hour
m ²	Square meter
M&E	Monitoring & Evaluation
MEPS	Minimum efficiency performance standard
Mimpromtorg	Federal Ministry of Industry and Trade
Mt	Mega tonne (1 Mt = 1 million tons)
MWh	Megawatt hour (1 MWh = thousand kWh)
NEX	UNDP National Execution Modality
NGO	Non Government Organization
NICB	National Interagency Coordination Body
NPD	National Project Director
OAO	OAO "Mosenergosbyt" Energy Saving Center
OJSC	OJSC Mosenergosbyt - Energy distribution and service company of the Moscow region
PDF A	Project Development Facility Block A
PIMS	Project Information Management System
PIR	Annual Project Implementation Review
PM	Project Manager

PPG	Project Preparation Grant
PR	Public relations
PSC	Project Steering Committee
PTA	Principle Technical Advisor
R&D	Research & Development
RF	Russian Federation
RATEK	National Association of Trading Companies and Manufacturers of Household Electric Appliances and Computer Equipment
RCU	Regional Coordinating Unit
ROAR	Result Oriented Annual Report
Rosnauka	Federal Agency for Science and Innovation
ROSTEST	Network of certificated test laboratories
S&L	Standards & labels
SC	Steering Committee
t	Tonne
TA	Technical Assistance
TPR	Tripartite Review
TTR	Terminal Tripartite Review
TV	Television
TWh	Terawatt hour (1TWh = 1 billion kWh)
UEC	Unit energy consumption
UNDP	United Nations Development Program
UNDP-CO	UNDP Country Office
UNFCCC	United Nations Framework Convention on Climate Change
USA	United States of America
US\$, USD	United States Dollar
US\$c	United States Dollar Cent

SECTION I: ELABORATION OF THE NARRATIVE

PART I: SITUATION ANALYSIS

General country and economic background

1. The Russian Federation is the country with the largest surface of the world (17.1 million km²). The Federation consists of 46 oblasts, 21 republics, 4 autonomous okrugs, 9 krays, 2 federal cities (Moscow and St.Petersburg) and 1 autonomous oblast.
2. The total population of Russia is 141.9 million, of which 73% is urban and 27% rural. Cities with more than 1 million inhabitants are: Moscow (about 10 million), St.Petersburg (4.6 million), Novosibirsk, Nizhny Novgorod, Ekaterinburg, Samara, Omsk, Chelabinsk, Kazan, Perm, Ufa, Rostov-on-Don, and Volgograd.
3. Since early 2000, Russian economy has been experiencing strong economic growth accompanied by rising income levels and living standards of the population. The gross domestic product has increased from 259.7 billion US\$ in 2000 to 1,698.6 billion US\$ in 2008. The annual per capita gross domestic product is 13,900 US\$ per person.
4. According to the Government white paper "Development Concept for Russia for the period until 2020", it is expected that the GDP of the country will increase by a factor of up to 2.3 until 2020. According to this document, GDP per capita in 2020 will be US\$ 30,000 and the average available income per citizen could increase by a factor of 2.6. The Concept also predicts the decrease of the population living in poverty from 15.2% in 2006 to 6.2% in 2020 and of low-income citizens from 45% in 2006 to 21.3% in 2020. Furthermore it predicts the emergence of a strong middle class. Due to growing incomes, living standards and purchase power of an increasing part of the population, consumer demand for new household appliances is expected to grow rapidly and substantially.
5. Also the building market in Russia has been developing at a high pace. In 2007, the volume of construction works was around US\$ 80 billion (an increase of 123% compared to 2006), construction of residential buildings increased by 151% to 49.8 million m² and of public buildings by 132% to 18.1 million m². The investment in technical building systems in 2007 amounted to more than US\$ 6 billion. Newly constructed buildings typically incorporate higher comfort levels, which has shown up, in particular, as higher demand for water pumps, industrial air conditioners, fans and refrigeration units for central air conditioning systems.
6. The Russian Federation is a major oil and gas producer, with export amounting to almost 45% of the domestic production. Domestic energy consumption is almost 1 billion tons of oil equivalent, with a projected growth rate of 1–1.3% per year. National electricity consumption is projected to rise from 878 TWh/year in 2000 to 1,015 – 1,070 TWh/year in 2010 and 1,215 – 1,365 TWh/year in 2020.
7. During the past years, the structure of electricity consumption has considerably changed. Following the period of restructuring, with a decrease of energy consumption – mostly due to decline in production - energy consumption has been constantly growing during the past years and is expected to grow further. Some regions of the country – including the capital Moscow and the Moscow area - are already experiencing a shortage of electricity, in particular during peak periods.
8. The energy intensity of the Russian Federation (based on purchase power parity) is twice that of the USA and three times that of the EU and Japan. The structure of electricity consumption has shifted

towards higher shares of the residential and municipal sector (27%) and transport (11%). Industrial electricity consumption is still 49%, agriculture 9% and construction 4%. The reasons are structural changes in the country's economy, in particular: (i) growth of housing construction, (ii) development of the services sector – like shopping and entertainment malls and sport complexes, (iii) an expansion of office and hotel construction, (iv) diversification of industry.

9. Specific energy consumption indicators in the industrial, commercial and residential sectors exceed international standards. In the residential and commercial sectors, major electricity saving potentials have been identified in the areas of household appliances, technical building equipment and lighting.

10. The average electricity tariff during the first six months of 2008 was 1.23 Russian roubles (approx. 5 US\$c per kWh). There are, however, large variations in end-user tariffs according to regions and consumer groups.

11. Electricity tariffs in Russia are regulated by the State, in accordance with the Federal Law No. 41-F3 on State Regulation of Electricity and Thermal Energy Tariffs in the Russian Federation of 1995 and Federal Government Resolution No. 109 on Price Formation with regard to Electricity and Thermal Energy of 2004. The actual tariffs in each region are set by regional power committees. Electricity tariffs in the Moscow region vary between 0.42 and 2.37 roubles per kWh (2008). There are also considerable connection charges for consumers, with the highest charges in the Moscow region.

12. During the past years, electricity tariffs have been steadily increasing, with more substantial increases still to come. It is expected that by 2020, average electricity tariffs in Russia will be equivalent to average EU Member State levels.

Current appliance market

13. The markets of both electric household appliances and technical building equipment have shown strong growth rates. In 2007, the growth of the market for household and home appliances was 12% and for building and industrial equipment 20%. Table 1 shows the official statistical data for sale of home appliances in the Russian Federation.

Table 1: Dynamics of the home appliances market

Indicators	2003	2004	2005	2006	2007
Volume of sales of all home appliances (billion US\$)	4.75	6.01	7.09	8.03	8.9
Number of sold appliances (million pieces)	24.33	32.46	38.69	40.07	43.29
Volume of sales of large home appliances (billion US\$)	3.69	4.54	5.41	6.25	6.89
Number of sold large home appliances (million pieces)	9.58	10.71	11.69	12.57	13.64

14. According to the 2005 estimates, the volume of sales of electric home appliances was US\$ 10.5-12.5 billion, with large household appliances accounting for US\$ 7.5 billion. These figures are higher than those shown in the official statistics (table 1), as many supplies of equipment are declared as spare parts.

15. The average share of lighting in the electricity consumption of a household is estimated at 27 %, while the share refrigerators and washing machines has been estimated as 33 % and 7%, respectively. Ovens/ stoves and TV sets consume 6 % each, while the share of room air conditioners is still very small with less than 1%. Also the shares of other appliances such as dishwashers and laundry driers have been estimated to still be insignificantly low.

Table 2: Some main characteristics of the Russian refrigerator market

Indicator	Years			
	2003	2004	2005	2006
Volume of sales, billion US\$	1.3	1.6	2.0	2.2
Share of import, %	35	42	38	36
Number of operating refrigerators, million units	49.4	50.1	51.2	52.0
Provision of households, %	83	85	87	88
Annual electricity consumption, TWh	32.1	32.0	31.8	31.6
Average electricity consumption per refrigerator per year, kWh	649.8	638.7	621.0	607.7
Total volume of saved electricity as compared to 2003, GWh/year	-	556.11	1474.56	2189.2

Table 3: Some main characteristics of the Russian washing machine market

Indicator	Year			
	2003	2004	2005	2006
Volume of sales, billion US\$	0.89	0.92	1.01	1.10
Share of import, %	73	71	70	68
Number of operating appliances, million pieces	37.0	37.2	38.4	38.9
Provision of households, %	63	63	65	66
Annual electricity consumption, TWh	6.2	6.2	6.9	7.3
Average annual electricity consumption per appliance, kWh	168.0	167.0	179.0	187.0

Table 4: Dynamics of energy efficiency of the refrigerator market (2004-2007)

Energy performance category	Share of refrigerators sold, %					
	2004			2007		
	Russia	Western Europe	Central Europe	Russia	Western Europe	Central Europe
A ⁺⁺	0	0.2	0	0.1	0.6	0.1
A ⁺	1.8	6.0	2.7	4.5	18.5	23.6
A	34.8	55.2	57.7	44.7	67.1	64.5
B	39.3	30.4	34.3	37.9	11.2	10.4
Other	24.1	8.2	5.3	13.0	2.4	1.1

Table 5: Energy performance dynamics of washing machines (2004-2007)

Energy performance category	Share (%) in 2004		Share (%) in 2007	
	Russia	Central Europe	Russia	Central Europe
A ⁺	7.3	10.6	17.6	39.1
A	79.7	72.3	77.1	57.6
B	8.2	9.7	2.9	2.1
C	2.3	6.0	1.3	1.2
Other	1.5	1.5	1.1	-

16. While the appliances currently in operation have high unit energy consumptions (UEC), new sales of refrigerators and washing machines are characterized by lower UECs and higher energy efficiency. In 2007, most refrigerators sold in Russia (87%) were equivalent to the EU energy efficiency class of B or

better; in the case of washing machines even 97.6%. Nevertheless, the energy efficiency of newly sold appliances still lacks behind other parts of Europe, as shown in tables 4 and 5 above..

17. Table 6 shows the share of energy consumption of technical building equipment in residential buildings (excluding indoor consumption of dwellings), offices and shopping and entertainment malls. As the energy consumption of these systems is growing rapidly (due to the strong increase of construction of buildings with higher comfort levels), which is further connected to power shortages and increase of tariffs and connection charges, energy efficiency is perceived as an increasingly important issue.

Table 6: Energy consumption share of building HVAC equipment (%)

Electricity-consuming equipment	Housing* (business plan)	Offices	Shopping and entertainment molls
Pumps	21.2	14.9	16.4
Fans and air curtains	16.8	15.3	17.6
Refrigerating units and air conditioners	26.7	22.6	20.4
Lighting	11.5	25.1	24.2
Other	23.8	22.1	21.4

* without indoor electricity consumption

18. Table 7 shows the dynamics of the markets for pumps, ventilators and refrigeration units in central air conditioning systems. As can be observed from the table, the supply of these products to the market has increased substantially during the past years. Their total annual electricity consumption has been estimated as: 12.8 TWh/year (pumps), 2.9 TWh/year (industrial air conditioners and fans) and 0.85 TWh/year (refrigeration units of central air conditioning systems).

Table 7: Market dynamics of pumps, ventilators and refrigeration units in central air conditioning systems (thousand units)

Indicator	2003	2004	2005	2006	2007
<i>Pumps</i>					
- Domestic production	1,319	1,284	1,420	1,591	1,648
- Import	1,429	1,488	1,735	1,995	2,360
- Total	2,748	2,772	3,155	3,586	4,008
<i>Ventilators</i>					
- Domestic production	99	99	108	139	188
- Import	136	141	153	206	283
- Total	235	235	261	345	471
<i>Refrigeration units for air conditioning systems</i>					
- Low-capacity units (up to 50 kW)	13.21	13.45	15.39	19.81	26.7
- High-capacity units (over 50 kW)	3.12	3.22	3.89	4.82	6.65
- Total	16.33	16.67	19.23	24.63	33.35

19. The share of imports of pumps has been in the range of 50–60% during the past years. According to their energy performance, domestically manufactured pumps can be referred to EE classes C and D, while the imported appliances are dominated by classes A and B.

20. Although industrial air conditioners are relatively efficient, industrial fans still offer considerable energy saving potentials. Most refrigeration units in central air conditioning systems are supplied by leading international companies like Carrier, York and Trane. The large-scale introduction of modern, energy efficient refrigeration units offers high energy conservation potentials.

21. Table 8 shows the annual energy consumptions of the household appliances and technical building equipment selected for this project. The total energy consumption of the selected appliances and equipment is 55.45 TWh/year or 26% of the total electricity consumption of the residential, commercial and public sectors.

Table 8: Annual Energy Consumption of Selected Technical Building Equipment and Household Appliances

Group of equipment/product	Annual energy consumption, TWh/year
<i>Industrial energy-consuming equipment used in buildings</i>	
Water pumps	12.8
Industrial air-conditioners and fans	2.9
Chillers for central air-conditioning systems	0.85
<i>Household appliances</i>	
Refrigerators and freezers	31.6
Washing machines	7.3

22. The selection of these household appliances and types of technical building equipment was based on the following criteria:

- A high share in sectoral and national electricity consumption (as demonstrated in table 8) and high energy saving and CO₂-reduction potentials (see table 9).
- Industrially manufactured products with uniform or similar features and design, and massive production and sales, that are suitable for standardization.
- International experience with EE S&L of the selected products, with the possibility of alignment of Russian products and regulation to international best practice.

23. In addition to the household appliances and technical building equipment discussed above, room air conditioners, microwave ovens, small home appliances and office equipment, as well as thermal appliances and equipment are candidates for future inclusion into a EE S&L programme.

24. The characteristics, including energy saving and CO₂-reduction potentials, of the selected appliances and equipment are summarized in table 9.

Table 9: Summarized indicators of the selected equipment

Equipment type	Electricity consumption, million GWhs per year	Share of import, %	Average energy performance according to EU scale	Energy saving potential, million GWh/year	CO ₂ emission reduction potential, million tons/year
<i>Industrial power equipment</i>					
Water pumps	12,800	50-55	C-D	3,000-4,000	2,000-3,000
Industrial air conditioners and fans	2,900	60-65	C-D	600-800	400-600
Refrigerating units of central air conditioning systems	850	85-90	D-E	250-300	180-200
<i>Electric household appliances</i>					
Refrigerators, freezers	31,600	36	C-D	2,528-3,160	1,690-2,117
Washing machines	7,300	68	D-E	365-400	244,5-268,0

25. While energy saving and GHG reduction potentials of EE S&L are very substantial, research undertaken by the Energy Saving Centre of OJSC Mosenergosbyt (the energy distribution and service company of the Moscow region) revealed a generally weak interest of local manufacturers (both Russian companies and affiliates of foreign manufacturers) in appliance and equipment energy efficiency, although there is a *de facto* move from less to more efficient products. Nevertheless, these trends are not yet stable.

26. Also, major outlet retail chains and distributors of appliances and equipment¹ are not particularly concerned about energy efficiency as a specific component of their sales strategy of products. However, the leading trading company Topperservice (Cosmos trade mark) has already carried out a public information campaign on energy efficient lighting (from November 2006 to December 2007, including the subsequent replacement of incandescent lamps by CFLs) and has confirmed its interest to participate in the project.

Current energy policy and regulations in force

27. Energy efficiency has been named, by the President and the Government, as one of the eight priorities for the future development in Russia. Russia's Energy Strategy for the period until 2020 views raising energy efficiency as one of the main strategic objectives. Energy efficiency standards and labeling are among the instruments stipulated to achieve this goal. Also, the Presidential Decree "On Some Measures for Improvement of Energy and Ecological Efficiency of the Russian Economy" puts energy efficiency on the political agenda.

28. Following a lengthy development and consultation process, a new "Law on Energy Conservation and Energy Efficiency Improvement" was adopted by the State Duma in November 2009 (to replace the Federal Law on Energy Saving of 1996). The new law provides for energy-efficiency rules for the circulation of goods and disclosure rules for the energy-efficiency of goods. According to the new law, the Russian government will approve the minimum energy-efficiency standards which will need to be revised every five years. The minimum standards will apply to buildings and other structures, to products, to technological processes, and to legal entities and individual entrepreneurs. In addition, there will be some requirements for energy audits to be carried out by certain organizations. How this will work exactly remains to be defined. The findings of these audits will be recorded in energy-passports which will be sent to the duly authorized State Authorities. The State Authorities will be able to analyse and use the information from the energy-passports. Despite these explicit policy statements, however, the mechanism by which these new policies will be effectively enforced remains to be defined. In addition, significant further regulatory work is required around defining what exactly are the state authority based principles and standards around which the rules for energy-efficiency must be developed. A lot of supplementary regulatory work and by-laws, as well as enforcement mechanisms and capacities still need to be developed before the new legislation will come into force. This makes it essential that this project starts as soon as possible in order to make a significant contribution to the development of this new supplementary legislation.

29. While several energy efficiency standards for appliances and energy consuming equipment were elaborated and implemented as official technical standards (GOST-standards) in the period of 1995 -

¹ Large retailers and distributors of appliances and technical building equipment are member of RATEK (Russian Association of Trading Companies and Manufacturers of Household Electric Appliances and Computer Equipment).

2001, including energy performance standards for refrigerators/freezers and washing machines (see table 10), all these standards have lost their mandatory nature due to the adoption of the Federal Law on Technical Regulation in 2002. According to this law, all national standards are applied on a voluntary basis, except standards related to the protection of life and health of persons, private and public property and protection of the (local) environment. No actual incentives for the development of effective voluntary schemes are provided, however.

Table 10: GOST standards on energy efficiency testing and labeling

Standard No.	Title	Description
GOST P 51387-99	Regulatory and Methodological Support	Formulates the main concepts, principles, objectives and subjects of activity in the area of methodological support to energy saving
GOST P 51749-2000	Energy Consuming Equipment of General-purpose Industrial Application	Establishes categories of energy consuming equipment and main energy performance standards of fuel and energy resource (FER) consumption for general-purpose industrial equipment.
GOST P 51541-99	Energy conservation. Energy efficiency. Composition of indicators. Basic concepts.	Establishes energy performance standards to be included into regulatory documents and technical documentation
GOST P 51380-99	Methods of checking compliance with energy performance indicators of energy consuming products	Establishes such methods of checking and compliance with relevant standards applying to energy consuming industrial and technical products and household appliances
GOST P 51388-99	Informing Consumers about Energy Efficiency of Home Appliances and Utility Equipment	Formulates methods to inform consumers about the performance of household appliances, thermal insulation materials as well as general requirements concerning public information on energy efficiency.
GOST P 30167-95	The Procedure for Setting Resource-saving Standards in Regulatory Project Documentation	Establishes the main range of standards characterizing a rational use and economic consumption of material and energy resources as well as the procedure for including them into regulatory product documentation.
GOST 26678-85	Household Electrical Compression Refrigerators and Freezers of Parameter Series	Describes the testing conditions and procedures and indicates the basic parameters of refrigerators of various types.
GOST P 51565-2000	Household Electrical Refrigeration Units; Energy Efficiency; Methods of Identification	Defines energy efficiency classes A-G (following the EU labeling system) and deadlines for the production of equipment of classes G and F.
GOST 8051-83	Household Washing Machines; General Technical Requirements	Requirements regarding rated input at a certain load, washing efficiency, specimen strength reduction, spinning efficiency.

30. Also the Federal Law on Self-Regulating Organizations No. 315-F3 of 2007 does not provide the legal instruments to promulgate binding standards for energy efficiency of products, as it stipulates primarily the possibility to postulate binding standards and rules of entrepreneurial and professional activities.

31. The Russian Federation possesses a system of procedures and infrastructure for conformity assessment, compliance testing and certification of products. Products subject to a compliance declaration are defined by various Government resolutions. Certification rules and procedures are defined by respective GOST standards and are applied throughout the Russian Federation. Again, however, the certification of the compliance of products by authorized certification agencies is mandatory only for

requirements such as safety or electromagnetic compatibility. For other product characteristics, a declaration of compliance may be issued by the manufacturer.

32. In summary, this means that energy efficiency standards (including labeling standards) are at the moment to be implemented only as a voluntary basis and that the otherwise rather comprehensive system of rules and procedures does not include any mandatory requirements regarding the energy efficiency of products.

33. Despite this rather extraordinary situation regarding the introduction of any mandatory S&L schemes at the federal level, the existence of a comprehensive and functional system of conformity evaluation, existing GOST-standards for energy efficiency testing and labeling (based on international ISO and IEC standards) and the existence of the corresponding organizations, like the Federal Agency for Technical Regulation, the national standardisation institute GOST and the network of accredited testing laboratories ROSTEST – in addition to test laboratories of manufacturers – should be considered as favorable antecedents and points of departure for this project.

34. In addition, the Federal Law No. 94 on Placing Orders for the Supply of Goods, Performance of Works and Provision of Services for Public and Municipal Needs provides the possibility that regional authorities, when inviting bids for a contract on regional procurement, may indicate in the bidding documents requirements concerning the energy performance of goods. This means that an EE S&L scheme may be applied in the context of public procurement by regional authorities. Also – according to the Federal Law on Technical Regulation – groups of entities may develop a voluntary certification scheme applicable for the member of that respective group.

35. Against this background, further consultations have been conducted at the regional level and the Moscow region in particular.

36. The consumer surveys conducted in Moscow have indicated that only 15% of consumers are currently committed to purchase energy efficient equipment. While low income consumers (about 20% of the population) cannot afford efficient appliances, medium and high income consumers pay mixed attention to energy efficiency. While 80% of medium income consumers (about 70% of the population) give priority or at least take into consideration energy efficiency, only 50% of high income consumers (about 10% of the population) manifest this attitude, while the other 50% buy luxury class products, without paying attention to their energy efficiency. With the exception of high income consumers, the price of appliances is a decisive factor for purchasers of household appliances, along with factors like technological innovation, reliability, functionality and brand name. Increasing electricity tariffs are expected to move consumer preferences more towards energy efficient products.

37. An additional issue is that imported high efficient products (class A+ and A++) tend to be overpriced, with price levels of 25–30% above the price of the same category of products in Western and Central Europe. In the Russian appliance market, there is a strong price increment between the "regular" efficiency (classes A,B or below) and high efficiency equipment. Both this increment and the absolute price levels constitute a major barrier for higher sales of highly efficient equipment, in particular to the large stratum of medium income consumers.

38. Buyers of technical building equipment can be classified into two major categories: (i) federal and regional public entities and (ii) investors, developers and construction companies. The construction boom in Russia – in particular in urban centers like Moscow, the increasing cost of electricity and shortages of supply are creating an increasing interest of buyers in energy efficient equipment, in particular HVAC equipment.

39. The City Government of Moscow is about to launch the programme of "Energy Saving in the City of Moscow in 2009–2013 and until 2020". This programme – that is currently under review and is being updated – foresees in various activities, including: (i) surveys among residential consumers with regard to residents' attitude to energy efficiency, (ii) surveys among industrial enterprises regarding energy saving potentials, (iii) public awareness campaigns via billboards, advertisement in public transport, TV channels, newspapers, brochures, etc., (iv) organisation of energy efficiency contests, (v) development of an energy efficiency rating method for industrial and public sector enterprises, (vi) preparation of training material and methodological guides for energy management in industrial enterprises, healthcare, education and the public sector, (vii) energy efficiency lessons at schools, etc.

40. The City Government has expressed strong interest in implementing a voluntary EE S&L programme and related measures, like a public procurement programme for energy efficient appliances and equipment, consumer awareness campaigns, specific training activities and pilot projects. Most of these activities will be developed in cooperation with the OSJC Mosenergosbyt, the electricity distribution and service company of the Moscow municipality and region (Moscow Oblast).

Baseline and barriers analysis

41. Taking into consideration the high share of imports and of local production by foreign companies in Russia, a tendency towards more efficient household appliances and technical building equipment has been observed during the past years. Also more recent developments like rising electricity tariffs, the construction boom and increasing purchase power and awareness of consumers are factors in favor of transformation of the markets towards more efficiency appliances and equipment.

42. Nevertheless – as has been shown in the previous section – the efficiency of appliances and equipment produced and sold in the Russian Federation are still behind many other countries and regions of the world, such as Western and Central Europe, and that there are legal, regulatory and other barriers that prevent the country to fully benefit from the existing, technically, economically and environmentally feasible potential of improved appliance energy efficiency. These barriers are discussed in further detail below:

General policy barriers:

43. Russian energy policy has been characterized by a strong focus on energy supply, infrastructure and export as well as the by the prevailing corporatist model and centralized structure of the economy. This focus, inherited from the Soviet era, has only gradually allowed demand-side options to enter the political agenda.² While some improvement in this respect has taken place during the past few years (see section "*Current energy policy and regulations in force*"), these new policy initiatives still need to be consolidated, gain the acceptance and support of policy makers and civil servants in the public administration and translated into concrete programs with the assignment of adequate budget and human resources and creation of suitable organizational structures for their implementation. At the moment, these are still largely missing. While some regional initiatives to develop and adopt such programs are currently underway, they would also benefit from complementary technical assistance to allow the incorporation of international lessons learnt and best practices, with possible later expansion to nationwide programs.

² See e.g. IEA: Russia Energy Survey 2002.

Specific legal barriers:

44. The Federal Law on Technical Regulation is probably the most important – and difficult to remove – barrier regarding the introduction of mandatory energy efficiency standards and labeling. As long as this law is not amended, it will be legally impossible to introduce mandatory EE labeling and minimum efficiency performance standards (MEPS). It is therefore of highest priority to undertake steps towards the amendment of the respective articles (in particular article 16, paragraph 2) of this law.

45. Although the required procedures for the amendment of federal laws are known and fully understood, experience suggests that frequent changes of the institutional structure and of responsibilities among the public authorities is not conducive. I.e. that the process to amend federal laws can be very time consuming and that the time required for that is basically unpredictable. As such, there is a risk that a formal adoption of proposals for amending the Federal Law on Technical Regulation and other related legislation – that will be developed by the project in any case – will require more time than that allocated for this project implementation.³

46. Therefore, the project is focusing on a two-fold and complimentary approach: (i) capacity building and promotion of EE and EE S&L legislation, regulations, programs, standards and labels at the federal level, and (ii) the implementation of a comprehensive, voluntary EE S&L programme – fully in line with the requirements developed at the federal level – in the selected pilot region Moscow and – due to the involvement of supply-chain stakeholders – also in other urban centers of the Russian Federation.

Institutional and organisational barriers

47. While various federal ministries and agencies have some "natural affiliation" with the appliance energy efficiency issues (see the stakeholder involvement plan later in this document), none of them has been assigned with a clear mandate by the Federal Government to take a lead in the appliance energy efficiency S&L and to develop legislation, propose programs and implement policy actions in this area.

48. On the other hand, the Federal Agency for Science and Innovation of the Federal Ministry of Education and Science has already demonstrated strong interest and ability to lead the process of elaboration, implementation and promotion of energy efficiency standards and labeling, and they will also be in a position to coordinate the activities of the project with other relevant Government entities and public and private stakeholders through the proposed National Inter-Agency Coordination Body (see Part II: Project Strategy) and otherwise. It has also undertaken some preparatory work for the introduction of energy performance standards and labeling for the priority products already, including: water pumps, industrial air conditioners and fans, refrigeration units for central air conditioning systems, household refrigerators and freezers, household washing machines and lighting equipment. This will create the required institutional basis for the effective implementation of this project and promote further consideration of this area also by the Federal Government, which in the baseline scenario would be further delayed.

49. Another organizational barrier relates to the hesitation of the appliance and equipment manufacturers and distributors (in particular local companies serving the low and middle income mass consumer market) to commit themselves to the production and marketing of high efficiency (and more costly) products, without being certain about its impact to their market position.

³ The Federal Agency for Technical Regulation and Metrology, as the leading agency in the field of standards, certification and accreditation, will assume the leading role in proposing the amendment, following established procedures that would involve various federal ministries, the State Duma and the Federal Council.

Technical barriers and support needs

50. While the Russian Standards Institute GOST and the network of test laboratories ROSTEST are prepared to assume the tasks of standards elaboration, testing and certification of appliances and equipment, it still needs to be verified and secured that they employ state-of-the-art equipment and procedures with adequately trained staff.

51. Also, the local manufacturers of household appliances and technical building equipment may lack capacity in improving product design and adapting production facilities to produce higher energy efficient appliances at competitive costs.

Information and other market barriers

52. As demonstrated by the consumer surveys carried out in Moscow, relatively few consumers yet are committed to purchase appliances with emphasis on energy efficiency. The identified main reasons are lack of purchasing power, lack of awareness and – as in the case of high income consumers in particular – lack of attention to energy efficiency as an attractive feature of appliances in general.

53. With the exception of high income consumers, the price of appliances is a decisive factor for purchasers of household appliances, despite the influence of increasing electricity tariffs that is expected to move consumer preferences towards more energy efficient products. The high price increment between "regular" and high efficiency appliances is a major barrier for higher sales of highly efficient equipment, taking into consideration that the appliance market is a mass market that is dominated by demand by and supply to mainly medium income consumers.

54. Beside the financing barrier of higher upfront costs, it also appears that the consumers still lack reliable and visible information on the energy efficiency performance of home appliances and the economic benefits, i.e. the lifecycle cost of the product, compared to possible increments in purchase price.

55. Buyers of technical building equipment are increasingly concerned about rising electricity tariffs and shortages of supply. Still, the absence of objective information on the energy efficiency of products (like pumps, fans and HVAC equipment) constitutes an important barrier to facilitate proper purchase decisions.

56. Proper functioning of a market for energy efficient products is also hampered by the absence of procurement models and programmes for energy efficient equipment, business plans for the production and marketing of EE products, the involvement of supply chain stakeholders – like manufacturers, suppliers, retailers, public and private buyers and public private partnerships.

PART II : PROJECT STRATEGY

57. The project strategy is presented by a logical framework approach. The essence of this approach is that outputs are clustered by outcomes, which together will achieve the project objective. The main components are briefly discussed below, with further details in the Logframe Matrix in section II, “Strategic Results Framework and GEF Increment”.

Project Objective

58. The *project objective* is to reduce greenhouse gas (GHG) emissions from the residential, commercial and public sector in the Russian Federation through the implementation of energy efficiency standards and labeling for key household appliances and technical building equipment, along with complementary measures.

Project Outcomes and Outputs

Outcome 1: An institutional, legal and regulatory basis established and the capacity of the national authorities built to facilitate introduction and wide-spread application of energy efficiency S&L schemes and their testing at least in one pilot region during the implementation of the project.

59. Strengthening the capacity of federal ministries, federal and local government agencies, legislators and other policy makers involved in the areas relevant to energy efficiency and EE S&L is considered as a key activity to facilitate the modification and promulgation of federal laws required to enable mandatory EE S&L schemes.

60. The project will strengthen the capacity of policy makers to allow for efficient design and implementation of national energy efficiency and EE S&L policy, legislation, and programs. Taking into consideration the long periods required to promulgate or amend laws, the project will work along two parallel lines: (i) capacity building and promotion of EE and EE S&L legislation, regulation and programmes, mandatory EE standards and labels on the federal level and (ii) the implementation of a comprehensive, voluntary EE S&L programme – fully in line with the requirements developed at the federal level – in the selected pilot region Moscow. This voluntary EE S&L programme will include consumer, manufacturer, and retailer outreach programs, procurement standards and models, incentive schemes and monitoring and evaluation of the impact of appliance energy efficiency programs. Due to the involvement of supply-chain stakeholders, the voluntary program will also promote market transformation in other urban centres throughout the Russian Federation (see outcome 3).

Outputs and activities:

Output 1.1: National interagency coordination body

61. In order to involve all key actors and stakeholders in an associative and participatory way, a National Interagency Coordination Body (NICB) will be established. The inter-agency coordination body will confirm the agenda for the activities to be developed under this project. It will also be in charge of monitoring and reporting the GHG emission reductions achieved by the project. It will include permanent members (relevant ministries and government agencies, associations of manufacturers and supply chain stakeholders, professional associations, etc.) and non-permanent members, who will be invited to participate in specific activities of the coordination body on invitation and according to their specific role in the program.

62. The NICB will be convened by the Federal Agency of Science and Innovation of the Federal Ministry of Education and Science as the main executive body of this project. Other ministries and government agencies to be involved are: the Federal Ministries of Natural Resources and Environment, Energy, Economic Development, Industry and Trade, Regional Development; the Federal Agency of Technical Regulations and Metrology and the Federal Supervisory Office of Consumer Rights Protection and Human Welfare. All these organisations possess legal mandates that are relevant for the successful implementation of energy efficiency standards and labeling systems.

63. Other entities concerned with EE S&L are industry and professional associations, including: the Russian Union of Industrialists and Entrepreneurs, associations of manufacturers and supply chain stakeholders (like NP AVOK and RATEK), certification and testing authorities, in particular the ROSTEST certification centres, consumer organisations and NGOs.

64. In addition – with a view at the first implementation of a voluntary EE S&L scheme in the Moscow pilot region – representatives of Moscow municipality and OJSC Mosenergosbyt shall be invited into the Coordination Body.

Activities:

- 1.1.1 Establish the National Interagency Coordination Body.
- 1.1.2 Confirm the detailed agenda of the activities to be developed under the project, including the detailed work plan, seeking consensus among the members of the National Interagency Coordination Body.
- 1.1.3 Organise seminars and round-tables for decision makers of ministries, government agencies, legislators and other policy makers.
- 1.1.4 Supervise the implementation of a comprehensive monitoring and evaluation programme to track the progress and provide feedback for the improvement/adjustment of the EE S&L instruments implemented. Direct and indirect global environmental benefits (reduction of CO₂ emissions) will be assessed and reported, under the overall responsibility of the NICB (see also output 4.1).
- 1.1.5. Ensure replication of EE S&L schemes in at least one additional pilot region beyond Moscow. Nizhny Novgorod region has been selected for replication. Following completion of initial piloting phase with the Moscow city Government additional regions for replication might be identified.

Output 1.2: Provisions for EE S&L under national law

65. As described before, the existing legal framework does not fully secure the introduction of mandatory EE standards and labels. The new “Law on Energy Conservation and Energy Efficiency Improvement” approved in November 2009 foresees the definition and mandatory identification of energy efficiency classes of household appliances (applicable to both locally produced and imported equipment), state support for projects using energy efficient devices of class A as well as assistance to special population groups to purchase high efficiency devices. However, a large number of secondary legislation, amendments to existing federal laws, and new regulatory documents will have to be developed to ensure that the regulatory concepts outlined in the Federal Laws are implemented and the EE S&L are enforced.

66. Thus, the GEF project will be instrumental to support and accelerate the national legislative activity by developing proposals for amendments and improvement of the existing legal framework – including laws and regulations presently under review.

67. The particular activities for this output will include:

Activities:

- 1.2.1 Prepare proposals for the amendment of the Federal Law on Technical Regulation, or pertinent Government resolutions (see output 2.1), in order to allow the adoption of mandatory energy efficiency labeling and minimum efficiency performance standards (MEPS) at the federal level.⁴
- 1.2.2 Review the stipulations that concern EE S&L in the new “Law on Energy Conservation and Energy Efficiency Improvement” and support development of the required secondary regulations.
- 1.2.3 Submit the legal proposals elaborated under activities 1.2.1 and 1.2.2 to the relevant federal ministries, to initiate the public discussion on the suggested amendments or regulations (involving interested ministries) and its submission to the State Duma and the Expert Committee for Technical Regulation of the Federal Government respectively.

Output 1.3: Adoption of the required administrative acts for the Moscow pilot region to implement the pilot program

68. As the present legislation of the Russian Federation does not allow the introduction of mandatory energy efficiency standards & labeling schemes, voluntary application of a fully elaborated EE S&L scheme in the project's pilot region (Moscow municipality) is therefore a principal focus of the project. Although voluntary, the introduction of a EE S&L scheme will require the adoption and promulgation of administrative acts by the local government.

69. The programme "Energy Saving in the City of Moscow in 2009-2013 and until 2020", that is currently under review, foresees the adoption a EE S&L scheme within the jurisdiction of the Moscow City Government. This programme will be voluntary by its nature, but will also include mandatory elements like the obligation to limit competition for public orders to appliances that have EE labels in place and meet the agreed minimum energy performance levels.

Activities:

- 1.3.1 Adopt the required regulations for the Moscow pilot region to allow the implementation of a voluntary EE S&L scheme within the region, including the establishment of legal and administrative rules for such a programme.
- 1.3.2 Implement – in consultation and cooperation with equipment manufacturers and other stakeholders – a voluntary EE S&L programme in the Moscow municipality (pilot region), based on and in line with the EE S&L scheme developed under Output 2.1.

⁴ The purpose of "protection of the environment", justifying the mandatory application of standards (Art. 46 of the Federal Law on Technical Regulation), may be a starting-point for such amendments, although the reduction of GHG emissions due to EE S&L is primarily a global environmental benefit. Another argument in favor of mandatory energy efficiency standards is consumer protection and the right of consumers to receive various and complete product information.

- 1.3.3 Establish a group of adherents to the EE S&L program of the Moscow municipality. Participants in this group will adopt a voluntary obligation to submit their products to EE testing and to exhibit an EE label in their products.
- 1.3.4 Develop and implement EE labeling and minimum energy performance requirements for appliances and technical building equipment purchased under public procurement activities.
- 1.3.5. Prepare a model for replicating local regulatory and public procurement schemes to other Russian regions and implement targeted replication in at least one region (Nizhny Novgorod region).

Outcome 2: National S&L schemes for selected power-consuming products are designed and proposed and the verification and enforcement capacity for their implementation based on international best practices built.

70. Under this outcome, proposals for national S&L schemes will be developed for those priority products that were identified during the PPG stage to deliver the largest and most cost-effective energy savings. For further details, see table 9 in the previous section “Current appliance market”.

71. For each selected product, the necessary elements of a full EE S&L programme (test procedures and infrastructure, certification schemes, energy labels and MEPS) will be developed, complemented by procurement models and voluntary agreements with manufacturers and supply-chain actors. In parallel, the required verification procedures will be developed. The observations made during the PDF A phase show that EU energy label is recognisable in the country so it is likely that the most suitable and cost effective solution for household appliances will be to link the Russian scheme to the EU one (by also taking into account the ongoing work in the EU to upgrade these schemes). For technical building equipment the best scheme will be selected after a detailed analysis of international antecedents. In this respect, a partnership will be established with “Rostest-Moscow”, one of the largest testing centers in Europe with over 500 items of machinery, electronic devices, etc. All its laboratories conduct tests of equipment for further safety and quality certification. The quality of their work has also been recognized by the leading international organizations, expert centres and testing laboratories and consumer associations. Their certificates are accepted and recognized in all member countries of the “System of international electrotechnical commission for verification of tests and certifications of electric equipment”.

72. The project will also make sure that the relevant government entities understand this importance and plan adequate human and financial resources for the process of S&L preparation and implementation. Main government entities to liaise with during this process include the Ministry of Regional Development, the Ministry of Energy, the Ministry of Industry and Trade, the Ministry of Economic Development, the Federal Agency for Technical Regulations and others. Other major stakeholders in the process will be manufacturers of both household and commercial equipment, incl. EU manufacturers that have set up production facilities in Russia, local producers and the main importers of electrical equipment.

Outputs and activities:

Output 2.1: Energy efficiency testing and labeling standards

73. At the moment, various official GOST-standards deal with energy efficiency issues, including standards GOST P 51749-2001 "Energy Consuming Equipment of General-purpose Industrial Application", GOST P 51541-99 establishing energy performance standards to be included into regulatory

documents and technical documentation, GOST P 51380-99 regarding methods of checking compliance with energy performance indicators, GOST P 51388-99 "Informing Consumers about Energy Efficiency of Home Appliances and Utility Equipment" and GOST 30167-95 "The Procedure for Setting Resource-saving Standards in Regulatory Project Documentation". There are also various standards regarding the performance of household appliances (refrigerators/freezers and washing machines), including standard GOST P 51565-2000 "Household Electrical Refrigeration Units; Energy Efficiency; Methods of Identification" defining energy efficiency classes A-G (following the EU labeling system) and deadlines for the production of equipment of classes G and F. With the adoption of the Federal Law on Technical Regulation, all these standards have lost their mandatory nature. Still, these standards can serve as antecedents for the elaboration of testing, labeling and performance standards under this project. The Federal Agency for Science and Innovation of the Federal Ministry of Education and Science has already undertaken preparatory work in this respect.

74. Taking into consideration the existing GOST-standards and the work undertaken by the Federal Agency for Science and Innovation, the project will elaborate new and revised standards for energy efficiency test procedures and labeling standards for the selected household appliances and technical building equipment as listed earlier in table 9.

Activities:

- 2.1.1 Develop test procedures for the selected household appliances and technical building equipment/systems to be published as GOST-standards, following the usual procedures for the elaboration and publication of technical standards (as defined by the International Organization for Standardization). The proposed test procedures will be based on international, in particular ISO/IEC standards.
- 2.1.2 Continue and refine the market assessments realized in the preparatory phase of the project, with the objective to establish an order of priority and time frame for the inclusion of additional household and technical building equipment in the EE S&L programme.
- 2.1.3 Develop energy efficiency labels for the selected household appliances and technical building equipment. Label design will be based on surveys among consumers and manufacturers and take into consideration existing labeling schemes, including the EU-label for household appliances and labeling schemes proposed by European manufacturers for building equipment. All relevant stakeholders will be consulted in this process.
- 2.1.4 Develop official GOST-standards (new and revised) or equivalent normative documents for energy efficiency labeling of the selected household appliances and technical building equipment.

Output 2.2: System of compliance testing and certification

75. Russia possesses a system of compliance testing and certification of test results by accredited organisations. Product certification is usually applied for specific requirements, such as safety or electromagnetic compatibility, either by independent certification or by compliance declaration of the manufacturer. Products and product properties subject to mandatory compliance testing and certification/declaration are defined by the Federal Law on Technical Regulation and in a series of Government resolutions. Energy efficiency of energy consuming equipment is not subject to mandatory requirements.

76. On the other hand, the Federal Law on Technical Regulation allows the development of voluntary certification systems by (groups of) individual(s) and legal entity(ies). Voluntary certification schemes shall be registered by the Federal Agency for Technical Regulation and Metrology.

77. The project will prepare ground for the adoption of mandatory EE certification systems by:

Activities:

- 2.2.1 Implementing voluntary certification schemes for energy efficiency compliance testing, based on the test procedures (GOST-standards) prepared under activity 2.1.1, compatible with the federal system of compliance certification and registered by the Federal Agency for Technical Regulation and Metrology. The voluntary certification schemes shall be applied by associations of equipment manufacturers and suppliers, under the guidance of the Federal Agency for Science and Innovation.
- 2.2.2 Reviewing certified test laboratories, in particular ROSTEST laboratories and manufacturers' own manufacturers, and proposing improvements, if necessary.
- 2.2.3 Supporting selected certified ROSTEST testing laboratories working with building engineering equipment and appliances; and establishing a test laboratory for household appliance efficiency by OJSC Mosenergosbyt. The laboratory of OJSC Mosenergosbyt will be accredited under the rules of the Federal Agency on Technical Regulation and Metrology, operate on a commercial basis (like ROSTEST laboratories) and focus on the pilot region (Moscow municipality).

Output 2.3: Procurement models for energy efficient equipment

78. According to the Federal Law No.94 on Placing Orders for the Supply of Goods, Performance of Works and Provision of Services for Public and Municipal Needs, regional authorities may include into the bidding documents requirements concerning the energy performance of goods, i.e. that regional authorities (e.g. the Government of the pilot region Moscow) require the compliance of publicly procured goods with minimum energy performance standards (MEPS).

Activity:

- 2.3.1 Develop guidelines, including minimum energy performance standards, for the procurement of technical building equipment and systems (HVAC, industrial air conditioners and fans, pumps), following the technical standards developed under activity 2.1.1 and the energy efficiency labels developed under activity 2.1.3.

Outcome 3: Enhanced interest and strengthened capacity of the local manufacturers and other supply-chain stakeholders to comply with the new EE standards and to bring energy efficiency models to the market at competitive and for the majority of the population affordable prices.

79. Manufacturers and other suppliers of appliances and equipment play a crucial role in transforming the market for energy efficiency products. Firstly, without adequate supply, markets for more efficient products cannot be developed. Secondly, suppliers should see it as their interest to deliver more efficient technologies to industrial, commercial and/or residential customers, for example via an increased profit margin on better performing products. This also applies to the rest of the supply chain (including distributors, wholesalers and dealers or retailers). Thirdly, suppliers have, via their marketing efforts, a

huge impact on customer perceptions of products, and can thus provide an important support or barrier for market transformation, depending on their position concerning energy efficiency improvements.

80. This project will work with domestic manufacturers and other suppliers (importers, assemblers, supply chain partners) to increase their capacities to deliver an adequate supply of good-quality energy efficient products. It will provide technical support to manufacturers about product and production technologies used internationally for more efficient appliances and equipment, provide technical expertise (mainly via national technical institutes and/or universities, and international expertise where needed) to examine production facilities and suggest improvements, and assist in the preparation of joint strategies for the production and marketing (or import of components, assembly and marketing) of more efficient appliances. This will ensure that domestic production capacities for efficient appliances and equipment can be increased to meet the growing demand for efficient products that will result from the implementation of this project.

81. Further and in order to maintain profitability of investments and to ensure the buy-in of the supply chain into the marketing of efficient products, the project will closely cooperate with domestic manufacturers and other supply chain partners in the implementation of the other components of this project, particularly on the structure of the regulatory framework, both on federal and local level (making sure that there is an even balance of obligations on each party), the timing of measures (to allow for a reasonable return on investment within normal product cycles), the threshold values and definitions of standards (to prevent an undue discrimination against local or foreign technology), marketing efforts (to create a multiplier of project / government and supply chain marketing efforts) and with demonstrations (same).

Outputs and activities:

Output 3.1: Awareness raising, training and technical support for local manufacturers on product and production technologies

82. The markets for household appliances and technical building equipment are characterised by a mix of imported and locally manufactured equipment. Although for some technologies imports are dominating (e.g. household washing machines or building HVAC equipment), there is also an important share of local production, in particular in the cases of refrigerators (64%) and pumps (48%). There is a tendency for the establishment of local production facilities by foreign appliance and equipment manufacturers in the Russian Federation.

83. While foreign manufacturers are in general familiar with the requirements of EE S&L schemes on product design and performance, local manufacturers might need some training and technical assistance in this area. The actual needs will be determined by a survey among manufacturers and appropriate assistance will be provided. This technical support will include advice concerning the adaptation of production facilities to new product designs and the upgrade of manufacturers' test laboratories, as required.

Activities:

- 3.1.1 Carry out a survey among manufacturers of household appliances and technical building equipment, in order to identify needs for training and technical assistance in energy efficiency product design.
- 3.1.2 Carry out a survey among manufacturers of household appliances and technical building equipment, in order to identify needs for technical assistance in the adaptation of production facilities (in combination with activity 3.1.1).

- 3.1.3 Organise training events and provide technical assistance to local manufacturers of household appliances and technical building equipment, focusing on: energy efficient product design, technical standards, equipment testing and cost. Training events and technical assistance will include transfer of experiences with EE S&L programmes by foreign and multi-national appliance and equipment manufacturers.
- 3.1.4 Provide technical assistance to local manufacturers of household appliances and technical building equipment with regard to the adaptation of their production facilities due to the production of new, energy efficient models.
- 3.1.5 Provide technical assistance to local manufacturer with regard to the upgrading of their test laboratories, as necessary.

Output 3.2: Working group to elaborate public-private partnerships

84. The project will develop public-private partnerships, involving the following private sector participants:

- Manufacturers of the selected energy consuming equipment
- Dealers and distributors of locally manufactured and imported products
- Retail chains
- Energy distribution and service companies
- Project developers, investors and general contractors of construction projects
- Corporate energy consumers
- Associations of private energy consumers, such as housing associations

85. Participants in these partnerships will be from all over the Russian Federation.⁵

86. The partnerships will be initiated by a working group of private sector stakeholders (including the "group of adherents" to the programme established under activity 1.3.3), members of the Inter-agency Coordination Body and other interested parties.

Activities:

- 3.2.1 Establish a formal structure of communication and cooperation (working group), including the mentioned private sector participants, the entity in charge of managing the project (Federal Agency for Science and Innovation), selected members of the Inter-agency Coordination Body, the "group of adherence" to the programme, the Moscow city government and OJSC Mosenergosbyt, and other interested local governments.
- 3.2.2 Elaborate and set up public-private partnerships to promote the adoption of schemes to promote EE S&L and marketing and sales of energy efficient appliances and equipment.

Output 3.3: Voluntary agreements on product labeling and incorporation of energy efficiency in the market strategy of manufacturers and other supply-chain stakeholders

⁵ Most manufacturers are located outside the Moscow region. Retailers are present in several large urban centers throughout the country and also large buyers have their production facilities in various regions of the Russian Federation. The partnerships will therefore involve a strong element of creation of awareness and marketing of energy efficient appliances and equipment in at least various urban centres of the Federation.

87. The project will work with appliance and equipment manufacturers and other supply-chain stakeholders to incorporate energy efficiency in their marketing strategies, based on voluntary agreements.

Activities:

- 3.3.1 Negotiate with manufactures and distributors of household appliances and technical building equipment voluntary agreements for equipment labeling at sales points and inclusion of energy efficiency information in product documentation.
- 3.3.2 Develop – in cooperation with manufactures, distributors and large commercial buyers of technical building equipment – guidelines for a system of energy efficiency indicators for new buildings, based on the energy efficiency of building construction and the technical systems covered by this project.

Output 3.4: Public-private partnerships and joint strategies to make energy efficient products more competitive and affordable to the majority of the population

88. At present, there are important price increments between high efficiency and low/medium efficiency household appliances in the Russian market resulting in that the sales of high efficiency appliances is limited to the relatively small market segment of high income consumers, who, on the other hand and according to surveys conducted, don't place such a high emphasis on energy efficiency in their purchasing decisions yet. As the high efficiency models are mainly of foreign origin, foreign manufacturers and their agents may wish to adapt their pricing policies to expand their customer basis and increase the demand for high efficiency appliances also by the low and medium income consumers.

89. The efforts of local manufacturers and distributors of both household appliances and technical building equipment to sell more energy efficient equipment, will depend on stimulating consumer demand by appropriate product marketing and incentives offered to private consumers and large commercial buyers, respectively.

Activities:

- 3.4.1 Discuss with both local and foreign manufacturers and distributors of household appliances possible product pricing strategies that encourage the purchase of energy efficient equipment by low and middle income consumers.
- 3.4.2 Assist local manufacturers of household appliances and technical building equipment in the elaboration of business plans and marketing strategies for production and marketing of energy efficient products.
- 3.4.3 Assist local manufacturers and distributors of household appliances and technical building equipment in the preparation of promotional materials (folders, advertisements, TV-spots, etc.) for energy efficient products, as well as promotional events, e.g. at sales outlets.
- 3.4.4 Develop a system of preferential consumer credits (based on the existing consumer credit systems) for energy efficient appliances, in cooperation with all relevant stakeholders, including manufacturers and distributors of appliances and finance institutes.
- 3.4.5 Develop a system of incentives for large commercial buyers, including the use of "Economic development electricity tariffs (EDET)".

- 3.4.6 Preparation of corporate procurement programmes with project developers / general contractors for construction projects (residential and commercial buildings), using certified and labeled technical building equipment.

Outcome 4: Enhanced awareness and improved access to non-partial information of residential and commercial clients concerning energy efficiency of targeted appliances

90. The majority of the home appliances sold in the country have low energy efficiency. Only about 20% of new appliances in the market would belong to the A+ or A++ energy class according to the EU scheme (in comparison to about 80% in Western Europe). The reason for this is not primarily the lack of technical capacities of manufacturers to produce efficient equipment, but mainly the low consumer demand for such products due to low awareness, lack of or inadequate information delivered to them and the higher initial cost of higher efficiency equipment. With the gradual reduction of the domestic energy subsidies, however, the household energy tariffs and bills have been increasing, creating incentives to look for savings and this trend will continue. The project will develop and deliver to consumers targeted information about appliance energy efficiency characteristics, costs and benefits of energy efficient products and easy-to-use comparison tools, including an internet-based information clearinghouse. The project will also work closely with manufacturers of industrial equipment⁶, large retailer chains (e.g. Eldorado, M-VIDEO, Teknosila, Ekspert, MIR, currently having a share of almost 50% of the appliance market) and local utilities - in particular OJSC Mosenergosbyt - to assure that all stakeholder groups understand the meaning of the energy label and how they can deliver proper information and arguments to recommend high efficient products to customers.

Outputs and activities:

Output 4.1: Market monitoring mechanism to produce updated information on the sales of the target appliances by energy classes.

91. The purpose of this component is to ensure adequate feedback for the project's adaptive management and that the required further support can be institutionalized and made available to support sustainable growth of the EE appliance market also after the project. Furthermore, the compilation and dissemination of the project results and lessons learnt will serve the replication also in other countries.

Activities:

- 4.1.1 Finalize the strategy and required software for obtaining, storing and processing the required data at the adequate level of details, including at minimum, the annual sale of different appliances by energy classes and different product categories and sources of origin (local – imported).
- 4.1.2 Conclude agreements with the key private and public sector stakeholders to collect and regularly submit the project with the required data.
- 4.1.3 Process and present the data for monitoring the impact of the adopted policies and voluntary schemes as well as the other promotional activities of the project.

Output 4.2: Internet-based information clearinghouse

⁶ Initial consultations were held with several domestic (JSC "Beza", JSC "Korf") and foreign (Buderus, Viessman, Riello, Carrier, YORK, TRANE, Grundfos) manufacturers.

92. An internet-based energy efficiency information clearinghouse for energy consuming products is an effective tool to support both marketing of efficient appliances and equipment and consumer awareness and information on products on the market and their ratings.⁷ The project will develop such an internet-based service that will include energy efficiency ratings and related information on household appliances and technical building equipment (starting with the priority appliances/equipment included in the project) of all products that are sold in the Russian Federation, i.e. both locally manufactured and imported products.

93. The following activities will be developed in cooperation with appliance and equipment manufacturers and importers, consumer organisations and other stakeholders participating in the group of adherents to the project (see activity 1.3.3 and output 3.4).

Activities:

- 4.2.1 Develop an internet-based portal that provides - in a user friendly way - information on efficiency ratings and other related information on targeted household appliances and technical building equipment.
- 4.2.2 Include and regularly update the information presented in the web, in particular energy performance data obtained from certified tests.
- 4.2.3 Promote consumer awareness about the internet-based information clearinghouse (in the framework of the activities under outputs 4.2 and 4.3). Websites of stakeholders should provide links to the information clearinghouse.

Output 4.3: Regional awareness campaign for household consumers

94. In accordance with the general strategy of the project, an awareness campaign for household consumers will be developed and implemented in the pilot region of Moscow. The campaign will be developed in close coordination with the Government of the Moscow municipality and will be implemented by the local Government and Mosenergosbyt, in close cooperation with all stakeholders.

95. Lessons learned from awareness campaigns for energy efficient lighting – realised in 2006/07 and 2008 by the Topservice company (Cosmos brand name) in cooperation with the Moscow city government – will be taken into consideration.

96. Main components of the awareness campaign for household consumers will include:

- Consumer information on energy efficiency and lifecycle cost of household appliances at sales points.
- Promotional messages in mass media (newspapers, radio, TV, internet), street advertising (including advertising on billboards and in public transport), folders distributed house-to-house, etc.

Activities:

- 4.3.1 Develop, in cooperation with the Government of the Moscow pilot region and Mosenergosbyt, a regional awareness campaign for household consumers, based on market surveys.

⁷ See e.g.: www.topten.info and similar national "top product" websites.

- 4.3.2 Assistance to OJSC Mosenergosbyt in further developing their "Energy Efficiency Consultative Centre" as a customers information centre, exhibiting energy efficient appliances and providing information on energy efficient appliances and practices, including telephone and internet based services.
- 4.3.3 Develop didactic material on appliance energy efficiency and energy efficient practices for residential consumers and for students of primary and secondary education.
- 4.3.4 Organise information and training events on household energy efficiency for the general public and for students of primary and secondary education, including competitions on energy saving ideas and performance.
- 4.3.5 Assist district offices of Mosenergosbyt and sales outlets in setting up consumer information units/desks on energy efficient equipment.

Output 4.4: Information campaign for large commercial buyers

97. Large commercial buyers of technical building equipment include project developers, investors, general contractors of construction projects, owners and operators of commercial buildings, public building operators and housing associations.

98. The information campaign for large commercial buyers will focus on the pilot region of Moscow. The focus of this campaign will be on technical and economic information on energy efficient technical building equipment, in particular cost and economic benefits.

Activities:

- 4.4.1 Carry out market research among large commercial buyers of technical building equipment, in order to identify information needs.
- 4.4.2 Develop, in cooperation with manufacturers and distributors of technical building equipment, technical documentation regarding the energy efficiency characteristics and options of products, focusing on the voluntary EE labeling scheme of the Moscow city government (activity 1.3.2).
- 4.4.3 Organise information and training events for large commercial buyers and their purchasing officers.

Output 4.5: Trained sales personnel for household appliances and technical building equipment

99. In the absence of a specific consumer demand, sales personnel for household appliances and technical building equipment in general are not aware of the energy consumption and efficiency of products. This situation is underpinned by sales strategies of wholesalers that are based on multiple criteria, including financial margins, promotion of certain brands, appliances and equipment in stock, etc.

100. Also after introducing EE labeling, sales personnel usually demonstrates some "inertia" and reluctance to consider energy efficiency as a sales argument. This results also in inappropriate

information provided to customers in the sales room. As international experience has demonstrated, appropriate training of sales personnel is therefore of paramount importance.

Activity:

- 4.5.1 Provide training on energy efficient products to sales personnel of household appliances and technical building systems.

Project Indicators, Risks and Assumptions

101. The main indicator of the project’s success is the change in annual sale and in estimated stock of more energy efficient appliances, as measured by the share of different label classes and their average, annual energy consumption. Another indicator is the share of products (taken as random samples or among suspected products from the market) that are found to be in compliance with the adopted minimum energy performance standards or label class thresholds. As a result of project activities, the number of non-complying products should remain at a level comparable to other countries that are considered to have an already advanced and strictly controlled verification and enforcement system in place. From these indicators, the annual energy savings and the GHG reduction compared to the projected baseline development can be calculated.

102. As summarized in Part I, energy efficiency considerations are increasingly entering into the Government agenda and the adoption of the proposed new “Law on Energy Conservation and Energy Efficiency Improvement”, in particular, contributes positively to this development. Still, there are several threats that could endanger this positive trend such as:

103. The global economic crisis, which can have negative impacts on purchasing power and consumption levels of Russian citizens, in particular in urban areas. While a higher energy bill should encourage energy saving behaviour, prices of new and efficient appliances could again become prohibitive for middle-income consumers. Another serious threat is the predicted shortage of loans for private companies, including construction companies and real-estate developers. This development would seriously affect the continuation of the construction boom of the past years. Also, local manufacturers of household appliances and technical building equipment might experience problems to receive loans and refrain from investments in new technologies and production facilities.

104. Under the impression of the economic crisis and decreasing incomes from the export of oil and gas, the Federal Government might restore priorities in the energy sector towards the modernization of energy industries and neglect demand-side measures, like energy efficiency.

105. These threats to the further development and implementation of energy efficiency policies and programmes and its take-up by consumers and other market actors, could result in a slow-down of the trend towards more energy efficient appliances and equipment. The proposed project will be an important instrument to face these threats and keep the energy efficiency issues up in the agenda despite of possible reverse drivers. Other identified risk and measures to mitigate them are summarized in the table below:

Table 11: Project risks and recommended mitigation measures

Risk	Rating	Mitigation
The Federal Government does not adopt legislation for mandatory EE standards and labeling	L	The project leader will submit an official proposal for amendments to the Federal Law of Technical Regulation in order to facilitate the introduction of a federal, mandatory EE S&L scheme. Furthermore, the project will make sure that testing and labeling

		standards, conformity assessment procedures and infrastructure and enforcement procedures will be developed / are in place and that experiences with a voluntary EE S&L at the regional level (pilot region Moscow) schemes have been analyzed and presented to the key local stakeholders.
Government does not assign a clear mandate to a government agency to lead the EE S&L Programme	M	The Federal Agency for Science and Innovation of the Ministry of Education and Science has demonstrated strong interest and the ability to mobilize resources and to act as the Government's lead agency. As official Government agency with previous experience in the elaboration of EE standards, this Agency is well placed to assume this responsibility and ensure a required inter-agency cooperation. The project will facilitate already started discussions at the Government level to ensure inter-agency coordination (through NICB) and to plan adequate financial resources in the government budget.
Low level of coordination among government entities involved in the EE S&L Programme	L	Through the establishment of the National Inter-agency Coordination Body, the project will achieve effective communication and coordination among all government agencies concerned. In addition to this, an inter-agency coordination will be ensured and strengthened in the framework of the GEF/UNDP/EBRD/UNIDO Umbrella programme coordinated by UNDP.
National government does not provide human and financial resources for compliance checking	M	The positive experiences with the Moscow pilot programme are expected to convince also federal level action and leverage the required human and financial resources.
Manufacturers cannot deliver high efficient products to meet market demands	L	The assessments made during project preparation shows that most of the manufacturers have sufficient technical capacities to produce energy efficient products and are even currently investing in improving their technologies (e.g. national refrigerator manufacturer Saratov). So with some technical assistance provided by the project, they should be able to quickly adapt to an increased demand for high efficiency products.
Energy price subsidies remain in place, leading to an insufficient incentive for efficient products	L	The government has already initiated the process of rationalizing energy prices. Although the actual pace of this process may change, the direction and goal are firmly established in government policy.
Regional governments don't take up the regional implementation of (nationally developed) S&L policies	L	The project design includes pilot implementation of S&L in the Moscow region. Discussions during project preparation have identified regions that are willing to implement such schemes and also to plan the necessary resources. Due to the involvement of public and private stakeholders operating throughout the country (GOST, ROSTEST, manufacturers, distributors, etc.), it is probable that other (in particular urban) regions will follow the example of the pilot region Moscow.
After the completion of the training, there will be no real demand for the services of the trained experts.	L	The integrated approach adopted by the project is expected to mitigate this risk by combining the training with concrete possibilities to apply the new skills in practice in the planned pilot projects and the new responsibilities and work associated with that.

106. While some uncertainties exist, the overall risk for project failure is considered as low.

Expected global, national and local benefits

107. As outlined in the previous chapters, the markets for household appliances and for technical building equipment have shown strong dynamics since early 2000, due to strong economic growth, raising income

levels and living standards of the population and a boom in construction of new buildings. According to the Government white paper “Development Concept for Russia for the period until 2020” a further strong economic growth is expected.

108. In the absence of this project, low energy efficient products will only gradually be removed from the market. In the baseline scenario, the annual electricity consumption of the appliances targeted under this project will increase from 55.2 TWh in 2005 to 64.4 TWh in 2015, 69.9 TWh in 2020 and 83.3 TWh in 2030. This would correspond to the annual increase of CO₂-emissions from 27.6 Mt in 2005 to 32.2 Mt in 2015, 35.0 Mt in 2020 and 41.6 Mt in 2030.

109. In the alternative scenario affected by the proposed UNDP/GEF project and the associated EE S&L Programme of the project’s implementing partners, the electricity consumption and the associated CO₂-emissions would be reduced by 6.6 TWh and 3.3 Mt in 2015, 14.1 TWh and 7.0 Mt in 2020 and 30.1 TWh and 15.1 Mtons in 2030.

110. For further details, please see Annex IV, Part V of this project document.

Project Rationale and GEF Policy Conformity

111. The proposed project is in compliance with GEF’s climate change strategic program # 1 to “Promoting Energy-Efficient Buildings and Appliances”.

112. Minimum energy performance standards and energy efficiency labeling are a proven instrument to achieve the transformation of markets of energy consuming appliances and equipment. Energy labels describe the products' energy performance and enable consumers to make informed choices about the products they purchase. Labels therefore "pull" the distribution of models in the market towards higher shares of energy efficiency products. Minimum efficiency performance standards (MEPS), on the other hand, attempt to exclude low-efficiency products entirely from the market, thereby resulting in a "market push" (see figure 1).

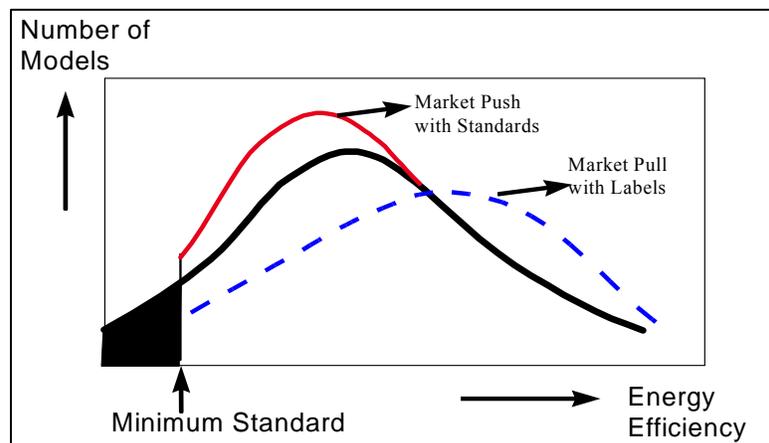


Figure 1: Effects of energy efficiency standards & labeling

113. Because of their potential to affect market transformation for a range of products that represent the major part of electricity consumption in various sectors (including the residential, tertiary and industrial sector), and because they require the intervention of a relatively small number of actors and thus result in

limited transaction costs, EE S&L are amongst the most cost-effective policy instruments to mitigate global climate change. Not surprisingly, EE S&L programmes have been introduced in over 60 countries around the world on a voluntary or mandatory basis.

114. In Russia, the implementation of an EE S&L programme will close the current "efficiency gap" between Russia and the European Union, USA and other industrialized countries, who have already introduced successful S&L programmes and schemes.

115. The proposed two-level approach corresponds to the specific situation in Russia: (i) while a sustained effort will be needed to modify the federal legal framework (in particular: Federal Law on Technical Regulation) in a way to allow that implementation of *mandatory* EE S&L, (ii) many tangible and intangible elements are in place that allow the immediate development of a full-scale EE S&L programme that will be first implemented on a *voluntary* basis in the pilot region Moscow. While it is acknowledged that mandatory energy efficiency standards & labeling should be the preferred option - taking into consideration international experience - the approach chosen in this project combines an orientation at this final goal with a pragmatic and phased procedure, that seeks achieving short and medium results to finally gain enough political and administrative support to change the existing unfavourable legal framework.

116. The technologies selected as initial targets of the project (see tables 8 and 9) represent about 26% of the total electricity consumption of the residential, commercial and public sectors, with energy savings potentials up to 40%.

117. Moscow has been selected as a pilot region for this project, due to various reasons:

- With more than 6 million households (out of 56 million households in Russia) and relatively high living standards of its population, Moscow is the largest and most advanced market for the promotion of energy efficient appliances and equipment.
- The total electricity consumption of Moscow is 35 TWh/year, with a share of the residential sector of about 50%, the commercial and public sector of about 30% and 16% of industry. The annual growth rate of residential electricity consumption is about 6%.
- The growth of residential electricity consumption is due to new housing construction and to a growing saturation with household and home appliances. Compared to 1990, the rate of purchases of electric household appliances in Moscow has almost tripled.
- According to consumer surveys, there is a growing consciousness of energy consumption and the need to save energy among the population of Moscow. This provides a favourable framework for an energy labeling programme.
- The housing stock of Moscow includes more than 40,000 residential buildings with over 30,000 buildings being the property of the city of Moscow.
- The municipality of Moscow allocates significant amounts of money for purchasing equipment, including technical building equipment that is subject of the proposed EE S&L project.
- Due to shortages in power generation capacity, Moscow suffers electricity shortages, in particular in peak hours.
- Electricity tariffs in the Moscow region are among the highest in the country; connection charges for consumers are the highest nation-wide.

- Both the City Government of Moscow as OJSC Mosenergosbyt are committed to the programme and have confirmed their commitment to co-finance the project.

Country Ownership: Country Eligibility and Country Drivenness

118. According to the Instrument for the Establishment of the Restructured Global Environment Facility, the Russian Federation qualifies for GEF financing on the following grounds:

- It has ratified the United Nations Framework Convention on Climate Change on December 28, 1994; and
- It receives development assistance from UNDP's core resources.

119. An on-going UNDP Country Programme in the Russian Federation prioritizes the work on climate change mitigation and energy efficiency and highlights a partnership with the GEF. In particular, the UNDP Russia Programme outlines a priority of the development and transformation of domestic markets for energy-efficient products and services.

120. The Russian Federation has submitted their Fourth National Communication under the framework of the UNFCCC on 12 October 2006. This Communication states that Energy Efficiency, and EE S&L in particular, are among the measures that the country is considering for the reduction of GHG emissions.

121. As summarized in the previous chapters, the project is also in line with the stated objectives and priorities of the Russian energy policy, where energy efficiency has been listed as one of the eight priorities of the future development in Russia. Raising energy efficiency is also one of the main strategic objectives of Russia's Energy Strategy until 2020, energy efficiency standards and labeling being among the instruments stipulated to achieve this goal.

122. The project will also build on the specific program of different ministries and government agencies such as the "Research and development in the priority directions of science and technology in Russia for 2007-2012" (Federal Agency for Science and Innovation), "Promotion of energy efficiency in the Russian Federation for 2008-2010 and for prospect to 2015" (Federal Ministry of Energy) and the National standardisation concept and the national standards development programme (Federal Agency for Technical Regulation and Metrology).

123. A new "Law on Energy Conservation and Energy Efficiency Improvement" has recently been adopted by the State Duma and signed by the President. Among other stipulations, the law foresees the definition and mandatory identification of energy efficiency classes of household appliances, applicable to both locally produced and imported equipment. The law also foresees state support for projects using energy efficient devices and assistance to special population groups to purchase high efficiency devices. While this Law is adopted in November 2009 following a long development and consultation process, a lot of legislative and regulatory work is still to be completed before it will come into force – this work will be supported by the GEF project. However, the law already provides a number of important elements that demonstrate an understanding and a strong commitment of the government and experts to achieve market transformation in the field of energy efficiency.

124. The Federal Agency for Science and Innovation of the Ministry of Education and Science has undertaken preparatory work for the introduction of energy performance standards and labeling for the priority products identified and has been actively involved in the preparation of this project. In addition, many other public and private stakeholders have expressed strong support to the project. Among the stakeholders, who have most actively participated in the preparation of the programme are the Moscow

City Government, OJSC Mosenergosbyt and the Association of Engineers for Heat Supply, HVAC and Buildings Thermophysics: AVOK Non-commercial Partnership.

Sustainability

125. The project aims at the establishment of a stable institutional and organisational framework, that will allow the design, implementation and enforcement of a mandatory EE S&L programme for household appliances and other energy consuming equipment.

126. The project will work with Federal Ministries and Government Agencies, the State Duma and other interested parties in order to further develop, improve and – wherever necessary – revise existing laws and regulations, in order to create a strong and sustainable legal and regulatory framework for energy efficiency and EE S&L in particular. Based on the interest demonstrated by the Federal Agency for Science and Innovation of the Ministry of Education and Science, the project will seek the approval and commitment by all relevant government bodies. The proposed Inter-agency Coordination Body will serve as a forum to establish consensus and formulate and implement a consistent EE S&L strategy among all government agencies involved. Also, public-private partnerships will be established in order to implement particular elements of the EE S&L programme (starting in the pilot region Moscow).

127. Once established and operational, these organisational structures and institutions will safeguard continuation and sustainability of the EE S&L programme.

128. On the other hand, the involvement of manufacturers, other supply-chain stakeholders and consumers is expected to result in a wide acceptance of EE S&L as a cost-effective means to reduce energy consumption and cost, both of households and organisations. Manufacturers of appliances and equipment will perceive their economic benefits in providing energy efficient products to the market. Market dynamics will result in steady improvement of products, based on the experiences of supply-chain stakeholders made during the pilot implementation of the programme in the Moscow region. In particular, the project will help local manufacturers of appliances and equipment to successfully compete with imported equipment, by closing the present efficiency gap.

129. The implementation of an official framework of technical standards, testing procedures, labels and a system of conformity evaluation will provide a stable framework of reference for the EE S&L programme. Together with appropriate enforcement mechanisms, the normative framework will provide objective criteria and transparency to the programme, resulting in long-term sustainability.

130. A key prerequisite for sustainability is that the proposed measures can be considered as economically and financially feasible by the variety of different key stakeholders, which is to be considered and justified when determining the level and schedule of different measures proposed for adoption and implementation.

Replicability

131. The pilot programme in the Moscow region will include all elements of a full-scale EE S&L programme, including regulation, capacity building, compliance testing, labeling, procurement of energy efficient appliances, consumer awareness, public-private partnerships, voluntary agreements with appliance/equipment manufacturers and other supply-chain stakeholders, like distributors and sales outlets, etc. Due to the involvement of supply-chain stakeholders, the pilot programme will also provide the basis to promote market transformation in other urban centres throughout the Russian Federation.

132. During the Year 3 of the project implementation outputs from Moscow pilot will be analyzed and materials will be prepared for further replication. The project will support targeted replication of local EE S&L models in at least one additional region starting from Year 4 (this refers mainly to local regulations and procurement models for the public sector). Nizhny Novgorod region has been identified for replication during the project development phase. By the end of the Year 3 of the project implementation based on the analysis of initial testing and on stakeholders consultations additional Russian regions might be selected for replication.

133. On the other hand, the project's activities on the federal level will: (i) pave the way for a full-scale national energy efficiency standards & labeling programme and (ii) provide uniform criteria and elements to implement pilot projects in other major urban centres and cities of Russia.

134. Taking into account the above, the project can be considered as replicable in two ways:

- The pilot programme implemented in the Moscow region can be replicated by other cities and regions of the Russian Federation.
- The concept of working in a complementary way on the local and national level can be a model for other countries with a similar institutional framework, e.g. other CIS countries.

PART III : MANAGEMENT ARRANGEMENTS

135. The project will be executed by the Federal Agency for Science and Innovation of the Russian Federation in accordance with the UNDP National Execution Modality (NEX) for at least the first 12 months. At the end of 12 months, the Executing Agency may change to the Federal Agency of Technical Regulations and Metrology in the event that it is the duly appointed Federal Agency in the Russian Federation for Standards and Labeling. The executing agency's responsibilities will include: 1) certifying expenditures under approved budgets and work plans; 2) tracking and reporting on procurement and outputs; 3) coordinating the financing from UNDP and GEF with that from other sources; 4) preparation/approval of Terms of Reference for contractors and required tender documentation; and 5) participating in the National Interagency Coordination Body acting as a key member of the Project Steering Committee (PSC) for the project. The National Executing Agency will also facilitate the implementation of the required legal and regulatory reforms.

136. UNDP, as the GEF Implementing Agency, will be responsible for financial management and the final approval of payments to vendors, the approval of Terms of Reference, recruitment of consulting services, and sub-contracting (upon request of the Executing Agency). The implementation arrangements for the project have been designed to maximize transparency and accountability. Disbursement figures will be made publicly available. These arrangements have been accepted by all stakeholders.

137. Participatory decision-making is also highly stressed in the project. **An Interagency Coordination Body/ Project Steering Committee (PSC)** will be formed to provide overall guidance and support for project implementation activities. To allow for effective decision-making and coordination with other projects, the PSC will include representatives of the federal government (Rosnauka, the Ministry of Natural Resources and Environment, the Ministry of Energy, Ministry of Economic Development, the Federal Agency of Technical Regulations and Metrology (Chair), UNDP Country Office, the Moscow City Government, the Regional Government of Nizhny Novgorod, professional associations and associations of manufacturers, representatives of scientific community. Professional NGOs, and international energy efficiency projects implemented in Russia might wish to nominate their representatives as observers to the PSC. The PSC will monitor project implementation to help ensure timely progress in attaining the desired results, and efficient coordination with other relevant projects. The PSC will meet at the beginning of the project, 6 months after commencement of project implementation and every 6 months thereafter to review project progress and set major policy and implementation directions as required. The Executing arrangements will be reviewed by the project Steering Committee after the 12 months of the project implementation. The Project Steering Committee will take a decision whether to transfer the responsibility of executing the project to the Federal Agency of Technical Regulations and Metrology. In the event that it is not possible to obtain unanimous agreement of the PSC on whether to change the Executing Arrangements, a vote will be held and a majority of the members (over 50%) on the Project Steering Committee will be required to vote in favour of the change. In the event of the tie, UNDP will take the final decision on whether to change the Executing Agency in consultation with the Operational GEF Focal Point of the Russian Federation. If the decision of the PSC is not to change the Executing Agency arrangements, the PSC may also determine to revisit this issue at a further point in time to be determinate by the PSC.

138. The PSC will be chaired by the **National Project Director (NPD)**. NPD, who will be designated by Rosnauka, will be responsible for carrying out the advice of the PSC and for ensuring the proper implementation of the project on behalf of the Government. In doing so, the NPD will be responsible for project delivery, reporting, accounting, monitoring and evaluation, and for the proper management and audit of project resources.

139. The **UNDP Country Office** will support the project's implementation by managing the project budget and project expenditures, contracting project personnel, experts and subcontractors, carrying out procurement, and providing other assistance upon the request of the National Executing Agency. The UNDP Country Office will also monitor the project's implementation and achievement of the project outputs and ensure proper use of UNDP/GEF funds. Financial transactions, reporting and auditing will be carried out in compliance with the national regulations and UNDP rules and procedures for national execution. The UNDP Country Office will ensure the implementation of the day-to-day management and monitoring of the project operations through the appointed official in the UNDP Environment Unit.

140. Reporting to the NPD and UNDP will be done by the **Project Manager (PM)**, who will be assisted by **Project Assistant** based in Moscow. The PM will be a full time employee of the project and will be chosen in an open and fair competitive manner following standard UNDP hiring procedures. The PM will be in charge of daily implementation of the project and managing project activities. He/she will oversee and co-ordinate the work of the working teams. The Project Manager will also be responsible for the working level co-ordination with the other on-going national and international projects in the field of energy efficiency.

141. Tentatively, the following teams will be established for effective execution of project outcomes under direct supervision of the PM: (i) Working team on enabling policies and implementation of the Moscow pilot programme; (ii) Working Team on technical drafting and analysis of standards and labeling schemes and the compliance checking and enforcement related to them (iii) Working Team on supply side strengthening, marketing and public awareness raising. The PM and the Team Leaders will all be experts in one or more areas relevant to project implementation. They will perform not only administrative and/or coordinative functions, but to a very large extent will also provide their expertise to perform specific activities under the relevant outcomes.

142. In order to accord proper acknowledgement to GEF for providing funding, a GEF logo should appear on all relevant GEF project publications, including among others, project hardware and vehicles purchased with GEF funds. Any citation on publications regarding projects funded by GEF should also accord proper acknowledgment to GEF.

Stakeholder involvement

143. For successful project outcome, there is a need to engage a variety of different stakeholders in the implementation of project activities, which broadly can be divided to the following categories: (i) federal ministries and other government agencies; (ii) industry and professional associations, (iii) certification and testing authorities, (iv) organisations of civil society, consumers and end users; NGOs, (v) supply chain stakeholders: wholesalers and market outlets of equipment; (vi) scientific and technological research and educational institutes; and (vii) public entities and energy supplier(s) of the Moscow pilot region.

144. While the role of public authorities will be to work with different policy related issues (in consultation with the other stakeholder groups), the role of industry and professional associations will be to secure the adequate presentation of the views of the private sector on the suggested new policy measures, to promote EE S&L among their members, to provide a platform for conferences, symposia and business meetings and to leverage and facilitate otherwise the commitment of their members to participate and support the project activities.

145. Certification and testing authorities will assume the key role in securing the necessary procedures and technical infrastructure (test laboratories) required for an effective implementation of the EE S&L programme.

146. The involvement of organisations of the civil society, consumers' and end users' associations and Non-governmental Organisations (NGOs) will safeguard the interests of consumers and the focus of the EE S&L programme on the criteria of energy saving and environmental protection. Consumer organisations and NGOs will also play an important role in raising awareness for EE S&L among the public.

147. Supply chain stakeholders include manufacturers and importers of household appliances and technical building equipment and – in particular – wholesalers and market outlets. Supply chain stakeholders will be key partners of the project in all issues related to marketing of energy efficient products (including consumer awareness campaigns and incentives), public-private partnerships and pilot projects (see Part II: Strategy).

148. Scientific and technological research and educational institutes will participate in the development of energy efficiency standards and labels, consumer awareness campaigns, etc.

149. A specific target group of the project are large investors and real estate developers and construction companies. Several large commercial buyers expressed interest in cooperating with the project by adopting energy efficient procurement models and criteria (eg. consultations in progress with the Russian Railways company). During the project development phase, consultations were also conducted with banks and financial institutions such as the IFC (WB Group) and the on-going IFC/GEF “Russian Sustainable Energy Finance Programme”, with a resulting agreement on cooperation and coordination. In addition, consultations were conducted with leading Russian banks involved in consumer crediting and lending to Russian manufacturers. Cooperation might cover design and implementation of preferential financing schemes and incentives to promote energy efficient building equipment and appliances.

150. A summary of the identified key stakeholders and their envisaged role in the project is presented in Annex (Section IV, Part IV): “Stakeholder Involvement Plan”.

Coordination with other related initiatives:

151. This project is the first GEF-supported S&L initiative in Russia and will be closely coordinated with the already started activities under the federal programmes, as listed in the section “Country ownership”.

152. This project is included in the UNDP/UNIDO/EBRD Umbrella Programme “Energy Efficiency in the Russian Federation” and will be closely co-ordinated with the other planned activities under this programme and, in particular, with the project “Transforming the Market for Efficient Lighting” (PIMS 4160). As both projects have planned pilot activities in Moscow, this will provide excellent opportunities for planning and coordinating the stakeholder involvement and capacity building activities, marketing and public awareness raising, development of public procurement models, financial incentives etc. Both projects will also be working closely together in the development of S&L policies, legal and regulatory instruments. Results and lessons learned from other projects under the umbrella programme (“Improving energy efficiency in buildings in North West Russia”, “Improving energy efficiency in buildings in urban housing” and “Improving energy efficiency in buildings in public buildings”) will be closely monitored and co-ordination and exchange of experiences will be initiated for all related topics as they emerge.

153. As the agreed co-ordinating agency of the umbrella program, UNDP will be in charge of arranging the communication and taking the lead in ensuring adequate co-ordination between the different sub-

projects as well as with other internationally financed energy efficiency initiatives in Russia, such as the GEF projects led by the World Bank (IFC) and UNEP (regional initiative in financing), NEFCO, EU TACIS and bilateral donors such as USAID. For USAID funded activities, the co-ordination with the Federal Energy Management project (efficient federal energy buildings), regulations and institutional support to enhance efficiency in budget-funded buildings, in particular, will be ensured.

154. To facilitate communication, information exchange, expert discussions, dissemination of information within and between the projects, UNDP has launched a new web-based tool “Solution Exchange” that will offer a UN-sponsored site, where development professionals with similar interests can connect and share knowledge and experience for a common objective. This is expected to bring together professionals that are working to promote energy efficiency for both production and consumption; through alternative energy sources and innovative technologies. Officials of the Ministry of Energy, the Ministry of Economic Development, the Federal Agency for Science and Innovation, and other relevant government policy-making bodies, representatives of key professional NGOs and private sector companies working in the energy and environment field, energy efficiency advocates and experts will be interacting on an ongoing basis to learn, share results and collaborate otherwise.

PART IV : MONITORING AND EVALUATION PLAN AND BUDGET

155. Project monitoring and evaluation will be conducted in accordance with established UNDP and GEF procedures and will be provided by the project team and the UNDP Country Office (UNDP-CO) with support from UNDP/GEF. The Logical Framework Matrix in Annex 1 provides *performance* and *impact* indicators for project implementation along with their corresponding *means of verification*. These will form the basis on which the project's Monitoring and Evaluation system will be built.

156. The following sections outline the principle components of the Monitoring and Evaluation Plan and indicative cost estimates related to M&E activities. The project's Monitoring and Evaluation Plan will be presented and finalized at the Project's Inception Report following a collective fine-tuning of indicators, means of verification, and the full definition of project staff M&E responsibilities.

Monitoring and Reporting

Project Inception Phase

157. A Project Inception Workshop (IW) will be conducted with the full project team, relevant government counterparts, co-financing partners, the UNDP-CO and representation from the UNDP-GEF Regional Coordinating Unit, as appropriate.

158. The inception workshop is to assist the project team to understand and take ownership of the project's goals and objectives, as well as finalize preparation of the project's first annual work plan on the basis of the project's logframe matrix. This will include reviewing the logframe (indicators, means of verification, assumptions), imparting additional detail as needed, and on the basis of this exercise finalize the Annual Work Plan (AWP) with precise and measurable performance indicators consistent with the expected outcomes of the project.

159. In addition, the inception workshop is to: (i) introduce project staff with the UNDP-GEF expanded team, which will support the project during its implementation, namely the CO and responsible Regional Coordinating Unit staff; (ii) detail the roles, support services and complementary responsibilities of UNDP-CO and RCU staff vis a vis the project team; (iii) provide a detailed overview of UNDP-GEF reporting and monitoring and evaluation (M&E) requirements, with particular emphasis on the Annual Project Implementation Reviews (PIRs) and related documentation, Tripartite Review Meetings, as well

as mid-term and final evaluations. Equally, the IW will provide an opportunity to inform the project team on UNDP project related budgetary planning, budget reviews, and mandatory budget rephasings.

160. The IW will also provide an opportunity for all parties to understand their roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff and decision-making structures will be discussed again, as needed, in order to clarify each party's responsibilities during the project's implementation phase.

Monitoring responsibilities and events

161. A detailed schedule of project review meetings will be developed by the project management, in consultation with project implementation partners and stakeholder representatives, and incorporated in the project inception report. Such a schedule will include: (i) tentative time frames for Tripartite Reviews, Steering Committee Meetings, (or relevant advisory and/or coordination mechanisms) and (ii) project related Monitoring and Evaluation activities.

162. *Day to day monitoring* of implementation progress will be the responsibility of the project manager based on the project's Annual Workplan and its indicators. The Project Team will inform the UNDP-CO of any delays or difficulties faced during implementation so that appropriate support or corrective measures can be adopted in a timely and remedial fashion.

163. *Periodic monitoring* of implementation progress will be undertaken by the Project Steering Committee and/or UNDP-CO through quarterly meetings with the project team or more frequently as deemed necessary. This will allow parties to take stock and to troubleshoot any problems pertaining to the project in a timely fashion to ensure smooth implementation of project activities.

164. UNDP Country Offices and UNDP-GEF RCUs, as appropriate, will conduct yearly visits to projects that have field sites, or more often based on an agreed upon schedule to be detailed in the project's Inception Report / Annual Workplan to assess project progress. Any other member of the Steering Committee can also accompany, as decided by the PSC. A Field Visit Report will be prepared by the CO and circulated no less than one month after the visit to the project team, all PSC members, and UNDP-GEF.

165. *Annual Monitoring* will occur through the **Tripartite Review (TPR)**. This is the highest policy-level meeting of the parties directly involved in the implementation of the project. The project will be subject to Tripartite Review (TPR) at least once every year. The first such meeting will be held within the first twelve months from the start of full implementation. The project proponent will prepare an Annual Project Report/Project Implementation Review (APR/PIR) and submit it to UNDP-CO and the UNDP-GEF regional office at least two weeks prior to the TPR for review and comments.

166. The APR/PIR will be used as one of the basic documents for discussions in the TPR meeting. The project proponent will present the APR/PIR to the TPR, highlighting policy issues and recommendations for the decision of the TPR participants. The project proponent also informs the participants of any agreement reached by stakeholders during the APR/PIR preparation on how to resolve operational issues. Separate reviews of each project component may also be conducted if necessary.

167. The **Terminal Tripartite Review (TPR)** is held in the last month of project operations. The project proponent is responsible for preparing the Terminal Report and submitting it to UNDP-CO and UNDP/GEF's Regional Coordinating Unit. It shall be prepared in draft at least two months in advance of the TTR in order to allow review, and will serve as the basis for discussions in the TTR. The terminal

tripartite review considers the implementation of the project as a whole, paying particular attention to whether the project has achieved its stated objectives and contributed to the broader environmental objective. It decides whether any actions are still necessary, particularly in relation to sustainability of project results, and acts as a vehicle through which lessons learnt can be captured to feed into other projects under implementation or formulation.

168. Measurement of impact indicators related to global benefits will occur according to the schedules defined in the Inception Workshop. The measurement of these will be facilitated by subcontracts or retainers with relevant institutions or through specific studies that are to form part of the projects activities (e.g. measurement of carbon benefits or through surveys for capacity building efforts).

169. The TPR has the authority to suspend disbursement if project performance benchmarks are not met. Benchmarks will be developed at the Inception Workshop, based on the performance and impact indicators defined in the projects logical framework matrix.

Project Monitoring Reporting

170. The Project Coordinator, in conjunction with the UNDP-GEF extended team, will be responsible for the preparation and submission of the following reports that form part of the monitoring process. Items (a) through (e) are mandatory standard requirements, while (f) through (h) need to be considered on a project by project basis.

(a) Inception Report (IR)

171. A Project Inception Report will be prepared immediately following the Inception Workshop. It will include a detailed First Year/ Annual Work Plan divided in quarterly time-frames detailing the activities and progress indicators that will guide implementation during the first year of the project. This Work Plan would include the dates of specific field visits, support missions from the UNDP-CO or the Regional Coordinating Unit (RCU) or consultants, as well as time-frames for meetings of the project's decision making structures. The Report will also include a detailed project budget for the first full year of implementation, prepared on the basis of the Annual Work Plan, and including any monitoring and evaluation requirements to effectively measure project performance during the targeted 12 months time-frame.

172. The Inception Report will include a more detailed narrative on the institutional roles, responsibilities, coordinating actions and feedback mechanisms of project related partners. In addition, a section will be included on progress to date on project establishment and start-up activities and an update of any changed external conditions that may effect project implementation.

173. After finalized, the report will be circulated to the project counterparts who will be given a period of one calendar month in which to respond with comments or queries. Prior to this circulation of the IR, the UNDP Country Office and UNDP-GEF's Regional Coordinating Unit will review the document.

(b) Annual Project Report (APR)

174. The APR is a UNDP requirement and part of UNDP's Country Office central oversight, monitoring and project management. It is a self -assessment report by project management to the CO and provides input to the country office reporting process and the ROAR, as well as forming a key input to the Tripartite Project Review. An APR will be prepared on an annual basis prior to the Tripartite Project Review, to reflect progress achieved in meeting the project's Annual Work Plan and assess performance of the project in contributing to intended outcomes through outputs and partnership work.

175. The format of the APR is flexible but should include the following:

- An analysis of project performance over the reporting period, including outputs produced and, where possible, information on the status of the outcome;
- The constraints experienced in the progress towards results and the reasons for these;
- The three (at most) major constraints to achievement of results;
- AWP, CAE and other expenditure reports (ERP generated);
- Lessons learned;
- Clear recommendations for future orientation in addressing key problems in lack of progress

(c) Project Implementation Review (PIR)

176. The PIR is an annual monitoring process mandated by the GEF. It has become an essential management and monitoring tool for project managers and offers the main vehicle for extracting lessons from ongoing projects. Once the project has been under implementation for a year, a Project Implementation Report must be completed by the CO together with the project team. The PIR is typically prepared immediately after the end of the GEF's financial year (June) and ideally prior to the TPR. The PIR should then be discussed in the TPR so that the result would be a PIR that has been agreed upon by the project, the executing agency, UNDP CO and the concerned RTA.

177. The individual PIRs are collected, reviewed and analyzed by the RTAs prior to sending them to the focal area clusters at the UNDP/GEF headquarters. The focal area clusters supported by the UNDP/GEF M&E Unit analyze the PIRs by focal area, theme and region for common issues/results and lessons. The TAs and PTAs play a key role in this consolidating analysis.

178. The focal area PIRs are then discussed in the GEF Interagency Focal Area Task Forces in or around November each year and consolidated reports by focal area are collated by the GEF Independent M&E Unit based on the Task Force findings.

179. The GEF M&E Unit provides the scope and content of the PIR. In light of the similarities of both APR and PIR, UNDP/GEF has prepared a harmonized format for reference, which is available from UNDP/GEF's M&E Unit.

(d) Quarterly Progress Reports

180. Short reports outlining main updates in project progress will be provided quarterly to the local UNDP Country Office and the UNDP-GEF regional office by the project team.

(e) Project Terminal Report

181. During the last three months of the project the project team will prepare the Project Terminal Report. This comprehensive report will summarize all activities, achievements and outputs of the Project, lessons learnt, objectives met, or not achieved, structures and systems implemented, etc. and will be the definitive statement of the Project's activities during its lifetime. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the Project's activities.

(f) Periodic Thematic Reports (project specific – optional)

182. As and when called for by UNDP, UNDP-GEF or the Implementing Partner, the project team will prepare Specific Thematic Reports, focusing on specific issues or areas of activity. The request for a Thematic Report will be provided to the project team in written form by UNDP and will clearly state the issue or activities that need to be reported on. These reports can be used as a form of lessons learnt exercise, specific oversight in key areas, or as troubleshooting exercises to evaluate and overcome obstacles and difficulties encountered. UNDP is requested to minimize its requests for Thematic Reports, and when such are necessary will allow reasonable timeframes for their preparation by the project team.

(g) Technical Reports (project specific- optional)

183. Technical Reports are detailed documents covering specific areas of analysis or scientific specializations within the overall project. As part of the Inception Report, the project team will prepare a draft Reports List, detailing the technical reports that are expected to be prepared on key areas of activity during the course of the Project, and tentative due dates. Where necessary this Reports List will be revised and updated, and included in subsequent APRs. Technical Reports may also be prepared by external consultants and should be comprehensive, specialized analyses of clearly defined areas of research within the framework of the project and its sites. These technical reports will represent, as appropriate, the project's substantive contribution to specific areas, and will be used in efforts to disseminate relevant information and best practices at local, national and international levels.

(h) Project publications (project specific- optional)

184. Project publications will form a key method of crystallizing and disseminating the results and achievements of the Project. These publications may be scientific or informational texts on the activities and achievements of the Project, in the form of journal articles, multimedia publications, etc. These publications can be based on Technical Reports, depending upon the relevance, scientific worth, etc. of these Reports, or may be summaries or compilations of a series of Technical Reports and other research. The project team will determine if any of the Technical Reports merit formal publication, and will also (in consultation with UNDP, the government and other relevant stakeholder groups) plan and produce these Publications in a consistent and recognizable format. Project resources will need to be defined and allocated for these activities as appropriate and in a manner commensurate with the project's budget.

Independent Evaluations

185. The project is subject to at least two independent external evaluations as follows:

186. An independent **Mid-Term Evaluation** will be undertaken at the end of the second year of implementation. The Mid-Term Evaluation will determine progress being made towards the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF.

187. An independent **Final Evaluation** will take place three months prior to the terminal tripartite review meeting, and will focus on the same issues as the mid-term evaluation. The final evaluation will also look

at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. The Final Evaluation should also provide recommendations for follow-up activities. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF.

Audit Clause

188. The Government will provide the Resident Representative with certified periodic financial statements, and with an annual audit of the financial statements relating to the status of UNDP (including GEF) funds according to the established procedures set out in the Programming and Finance manuals. The Audit will be conducted by a legally recognized independent auditor.

Learning and Knowledge Sharing

189. Results from the project will be disseminated within and beyond the project intervention zone through a number of existing information sharing networks and forums. In addition:

- The project will participate, as relevant and appropriate, in UNDP/GEF sponsored networks, organized for senior personnel working on projects that share common characteristics.
- The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned.

190. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects. Identifying and analyzing lessons learned is an on-going process and the need to communicate such lessons as one of the project's central contributions is a requirement to be delivered not less frequently than once every 12 months. UNDP/GEF shall provide a format and assist the project team in categorizing, documenting and reporting the lessons learned. To this end a percentage of project resources will also need to be allocated for these activities.

TABLE H-1: INDICATIVE MONITORING AND EVALUATION WORK PLAN AND CORRESPONDING BUDGET

Type of M&E activity	Responsible Parties	Budget US\$ <i>Excluding project staff time</i>	Time frame
Inception Workshop & associated arrangements	<ul style="list-style-type: none"> ▪ PM ▪ UNDP CO ▪ UNDP GEF 	Indicative cost: 7,000	Within first two months of project start up
Inception Report	<ul style="list-style-type: none"> ▪ Project Team ▪ UNDP CO ▪ Consultancy support if needed 	Indicative cost 5,000 (stakeholder consultations, consultancy translation)	Immediately following IW
Measurement of Means of Verification for Project Purpose Indicators	<ul style="list-style-type: none"> ▪ PM will oversee the hiring for specific studies and institutions, delegate responsibilities to relevant team members, and ▪ Ensure hiring outside experts if deemed necessary 	To be finalized in Inception Phase and Workshop. Indicative cost 10,000	Start, mid and end of project
Measurement of Means of Verification for	<ul style="list-style-type: none"> ▪ Oversight by Project GEF Regional Advisor and PM ▪ Measurements by regional field 	To be determined as part of the Annual Work Plan's preparation.	Annually prior to APR/PIR and to the definition of annual

Type of M&E activity	Responsible Parties	Budget US\$ <i>Excluding project staff time</i>	Time frame
Project Progress and Performance (measured on an annual basis)	officers and local IAs	Indicative cost 10,000	work plans
APR/PIR; GEF-4 Biodiversity Tracking Tool; METT	<ul style="list-style-type: none"> ▪ Project Team ▪ UNDP-CO ▪ UNDP-GEF 	Indicative cost: 0	Annually
Steering Committee Meetings and relevant meeting proceedings (minutes)	<ul style="list-style-type: none"> ▪ PM ▪ UNDP CO 	Indicative cost: 40,000 (travel costs for relevant project stakeholders)	Following Project IW and subsequently at least once a year
Quarterly status reports	<ul style="list-style-type: none"> ▪ Project team 	Indicative cost: 0	To be determined by Project team and UNDP CO
Technical reports	<ul style="list-style-type: none"> ▪ Project team ▪ Hired consultants as needed 	Indicative cost: 30,000	To be determined by Project Team and UNDP-CO
Project Publications (e.g. technical manuals, field guides)	<ul style="list-style-type: none"> ▪ Project team ▪ Hired consultants as needed 	Indicative cost: 40,000	To be determined by Project Team and UNDP-CO
Mid-term External Review	<ul style="list-style-type: none"> ▪ Project team ▪ UNDP- CO ▪ UNDP-GEF RCU ▪ External Consultants (i.e. evaluation team) 	Indicative cost: 55,000	At the mid-point of project implementation.
Final External Evaluation	<ul style="list-style-type: none"> ▪ Project team, ▪ UNDP-CO ▪ UNDP-GEF RCU ▪ External Consultants (i.e. evaluation team) 	Indicative cost: 55,000	At the end of project implementation
Terminal Report	<ul style="list-style-type: none"> ▪ Project team ▪ UNDP-CO ▪ External Consultant 	Indicative cost: 5,000	At least one month before the end of the project
Lessons learned	<ul style="list-style-type: none"> ▪ Project team ▪ UNDP-GEF RCU (suggested formats for documenting best practices, etc) 	Indicative cost: 14,000	Yearly
Audit	<ul style="list-style-type: none"> ▪ UNDP-CO ▪ Project team 	Indicative cost: 52,500 (average \$10,500 per year)	Yearly
Visits to field sites (UNDP staff travel to be charged to IA fees)	<ul style="list-style-type: none"> ▪ UNDP Country Office ▪ UNDP-GEF RCU (as appropriate) ▪ Government representatives 	Indicative cost: 41,500 (5-7 person/trips per year)	Yearly
TOTAL INDICATIVE COST Excluding project team staff time and UNDP staff and travel expenses		US\$ 365,000	

PART V: LEGAL CONTEXT

191. This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Government of the Russian Federation and the United Nations Development Programme, signed by the parties on 17 November 1993. The host country implementing agency shall, for the purpose of the Standard Basic Assistance Agreement, refer to the government co-operating agency described in that Agreement.

192. The UNDP Resident Representative in Moscow is authorized to effect in writing the following types of revision to this Project Document, provided that he/she has verified the agreement thereto by the UNDP-GEF Unit and is assured that the other signatories to the Project Document have no objection to the proposed changes: (i) Revision of, or addition to, any of the annexes to the Project Document; (ii) Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation; (iii) Mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility; and (iv) Inclusion of additional annexes and attachments only as set out here in this Project Document.

SECTION II : STRATEGIC RESULTS FRAMEWORK (SRF) AND GEF INCREMENT

STRATEGIC RESULTS FRAMEWORK

PROJECT STRATEGY (objectives, outcomes, outputs)	Indicator description	Baseline	Final value (target)	Sources of verification	Assumptions/risks
OBJECTIVE Reduction of GHG emissions by facilitating market transformation towards more energy efficient building equipment and appliances.	The amount of GHG emissions reduced compared to the expected baseline development	No incremental CO ₂ reduction compared to the projected baseline (see prodoc section IV, part V).	National level: Cumulative, incremental CO ₂ emission reduction (with a causality factor 4) of 7.8 Mt of CO _{2eq} by 2015 and 29.9 Mt by 2020. Pilot region (Moscow): Cumulative, incremental CO ₂ emission reduction of 1.89 Mt of CO _{2eq} by 2015 and 6.86 Mt by 2020.	The GHG emission reduction and market monitoring reports prepared under the M&E component of the project.	Continuing interest of key stakeholders to co-operate and contribute to reaching the set targets. The price of EE appliances vs. electricity costs justify their purchase
OUTCOME 1 An institutional, legal and regulatory basis established and the capacity of the national authorities built to facilitate introduction and wide-spread application of energy efficiency S&L schemes and their testing at least in one pilot region during the implementation of the project.	Availability of specific organisational arrangements to promote the introduction of the S&L schemes Status of the proposed legal and regulatory amendments and voluntary agreements at the federal and city government (regional) level.	At the Federal Government level no responsibilities are defined or organisational structures established for the development of EE S&L schemes. Inadequate legal and regulatory framework to effectively promote S&L schemes and lack of awareness of key policy makers (together with other institutional barriers) to adopt the required amendments at the Federal level.	A National Inter-Agency Coordination Body (NICB) has been established The required legal and regulatory amendments have been adopted at the regional (city government) level for the implementation of a full scale (voluntary) S&L program in line of what can be later expanded to a mandatory scheme at the Federal level. Proposals for the required amendments in federal laws to facilitate introduction of mandatory S&L at the national level have been submitted for the Government consideration Implementation of EE S&L started in at least one additional Russian region beyond Moscow City.	Certificate of constitution of the NICB. Administrative orders of the Moscow City Government Voluntary agreements between the Moscow City Government and stakeholders Project progress reports	The members of NICB will allocate sufficient human and financial resources to effectively work on the proposed S&L schemes Continuing commitment of the Moscow city government to support the implementation of a full scale S&L program in Moscow.
Output 1.1 National Inter-Agency Coordination	Status of the National Inter-Agency Coordination	At the level of the Federal Government, no co-ordination body	A National Inter-Agency Coordination Body (NICB) has been established and is acting	Certificate of constitution of the NICB. Records of	The Federal Gov't will assign a responsible

PROJECT STRATEGY (objectives, outcomes, outputs)	Indicator description	Baseline	Final value (target)	Sources of verification	Assumptions/risks
Body	Body	and promoter of the appliance S&L policies currently exist.	as a manager and promoter of EE S&L under the leadership of the Federal Agency of Science and Innovation	proceedings of regular meetings of the NICB	agency for the EE S&L programme and for creating NICB.
Output 1.2 A proposal for the suggested amendments in federal legislation to facilitate mandatory EE S&L submitted to federal authorities	Status of the proposal(s) for the amendment of the Federal Law on Technical Regulation and of secondary legislation to implement the new Law on Energy Conservation and Energy Efficiency Improvement	The Federal Law on Technical Regulation of 2002 does not allow mandatory EE S&L. The new Law on Energy Conservation and Energy Efficiency Improvement (replacing the Law on Energy Saving of 1996) is presently under consideration of the State Duma. Institutional barriers of amending federal legislation.	Proposals for the amendment of the Federal Law on Technical Regulation to allow mandatory EE S&L, including MEPS, are prepared and submitted to the authorities. Adequate secondary legislation to effectively implement mandatory EE S&L and MEPS in accordance with the new Law on Energy Conservation and Energy Efficiency Improvement has been drafted and submitted to the authorities.	Official communication to the authorities in charge (Minpromtorg, State Duma, Expert Committee for Technical Regulation of the Federal Government)	Due to complex institutional procedures to amend any federal law, the actual adoption of the suggested legal amendments at the federal level may not take effect during the implementation of the project.
Output 1.3 Adoption of all the required legal and regulatory changes by the Moscow city government to facilitate the implementation of a full scale S&L pilot program in the Moscow region	Status of the suggested legal and regulatory amendments and administrative orders. Status of implementation of the voluntary EE S&L programme in Moscow.	A fully supportive legal and regulatory framework to facilitate the implementation of a full scale S&L program in Moscow region not established yet.	All the required regulatory changes adopted and administrative orders issued to support the implementation of a voluntary EE S&L program (in line with what can be later expanded to a mandatory federal EE S&L scheme). This will include, but is not necessary limited to: <ul style="list-style-type: none"> ▪ Administrative orders of the Moscow City Government defining the voluntary EE S&L programme, its scope and criteria. ▪ Voluntary agreements to implement the program signed by the Moscow City Gov't and the key supply side stakeholders. ▪ Administrative orders 	Administrative orders issued Progress reports on the implementation of the voluntary EE S&L programme.	Continuing commitment of the Moscow City Government to support the implementation of a full scale S&L program in Moscow. The initial analysis conducted during the project preparatory phase concluded that the suggested measures should not be in conflict with any federal laws, so this

PROJECT STRATEGY (objectives, outcomes, outputs)	Indicator description	Baseline	Final value (target)	Sources of verification	Assumptions/risks
			for minimum energy performance standards of building equipment for public procurement.		remains as an assumption.
OUTCOME 2 National S&L schemes for selected power-consuming products designed and proposed and the required verification and enforcement capacity for their implementation in place based on international best practices.	Content of official GOST-standards for EE testing and labeling of targeted appliances and equipment Availability of a fully operational system of compliance testing, including test procedures and accredited test laboratories for full product and regional coverage. Availability of technical EE guidelines for public procurement	See outputs 2.1 – 2.3	Updated EE testing and labelling standards following international best practices and most recent technology development for selected priority appliances and technical building equipment published as official GOST-standards. A fully elaborated, capacitated and transparent compliance checking and enforcement system in place meaning that the required EE testing and labeling standards are available as official GOST-standards and the certification system and facilities (test laboratories and certification bodies) have been evaluated to meet the international standards. Finalized guidelines and suggested criteria for promoting energy efficient building equipment in public procurement.	Published GOST-standards Independent international expert evaluation of the established compliance checking system and facilities. Project progress reports	The review of existing and elaboration of new EE testing and labeling standards and the adaptation of the existing testing system and facilities, including ROSTEST test laboratories, for the specific requirements of compliance checking of the selected appliances and equipment is expected to proceed smoothly without facing significant administrative or other similar barriers.
Output 2.1 New and/or updated energy efficiency testing and labeling standards developed.	Status and content of the GOST-standards for targeted appliances	Various GOST-standards for energy consuming appliances and equipment were elaborated between 1995 - 2001, but cannot be implemented as mandatory because of the restrictions due to the Federal Law on Technical Regulation. There is also a need for	New and updated GOST-standards for energy efficiency test procedures and for EE labeling of selected appliances and equipment (incl. household refrigerators and freezers, household washing machines, water pumps, industrial air conditioners and fans and chillers for central air-conditioning) published, taking into account the most recent international	Published GOST-standards	Efficient management of the process by the national standardization institute avoiding undue delays and productive consultations with stakeholders to reach consensus.

PROJECT STRATEGY (objectives, outcomes, outputs)	Indicator description	Baseline	Final value (target)	Sources of verification	Assumptions/risks
		reviewing and updating of existing and development of new standards by taking into account the international best practices and recent developments in this field.	developments and recognized international best practices in this field. Additional appliances and equipment subject to EE S&L identified.		
Output 2.2 Evaluation and improvement of the existing compliance checking, enforcement and certification system and facilities	The status of the compliance testing and certification system in place	A system of compliance testing and certification of test results by accredited organisations is in place, but requires an evaluation and possible upgrading.	Voluntary certification schemes for energy efficiency compliance testing, compatible with the federal system of compliance certification have been implemented. The existing compliance testing, certification and enforcement system has been evaluated by independent international expert(s) and the recommendations implemented. A fully capacitated laboratory for testing of household appliances has been established by OJSC Mosenergosbyt.	Project progress reports	Taking into consideration the high level of expertise available in the Russian organisations for standardisation, certification and accreditation, and the existing network of test laboratories (ROSTEST), it is assumed that this system can easily be adapted to the requirements of EE testing
Output 2.3 Energy efficiency procurement models	Status of the technical guidelines concerning the minimum energy efficiency standards for public procurement	Although allowed by the Federal Law on Placing Orders for the Supply of Goods, Performance of Works and Provision of Services for Public and Municipal Needs, no guidelines and criteria are available to promote the purchase of energy efficient	Energy efficiency guidelines, including minimum energy performance standards, for the procurement of technical building equipment and systems (HVAC, industrial air conditioners and fans, pumps) and, as applicable, for other appliances have been developed and published.	Project progress reports	Continuing commitment of the Moscow city government to support this subcomponent

PROJECT STRATEGY (objectives, outcomes, outputs)	Indicator description	Baseline	Final value (target)	Sources of verification	Assumptions/risks
		equipment and appliances in public procurement.			
OUTCOME 3 Enhanced interest and strengthened capacity of the local manufacturers and, as applicable, other supply chain stakeholders to comply with the new EE standards and to bring energy efficient models into the market at competitive and for the majority of the population affordable prices.	The price – energy efficiency – quality relation of the products available in the Russian market	The market of many household appliances and building equipment is characterized by relatively high shares of more efficient and higher priced imported products, but it still lacks efficient appliances that would be affordable to low and medium income consumers. Lack of experience of Russian companies with EE S&L schemes.	The retail prices of the products in high energy efficient classes in Russian market are comparable to or lower than in selected reference countries By voluntary agreements, the local manufacturers are incorporating EE labels into their marketing strategy and comply with the standards issued.	Regular market monitoring and evaluation reports	Continuing interest of the local manufacturers and other parts of the supply chain to compete with the energy efficiency of their products and to consider it as an elementary part of their marketing and product development strategy
Output 3.1 Awareness raising and training of local manufacturers to improve the energy efficiency of their products in a competitive way and to effectively use that in their marketing strategy, including EE labels.	The number and market share of local manufacturers that have benefitted from technical support provided by the project.	While foreign companies (incl. those with production facilities in Russia) supplying appliances and technical building equipment to the Russian market are familiar with the EE S&L schemes of their countries of origin and world-wide, Russian manufacturers still lack this experience.	Following the identification of their specific needs, local manufacturers of household appliances and technical building equipment have been trained and received technical assistance in energy efficient product design, needs for adoption of production facilities to more efficient products, and experiences with EE S&L of foreign and multi-national appliance and equipment manufacturers.	Project progress reports Survey of training and technical assistance needs of local manufacturers. Agendas and reports of training courses realized. Terms of reference and reports of technical assistance provided.	See above
Output 3.2 A working group of private	Status of working group operation	No established forums between (local) authorities	A working group of private sector stakeholders, members of	Project progress reports	The feasibility and foreseen mutual benefits

PROJECT STRATEGY (objectives, outcomes, outputs)	Indicator description	Baseline	Final value (target)	Sources of verification	Assumptions/risks
sector stakeholders, members of the Inter-agency Coordination Body and other interested parties to elaborate the possible public-private partnerships		and private sector stakeholders (such as manufacturers, retailers, private sector buyers, corporate energy consumers, energy distribution and service companies) to discuss and elaborate possible public-private partnerships in promoting the adoption of the EE S&L schemes and the sale of EE appliances	the Inter-agency Coordination Body and other interested parties established to elaborate the possible public-private partnerships in promoting the adoption of the EE S&L schemes and the sale of EE appliances.	Minutes of the working group	and interest of the targeted stakeholders to consider public-private partnerships as the preferred <i>modus operandi</i> to influence the market (risk medium)
Output 3.3 Voluntary agreements with the interested manufacturers and other supply chain stakeholders on product labeling and incorporation of EE aspects into their marketing strategy	Number and market share of the manufacturers that have signed a voluntary agreement.	No product labeling in the Russian market (except some labels of the countries of origin of few imported appliances). Energy efficiency S&L are not part of local manufacturers' marketing strategies.	Voluntary agreements concerning product labeling at sales points and inclusion of EE information in product documentation have been negotiated and concluded with manufacturers and distributors of household appliances and technical building equipment	Project progress reports	Foreseen mutual benefits and interest of supply chain stakeholders to co-operate on the suggested voluntary EE labeling scheme
Output 3.4 Elaborated joint strategies and mechanisms to make energy efficient products more competitive and affordable to the majority of the local population and established public-private partnerships to implement these strategies	Status of implementation of the elaborated strategies and mechanisms	No specific market enhancement mechanisms implemented and supported as public-private partnership.	Agreed joint marketing strategies with the local manufacturers and other supply chain stakeholders. Attractive pricing policies, and preferential consumer credits and/or incentives for energy efficient appliances available, connected to the marketing strategy of the local supply chain and used by the consumers. As applicable, development and implementation of	Project progress reports	Interest of the local financing institutions, public authorities, manufacturers and other supply chain stakeholders to co-operate in the elaboration and financing of the agreed market enhancement mechanisms as a public-private

PROJECT STRATEGY (objectives, outcomes, outputs)	Indicator description	Baseline	Final value (target)	Sources of verification	Assumptions/risks
			corporate procurement programmes - using certified and labeled technical building equipment.		partnership.
OUTCOME 4 Enhanced awareness and improved access to non-partial information of residential and commercial clients concerning energy efficiency and other relevant characteristics of the targeted appliances and equipment from the life-cycle costs and environmental perspective. Market monitoring mechanism.	Level of awareness of residential and commercial customers on the purpose of the suggested EE S&L schemes and access to non-partial information on the economic and environmental benefits of energy efficient equipment, when comparing the different products in the market. The share of customers who have considered energy efficiency aspects in their last purchasing decision.	Lack of visible and non-partial information on energy performance of different products and relatively low attention on energy efficiency aspects by household consumers and commercial buyers.	In the selected target region over 80 % of the interviewed group of customers that are currently considering or have purchased one or more of the appliances / equipment targeted by the project during its implementation have been exposed to one or more of the awareness raising activities of the project and for more than 50% this has influenced their purchasing decision.	Consumer surveys and interviews at the sales points. Project reports.	The electricity costs or environmental considerations are at the high enough level to awake and sustain the interest of the targeted customers to obtain information on energy efficiency performance of products considered for purchase.
Output 4.1 An established market monitoring mechanisms to produce updated information on the sales of the targeted appliances by energy classes.	Status of the market monitoring reports	Inadequate or outdated market information.	Annual (or bi-annual) market monitoring reports published with updated information on the sale of the targeted appliances by energy classes.	Project progress reports	Access to reliable information from the market
Output 4.2 Internet-based information	Status and usefulness of	Information on energy efficiency and related	An internet-based energy efficiency information clearinghouse on energy	User statistics and feedback.	Assignment of adequate resources for

PROJECT STRATEGY (objectives, outcomes, outputs)	Indicator description	Baseline	Final value (target)	Sources of verification	Assumptions/risks
clearinghouse	the web-site	performance characteristics of household appliances and technical building equipment is not readily available. It is therefore difficult for consumers (both private households and commercial buyers) to make purchase decisions with due regard on the energy efficiency of products.	consuming products established and updated regularly with EE information and its impact on the operating costs of the selected appliances, non-partial product information, certified test results, available financing support schemes (as applicable) and other relevant information to help consumer choices between the different appliances available in the Russian market and judge the importance of energy efficiency considerations in general.	Number of websites linked to information clearinghouse Regular review of the information placed on the website	active collection, processing and updating of the information. Availability of the certified testing information. Sustainability of the website after the end of the project
Output 4.3 Regional awareness campaign for household consumers	Status of the planned activities	Household consumers lack reliable information on energy efficiency characteristics and options of household appliances	A regional awareness campaign has been developed and implemented in the Moscow region, in cooperation with the Moscow City Government and OJSC Mosenergosbyt, including: - The establishment of a customers information centre at OJSC Mosenergosbyt - Didactic material on appliance energy efficiency and energy efficient practices elaborated and available - Information, training events and EE competitions realised - Consumer information units/desks established at Mosenergosbyt district offices and at sales outlets.	Project progress reports	Continuing interest of the Moscow City Government, OJSC Mosenergosbyt and other key stakeholders to co-operate in the realisation of the campaign (low risk).
Output 4.4 Information campaign for large commercial	Status of the planned activities	Large commercial buyers like project developers, investors, general	A regional information campaign on energy efficiency building equipment implemented,	Project progress reports	The electricity costs are high enough to awake and

PROJECT STRATEGY (objectives, outcomes, outputs)	Indicator description	Baseline	Final value (target)	Sources of verification	Assumptions/risks
buyers		contractors of construction projects, owners and operators of commercial buildings, public building operators and housing associations - lack reliable information on energy efficiency characteristics and options of technical building equipment	focusing primarily - but not exclusively - on the region of Moscow, including: - Confirmation of information needs by market research among large commercial buyers of technical building equipment - Technical documentation regarding energy efficiency characteristics and options of products - Information and training events for large commercial buyers and their purchasing officers		sustain the interest of large commercial buyers in obtaining information on energy efficiency performance and options for technical building equipment.
Output 4.5 Trained sales personnel of the household appliances and technical building equipment.	Share of the trained sales personnel in the selected pilot region	Lack of information among the sales personnel to adequately inform the targeted customers on the energy performance of the different products and how it should be taken into account in the purchasing decision.	Over 50 % of all the sales personnel trained in the selected pilot region	Project progress reports	Foreseen mutual benefits by the sales personnel of getting trained.

SECTION III : Total Budget and Workplan

The total costs of the proposed project have been estimated at USD (without the envisaged additional, but still unconfirmed cofinancing), of which the GEF is requested to cover the incremental costs of USD 7,810,000.

The committed cofinancing amounts to USD. A more detailed component specific budget is presented below.

Table III-1: Project Financing

Outcome	Total USD	GEF USD	Cofinancing USD
Outcome 1: An institutional, legal and regulatory basis established and the capacity of the national authorities built to facilitate introduction and wide-spread application of energy efficiency S&L schemes and their testing at least in one pilot region during the implementation of the project.	5,779,000	779,000	5,000,000
Outcome 2: National S&L schemes for selected power-consuming products designed and proposed and the required verification and enforcement capacity for their implementation in place based on international best practices.	15,115,500	2,225,000	12,890,500
Outcome 3: Enhanced interest and strengthened capacity of the local manufacturers and, as applicable, other supply chain stakeholders to comply with the new EE standards and to bring energy efficient models into the market at competitive and for the majority of the population affordable prices	32,137,000	2,345,000	29,792,000
Outcome 4: Enhanced awareness and improved access to non-partial information of residential and commercial clients concerning energy efficiency and other relevant characteristics of the targeted appliances and equipment from the life-cycle costs and environmental perspective.	7,663,500	1,928,000	5,735,500
Project management	4,486,000	533,000	3,953,000
GRAND TOTAL (with confirmed cofinancing)	65,181,000	7,810,000	57,371,000

Table III-2: Cofinancing by Outcomes

Name of Co-financier (source)	Classification	Type	Amount Roubles	Amount USD eq	Description	Status
Outcome 1						
Moscow City Gov't	Local Gov't	Cash	94,050,000	2,850,000	Design/improvement of local regulatory framework for S&L in Moscow	Confirmed
RATEK ⁸	Private	Cash	1,650,000	50,000	Participation in the development of amendments to laws and regulations	Confirmed
ROSNAUKA ⁹	Federal Gov't	Cash	65,100,000	2,100,000	Set up national coordination body; develop national S&L legislation	Confirmed
Subtotal			160,800,000	5,000,000		
Outcome 2						
Moscow City Gov't	Local Gov't	Cash	209,880,000	6,360,000	Development of energy efficiency standards and regulation of energy consumption in Moscow pilot region. Development of testing standards and models. Design and implementation of public procurement models in Moscow city government.	Confirmed
OJSC Mosenergosbyt ¹⁰	Private	Cash	1,980,000 (up to 2 mln)	60,000	Participation in the development of energy efficient labeling standards for the following equipment: industrial air conditioners and ventilators, refrigerating units for central conditioning systems, household refrigerators and freezers.	Confirmed
OJSC Mosenergosbyt	Private	Cash	3,317,000 (up-to 5 mln)	100,500	Creation of a testing center, acquisition of equipment and methodological materials and tools + testing the compliance of the production with energy efficiency standards.	Confirmed
AVOK ¹¹	Private	Cash	66,000,000	2,000,000	Development of standards for energy efficiency labels of buildings and methodical support to energy efficiency certification centres and testing laboratories for energy consuming appliances	Confirmed
RATEK	Private	Cash	5,610,000	170,000	Participation in the development of standards, testing methods and other normative documents; creating new and upgrading the existing testing subdivisions to facilitate the implementation of the EE S&L schemes	Confirmed
Rosnauka	Federal Gov't	Cash	130,200,000	4,200,000	Development of national standards and S&L models for building equipment and appliances, national replication models and guidelines	Confirmed
Subtotal			416,987,000	12,890,500		
Outcome 3						

⁸ Association of Trading Companies and Manufacturers of Consumer Electronic and Computer Equipment

⁹ Federal Agency for Science and Innovation of the RF

¹⁰ An distribution and service company, serving more than 6 million clients in the Moscow area

¹¹ Association of Engineers for Heating, Ventilation, Air-conditioning, heat supply & Building Thermal Physics

Moscow City Gov't	Local Gov't	Cash	183,216,000	5,552,000	Strengthening capacity of local manufacturers of energy efficient appliance	Confirmed
AVOK	Private	Cash	781,130,000	23,670,000	Improvement of energy efficiency of the products, EE projects development, design and construction of energy efficient engineering systems, advertising and promoting (branding) energy efficiency. Popularizing energy efficiency and disseminating best practices in special exhibitions, conferences, symposia and magazines and elaborating and implementing educational and professional development programmes for experts in the area of energy efficiency standards and labels	Confirmed
RATEK	Private	Cash	2,310,000	70,000	Development of educational programmes and holding educational courses	Confirmed
Rosnauka	Federal Gov't	Cash	15,500,000	500,000	Awareness raising, training and support to local manufacturers	Confirmed
Subtotal			982,156,000	29,792,000		
Outcome 4						
Moscow City Gov't	Local Gov't	Cash	140,300,000	4,250,000	Organization of social promotion campaign (advertising) to increase demand for energy efficient appliances.	Confirmed
OJSC Mosenergosbyt	Private	Cash	13,069,000	395,500	Promoting the demand for energy efficient equipment, including work with household users. Establishment of the internet based information clearing house and consultations centre.	Confirmed
AVOK	Private	Cash	16,500,000	500,000	Compilation, analysis and provision of data for the project's market monitoring mechanism	Confirmed
RATEK	Private	Cash	8,260,000	250,000	Supporting advertising campaigns for appliances with high energy efficiency classes. Project and market monitoring and regular collection and provision of data for the market and project impact monitoring system.	Confirmed
Rosnauka	Federal Gov't	Cash	10,540,000	340,000	Information clearing house, information and awareness campaigns	Confirmed
Subtotal			188,669,000	5,735,500		
Project Management						
Moscow City Gov't		Inkind	72,600,000	2,200,000		Confirmed
OJSC Mosenergosbyt	Private	Inkind	1,650,000	50,000		Confirmed
RATEK	Private	Inkind	2,178,000	66,000		Confirmed
AVOK	Private	Inkind	36,300,000	1,100,000		Confirmed
Rosnauka	Federal Gov't	Inkind	16,660,000	537,000		Confirmed
Subtotal			129,328,000	3,953,000		
Total Cofinancing			1,878,000,000	57,371,000		

Table III-3: Summary of cofinancing by sources

<i>Source</i>	<i>Roubles</i>			<i>USD eq.</i>		
	Cash	In-kind	Total	Cash	In-kind	Total
Rosnauka (Federal Gov't)	221,400,00	16,600,000	238 mln	7,140,000	537,000	7,677,000
Moscow City Gov't	627,400,000	72,600,000	700 mln	19,012,000	2,200,000	21,212,000
OJSC Mosenergosbyt	18,350,000	1,650,000	20 mln	556,000	50,000	606,000
AVOK	863,700,000	36,300,000	900 mln	26,170,000	1,100,000	27,270,000
RATEK	17,822,000	2,178,000	20 mln	540,000	66,000	606,000
TOTAL	1,748,672,000	129,328,000	1,878 mln	53,418,000	3,953,000	57,371,000

Table III-4 Total Project Workplan and Budget in Atlas

Award ID:		00057337											
Project ID:		00070781											
Award Title:		PIMS 3550 CC FP: Standards and labels to promote energy efficiency in Russia											
Business Unit:		Russian Federation (RUS10)											
Project Title:		PIMS 3550 CC FP: Standards and labels to promote energy efficiency in Russia											
Implementing Partner (Executing Agency)		Federal Agency for Science and Innovation of the RF (Rosnauka)-NEX Execution											
GEF Outcome/ Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	Budget note	
OUTCOME 1: Institutional, legal and regulatory system, institutional capacity for introduction and application of EE S&L and their testing at least in one pilot region	Rosnauka	62000	GEF	71200	Intl. Consultants	10 000	30 000	30 000			70 000	EE policy and institutional consultant	
				71300	Local Consultants	24 000	24 000	24 000	24 000	24 000	120 000	EE S&L Law and policy consultant (1.2,1.3)	
				71600	Travel	18 000	10 000	10 000	10 000	10 000	58 000	SC meetings and other travel (incl 1.1.3)	
				71300	Local Consultants	20 000		20 000			20 000	60 000	GHG analysis expert
				71300	Local Consultants	20 000	30 000	20 000				70 000	Adaptation of S&L legislation in Moscow (1.3.1,1.3.4)
				72100	Contractual services	30 000	30 000	20 000				80 000	Provisions for EE S&L under national law (1.2)
				72100	Contractual services		45 000	35 000				80 000	Training for pilot implementation of S&L in Moscow (1.3.2-1.3.3)
				72100	Contractual services	30 000		20 000				50 000	Seminars, conferences
				74100	Reporting & Lessons learned	9 000		55 000	5 000	59 000		128 000	Inception and terminal reports, reporting against logframe indicators
				74200	Publications		10 000	10 000	10 000	10 000		40 000	Publications
				74500	Miscellan. expenses	5 000	4 000	5 000	4 000	5 000		23 000	
Total Outcome						166 000	183 000	249 000	53 000	128 000	779 000		

*Budget Lines with the same code in one outcome will be joined into one line before the project document is sent for DOA approval.

OUTCOME 2: National S&L schemes for selected power- consuming products designed, required verification and enforcement capacity set up	Rosnauka	62000	GEF	71200	Intl. Consultants	30 000	40 000	40 000	30 000	20 000	160 000	S&L consultant/s
				71300	Local Consultants	36 000	36 000	36 000	36 000	12 000	156 000	EE Standards and certification consultants
				71300	Local Consultants	12 000	12 000	12 000	12 000	12 000	60 000	Consultant on appliances
				71300	Local Consultants	12 000	30 000	30 000	30 000	30 000	132 000	Consultant on HVAC equipment
				71600	Travel	8 000	8 000	8 000	8 000	8 000	40 000	Visiting manufacturers and testing labs
				72100	Contractual services	110 000	130 000	100 000			340 000	Design of standards for testing and EE labeling for selected types of equipment (2.1)
				72100	Contractual services	20 000	40 000				60 000	Capacity assessment of testing facilities (2.2.2)
				72200	Equipment		500 000	440 000			940 000	Technical assistance/equipment for selected test laboratories (2.2.3)
				72100	Contractual services		40 000	50 000	35 000		125 000	Guidelines for municipal buyers on EE public procurement (HVAC) (2.3.1)
				72100	Contractual services		40 000	50 000	45 000		135 000	Design of guidelines for energy efficiency indicators of new buildings' equipment (2.4)
				74200	Printing and publications	10 000	10 000	10 000	10 000	10 000	50 000	
				74500	Miscellan. expenses	5 000	5 000	5 000	5 000	5 000	25 000	
				Total Outcome			243 000	891 000	781 000	211 000	99 000	2 225 000

OUTCOME 3: Enhanced interest and strengthened capacity of the local manufacturers and the supply chain stakeholders	Rosnauka	62000	GEF	71200	Intl. Consultants	20 000	60 000	30 000	20 000		130 000	Consultant on outreach to manufacturers and supply chain
				71300	Local Consultants	24 000	24 000	24 000	24 000	24 000	120 000	Marketing and promotion consultant
				71300	Local Consultants			60 000	60 000		120 000	A system of preferential consumer credits for EE appliances (3.4.4)
				71600	Travel	10 000	10 000	10 000	10 000	10 000	50 000	
				72100	Contractual services	50 000	50 000				100 000	Surveys among manufacturers on training and TA needs (3.1.1,3.1.2)
				72100	Contractual services		160 000	150 000	130 000		440 000	Training for manufacturers (appliances and HVAC) (3.1.3)
				72100	Contractual services		200 000	300 000	300 000		800 000	Technical assistance to appliances/HVAC manufacturers on adaptatation of production and upgrading testing facilities (3.1.4,3.1.5)
				72100	Contractual services		90 000	30 000			120 000	Business plans and marketing strategies for manufacturers of appliances (3.4.1,3.4.2)
				72100	Contractual services		120 000	40 000			160 000	Business plans and marketing strategies for manufacturers of HVAC (3.4.1,3.4.2)
				72100	Contractual services			40 000	40 000		80 000	Promotional materials for EE products (3.4.3)
				72100	Contractual services		60 000				60 000	Incentives for manufacturers/supply chain to promote EE productes (voluntary agreements) (3.3)
				74500	Miscellan. expenses	30 000			30 000		60 000	Conferences to develop guidance/promote EE S&L for new buildings/developers (3,3)
				72100	Contractual services		40 000	40 000			80 000	Design of corporate procurement programmes (3.4.5,3.4.6)
				74500	Miscellan. expenses	5 000	5 000	5 000	5 000	5 000	25 000	
				Total Outcome					139 000	819 000	729 000	619 000

OUTCOME 4: Enhanced awareness and improved access to information of residential and commercial clients	Rosnauka	62000	GEF	71200	Intl. Consultants	30 000	30 000	20 000	20 000		100 000	
				71300	Local Consultants	30 000	30 000	30 000	30 000	30 000	150 000	Marketing, PR and awareness experts
				71600	Travel	10 000	15 000	15 000	15 000	15 000	70 000	
				72100	Professional service		44 000	44 000	44 000	54 000	186 000	Conferences, round tables, workshops (2/year)
				72100	Professional service	54 000	30 000	30 000	30 000	30 000	174 000	Development of websites (HVAC and appliances) (4.1)
				72100	Professional service	40 000	20 000	20 000	20 000	20 000	120 000	Market analysis and monitoring - appliances (4.2.1)
				74100	Professional service	10 000	40 000	40 000	40 000	40 000	170 000	EE Consultative Centre (4.2.2,4.2.5)
				72100	Contractual services		40 000	40 000	40 000	40 000	160 000	Information and training events for residents on EE appliances (4.2.4)
				72100	Contractual services		50 000	50 000	50 000	50 000	200 000	Didactic materials on EE appliances and practices for residents and schools (4.2.3)
				72100	Contractual services	40 000	20 000	30 000	20 000	30 000	140 000	Market analysis and monitoring - building HVAC equipment (4.3.1)
				72100	Contractual services	40 000	40 000	40 000	40 000	40 000	200 000	Technical documentation, information and training materials for large commercial buyers (4.3.2,4.3.3)
				72100	Contractual services		40 000	50 000	50 000	50 000	190 000	Design of training materials and training for sales personnel (4.4.1)
				74200	Printing and publ.	3 000	10 000	10 000	10 000	10 000	43 000	
				74500	Miscellan. expenses	5 000	5 000	5 000	5 000	5 000	25 000	
Total Outcome			262 000	414 000	424 000	414 000	414 000	1 928 000				
Project Management	Rosnauka	62000	GEF	71400	Project personnel	76 500	76 500	76 500	76 500	76 500	382 500	Project staff (PM, Assistant, Accountant)
				71600	Travel	6 000	6 000	6 000	5 000	5 000	28 000	Travel and field visits
				72200	Equipment	15 000			5 000		20 000	
				72400	Communication	3 500	3 500	3 500	3 500	3 500	17 500	
				72500	Supplies	3 500	3 500	3 500	3 500	3 500	17 500	
				74100	Audit	10 500	10 500	10 500	10 500	10 500	52 500	Financial Audit
				74500	Miscellan. expenses	3 000	3 000	3 000	3 000	3 000	15 000	
				Total Management			118 000	103 000	103 000	107 000	102 000	533 000
PROJECT TOTAL			928 000	2 410 000	2 286 000	1 404 000	782 000	7 810 000				

**Summary of
Funds:** ¹²

GEF	\$928,000	\$2,410,000	\$2,286,000	\$1,404,000	\$782,000	\$7,810,000
Moscow City Gov't - grant/in- kind						\$21,212,000
OJSC Mosenergosbyt - grant/in-kind						\$ 606,000
Rosnauka						\$7,677,000
AVOK -cash/in- kind						\$27,270,000
RATEK - cash/in-kind						\$606,000
TOTAL						\$65,181,000

¹² Summary table should include all financing of all kinds: GEF financing, cofinancing, cash, in-kind, etc. etc

SECTION IV: ADDITIONAL INFORMATION

PART I : OTHER AGREEMENTS

Letter of endorsement



**МИНИСТЕРСТВО
ПРИРОДНЫХ РЕСУРСОВ
РОССИЙСКОЙ ФЕДЕРАЦИИ**

123995, Москва, Д-242, ГСП-5
ул. Б.Грузинская, 4/6
Тел.: (7-495) 252 03 00
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**MINISTRY
OF NATURAL RESOURCES
OF THE RUSSIAN FEDERATION**

4/6, B. Grouzinskaya str.
Moscow D-242, GSP-5, 123995
Tel.: (7-495) 252 03 00
Fax: (7-495) 254 82 83

To: Yannick Glemarec
UNDP/GEF Executive Coordinator
304 East 45th Street, 9th Floor, New York
NY 10017

Marco Borsotti
UNDP Resident Representative
UN Resident Coordinator
in the Russian Federation

**Subject: Endorsement for
"Standards and labels for
promoting energy efficiency
in Russia"**

In my capacity as GEF Operational Focal Point for Russia, I confirm that the above project proposal: (a) is in accordance with the government's national priorities and the commitments made by Russia under the UN Framework Convention on Climate Change; and (b) has been discussed with relevant stakeholders, in accordance with GEF's policy on public involvement.

Accordingly, I am pleased to endorse the preparation of the above project proposal with the support of UNDP. If approved, the proposal will be prepared and implemented by Federal Agency for science and innovations. Further, I request UNDP to provide a copy of the project document for information of this office before it is submitted to the GEF Secretariat for CEO endorsement.

I understand that the total GEF financing for this project is \$ 8,756,000, inclusive of project preparation grant (PPG) and Agency fee (10%) to UNDP for project cycle management services associated with this project.

1.10.07

N673

I consent to the utilization of the following indicative allocation available to Russia in GEF-4 under the GEF Resource Allocation Framework to cover the GEF project implementation as well as the associated Agency fees for this project.

Climate Change: \$ 8,756,000.

Sincerely,
Igor I. Maydanov,
GEF National Focal Point in Russia
Director of Department
for International cooperation



Letters of Co-financing and Support

- Letter of support from Federal Agency for Science and Innovations of the Russian Federation dated 10 April 2009
- Letter of co-financing from Federal Agency for Science and Innovations of the Russian Federation dated 24 June 2009
- Letter of co-financing from the Moscow City Government dated 13 April 2009
- Letter of co-financing from the Russian Association of Engineers for Heating, Ventilation, Air-Conditioning, Heat Supply and Building Thermal Physics (AVOK) dated 24 March 2009
- Letter of co-financing from Mosenergosbyt dated 12 December 2008
- Letter of co-financing from the Russian association of trading companies and manufacturers of consumer electronic and computer equipment (RATEK) dated May 2009
- Letter of support from CLASP dated 29 April 2009
- Letter of support from the Federal Agency on Technical Regulation and Metrology of the Russian Federation dated 13 July 2009
- Letter of support from ROSTEST dated 13 July 2009

NOTE: Co-financing letters and letters of support are provided in a separate file (Annex 1 to the ProDoc)

PART III : TERMS OF REFERENCES FOR KEY PROJECT STAFF AND MAIN SUB-CONTRACTS

<i>Position Titles</i>	<i>Tasks to be performed</i>
For Project Management	
Project manager	<ul style="list-style-type: none"> • Assume operational management of the project according to the project document and policies and procedures for nationally executed projects; • Prepare ToR for all project personnel and consultants to be recruited to assist in the implementation of the project; • Prepare and update project work plans, and submit these for clearance to the National Executing Agency and UNDP CO; • Assume direct responsibility for managing the project budget, ensuring that: <ul style="list-style-type: none"> ➢ Project funds are made available when needed and disbursed properly; ➢ Accounting records and supporting documents are kept; ➢ Required financial reports are prepared; ➢ Financial operations of the project are transparent and stand up to audit at any time; • Ensuring that financial procedures and regulations for NEX projects are applied; • International and National consultants are hired and are delivering their outputs on schedule; • Supervise the project staff and local or international experts/consultants working for the project; • Coordinate project implementation with projects and activities carried out by project partners and stakeholders, build partnerships and leverage resources, and • Report to the NEX Agency and UNDP Country Office on a regular basis
Project assistant	<ul style="list-style-type: none"> • Provide necessary assistance in the operational management of the project according to the project document and the NEX procedures; • Draft correspondence on administrative and program matters pertaining to the Project Office responsibilities; • Undertake all preparation work for procurement of office equipment, stationeries and support facilities as required; • Undertake preparation for project events, including workshops, meetings (monthly, quarterly and annual), study tours, trainings, etc. This also includes preparation of background materials for use in discussions and briefing sessions on project matter; • Logistical arrangements. This includes visa, transportation, hotel bookings for project staff, consultants and invited guests coming for project activities; • Assist in preparation of project work plan and reports; • Prepare regular list of events for sharing of information within project staff and outside; • Assist with project communication activities, including publications; • Assist with preparation of TORs and contracts for consultants/experts for project activities; • Calculate and prepare staff time records

Accountant	<p>Planning</p> <ul style="list-style-type: none"> • Prepare quarterly advance requests to get advance funds from UNDP in the format applicable; • Assist the PM and NPD in project budget monitoring and project budget revision. <p>Accounting/ Reporting</p> <ul style="list-style-type: none"> • Set up an accounting system, including reporting forms and filing system for the project, in accordance with the project document and the NEX procedures; • Prepare project financial reports and submit to PM and NPD for clearance and furnish to UNDP as required. • Reconcile all balance sheet accounts and keep a file of all completed reconciliation. <p>Control</p> <ul style="list-style-type: none"> • Check and ensure that all expenditures of the project are in accordance with NEX procedures. This includes ensuring that receipts are obtained for all payments; • Check budget lines to ensure that all transactions are correctly booked to the correct budget lines; • Ensure documentation relating to payments are duly approved by the NPD; • To continuously improve system & procedures to enhance internal controls are satisfy audit requirements. <p>Inventory Register</p> <ul style="list-style-type: none"> • Maintain a proper inventory of project assets register, including numbering, recording, and reporting; • Maintain the inventory file to support purchases of all equipment/assets.
For Technical Assistance	
Local	
EE S&L legal, institutional and policy consultant	<ul style="list-style-type: none"> • Perform analyses of the current federal legislation and identify laws/regulations that need to be amended in order to allow energy efficiency S&L programme implementation and federal level • Coordinate the development of the necessary proposals for amendments in the current legislation • Initiate and coordinate the inter-ministerial and public consultations of the amendments • Together with pilot project coordinator, support the adoption of the proposals to Moscow region regulatory framework – including development of all legal and administrative rules for the pilot energy efficiency S&L programme implementation • Together with pilot project coordinator, develop a regional institutional structure that will coordinate and monitor the overall implementation of the S&L programme, including necessary administrative staff, structure of the organization, necessary resources, etc.
GHG analysis expert	<ul style="list-style-type: none"> • Collect and analyze information, characterizing current state and forecasted market development for home appliances and building equipment, including type, categories and market share of key products, producers, consumers, distribution networks, energy consumption characteristics and total BAU energy consumption. • Develop a structured monitoring and evaluation system to assess saving in energy consumption, carbon emissions and household, regional and national energy cost as a result of appliance and equipment energy efficiency programs • Provide regular monitoring reports to National Inter Agency Coordination Body and PM • Develop mid-term and final monitoring reports including calculated direct and

	indirect energy savings and CO2 emission reductions, as well as forecast for future reductions after project completion.
Pilot project coordinator	<ul style="list-style-type: none"> • Overall coordination of activities under Output 1.3 – Moscow pilot region • Together with EE S&L Law and Policy consultant, develop all legal and administrative rules for the pilot energy efficiency S&L programme implementation • Together with EE S&L Law and Policy consultant, propose an institutional structure that will coordinate and monitor the overall implementation of the pilot S&L programme, including necessary administrative staff, structure of the organization, necessary resources, etc. • Coordinate the development of the Moscow region S&L programme based on S&L schemes (MEPs, labels, procurement model) proposed within the project
EE Standards and certification consultant	<ul style="list-style-type: none"> • Analyze existing certification and compliance checking system in Russia, identify gaps and propose improvements in terms of appliance and equipment energy efficiency • Collect and analyze information concerning existing certification laboratories, their capacity to perform certification according to the S&L standards, develop recommendations for improvement • Develop technical and economical analyses for the establishment of household appliance test laboratory • Develop appliance and equipment certification procedure, based on energy efficiency S&L schemes, to be applied on voluntary basis by the pilot region and various associations.
Appliance consultant	<ul style="list-style-type: none"> • During project inception phase, continue market assessments done during the PPG phase to finalize list of products to be included in the development of S&L standards, prepare inception report with all necessary market and sales data, energy and emission saving potential included. • Collect information on internationally adopted S&L policy for the appliances selected, identify on-going international collaboration activities • Analyze pros and cons of the adoption of already developed S&L policy instruments in another country/region against the development of national S&L schemes for selected products, develop report to National Inter Agency Coordination Body and PM with conclusions and options for future work. • Initiate consultations with various stakeholders on the type of S&L schemes to be developed for different product groups • Lead the development of proposals for GOST testing standards, minimum energy performance standards and labeling regulations for selected products, submit the proposals to relevant Technical Committees for discussion • Support the development and implementation of stakeholder involvement plan and marketing strategy and the consumer awareness activities
HVAC equipment consultant	<ul style="list-style-type: none"> • During project inception phase continue market assessments done during PPG phase to finalize list of building equipment to be included in the development of S&L standards, prepare inception report with all necessary market and sales data, energy and emission saving potential included. • Collect information on internationally adopted S&L policy for the equipment selected, identify on-going international collaboration activities • Analyze pros and cons of the adoption of already developed S&L policy instruments in another country/region against the development of national S&L schemes for selected equipment, develop report to National Inter Agency Coordination Body and PM with conclusions and options for future work. • Initiate consultations with various stakeholder on the type of S&L schemes to be

	<p>developed for different equipment groups</p> <ul style="list-style-type: none"> • Lead the development of proposals for GOST testing standards, minimum energy performance standard and labeling regulations for selected building equipment, submit the proposals to relevant Technical Committees for discussion • Develop models for public procurement of building equipment complying with the S&L standards developed • Support the development and implementation of stakeholder involvement plan and marketing strategy and the consumer awareness activities
Stakeholder involvement expert	<ul style="list-style-type: none"> • Identify and assess key stakeholder groups for successful project implementation (government bodies, private parties – manufacturers, retailers, distributors, NGOs, scientific institutes, universities, test labs, regional authorities, large buyers, final consumers), assess their current and potential role in the project, identify training needs, develop stakeholder involvement strategy • Coordinate the implementation of the stakeholder involvement strategy within the project • Detailed assessment of household and equipment manufacturers training and technical assistant needs to improve efficiency of their products – design, production lines, etc. • Develop strategy for manufacturers support including various training activities and exchange of information and expertise with foreign equipment producers and coordinate training and technical assistance activities • Provide support to negotiations with manufacturers and retailers for the adoption of voluntary agreements for equipment energy efficient labeling • Identify retailers and salesperson training needs, develop and implement respective training programs • Provide support to the implementation of the pilot S&L programme in terms of involvement and establishment of cooperation with various stakeholders. • Ensure private stakeholders cooperation within the communication and awareness rising strategy implementation.
Consultant on preferential consumer credits for EE appliances	<ul style="list-style-type: none"> • Overall coordination of all activities for elaboration and implementation of public private partnerships and joint strategies (Outputs 3.2, 3.3., and 3.4) • Responsible for the establishment and the coordination of activities of the Working group on public private partnership, develop communication strategy • Initiate and perform negotiations with manufacturers and retailers for the adoption of voluntary agreements for equipment energy efficiency labeling • Responsible for the development of a system of building energy efficient indicators • Collect information and analyze various financial and other marketing strategies schemes implemented in various countries to transform the market towards energy efficient appliances and equipment • Develop financial and economical analyses for the implementation of at least three different financial incentive schemes for different consumer types at national/regional level (e.g. consumer credits, sales discounts, large buyers pricing incentives) and present them for approval • Coordinate the negotiation with different stakeholders on selected incentive scheme implementation
Marketing and promotion PR and awareness	<ul style="list-style-type: none"> • Develop and coordinate the implementation of the project communication and awareness raising strategy, identify key partners for the implementation of the strategy including government, private and NGO organizations, media. (Outcome 4)

consultant	<ul style="list-style-type: none"> • Coordinate the development and regular update of the Internet based information clearinghouse for energy efficient appliances and equipment • Develop and coordinate the implementation of the Moscow pilot region awareness raising campaign for the different consumers groups • Coordinate consumer surveys activities
International	
EE policy and institutional consultant	<ul style="list-style-type: none"> • Assess existing appliance policy and identify gaps and barriers, Propose changes in existing policy and legislation at federal and regional level. • Review and comment the recommendations of the local expert team for required legal and regulatory amendments both at the federal and regional/city level • Analyze existing institutional capacity to design and implement EE appliance program, design training modules to meet existing needs for capacity building.
S&L consultant/s	<ul style="list-style-type: none"> • Analyze the adopted or suggested new S&L policies and schemes for the selected equipment in other countries, identify on-going international collaboration activities and propose S&L policy development plan for the selected appliances and equipment • Make recommendations for consultations with various stakeholders on the type of S&L schemes to be developed for different equipment groups • Support the consultations for the development of testing standards, minimum energy performance standards and labeling regulations for selected appliances. • Assist in the development of models for public procurement of building equipment complying with the S&L standards developed • Develop a proposal for a certification and compliance checking system in Russia, based on identified gaps and international best practices and lessons learnt • Assess existing certification laboratories, their capacity to perform certification according to the S&L standards and develop recommendations for improvement • Develop appliance and equipment certification procedure, based on energy efficiency S&L schemes, to be applied on voluntary basis by the Pilot region and various associations. • Monitor, review, make recommendations and support otherwise the work of the local expert team throughout the project implementation
Consultant on outreach to manufacturers and supply chain	<ul style="list-style-type: none"> • Design stakeholder involvement plan focused on manufacturers and supply chain stakeholders based on analysis provided by national consultants, including stakeholder participation in outreach activities, • Analyze stakeholder's capacity building needs and propose training modules and technical assistance plan, • Provide information on international lessons learnt and best practices in creating public private partnership and an provide an overview of possible financial support schemes and other marketing strategies • Analyze and assess possibilities of introduction of such schemes in Russia.
Awareness and communication consultant	<ul style="list-style-type: none"> • Support the designing of the project communication and awareness raising strategy including the engagement of the key government, private sector, NGO, media partners; • Provide international best practice examples to support the development of an Internet based information clearinghouse for energy efficient appliances and equipment • Support the designing of the Moscow pilot region awareness raising campaign for the different consumers groups

<p>Project evaluator – Mid term</p>	<ul style="list-style-type: none"> • Determine progress being made towards the achievement of outcomes and identify course correction if needed, focusing on the effectiveness, efficiency and timeliness of project implementation • Identify main issues requiring decisions and actions; • Present initial lessons learned about project design, implementation and management. • Develop recommendations for enhanced implementation during the final half of the project’s term. • Develop draft evaluation report, discuss it with the project team, government and UNDP, and as necessary participate in discussions to extract lessons for UNDP and GEF.
<p>Project evaluator – Final</p>	<ul style="list-style-type: none"> • Determine progress being made towards the achievement of outcomes and identify course correction if needed, focusing on the effectiveness, efficiency and timeliness of project implementation • Present lessons learned about project design, implementation and management. • Assess project impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. • Provide recommendations for follow-up activities. • Develop draft evaluation report, discuss it with the project team, government and UNDP, and as necessary participate in discussions to extract lessons for UNDP and GEF.

PART IV : STAKEHOLDER INVOLVEMENT PLAN

The list of the key stakeholders sought to be involved are summarized in the table below, together with the description of their envisaged role and way of involvement. Several of these organizations have been already consulted in different stages of the project preparation.

Stakeholder	Role and mandate	Envisaged Role in the Project
Federal Ministries and Government Agencies		
Russian Federation Ministry of Education and Science. Federal Agency for Science and Innovation	Implementation of state policies in the fields of science, technology and research & innovation; provide information support for the efforts in these fields.	Project Executing Agency
Russian Federation Ministry of Natural Resources and Ecology	Provides functions related to the creation of State policies and regulations concerned with environmental monitoring and control, pollution control, also provides creation and implementation of State policies related to the environmental regulations and legislation.	Permanent member of national inter-agency coordination body (Output 1.1) – active participation in approving detailed agenda of project activities and monitoring and evaluation plans, seminars and round tables Contribution with expertise and professional opinion to project activities related to environment protection issues, including legal proposals for testing, labeling, MEP standards and procurement models, calculations and monitoring of CO ₂ and other environmentally harmful substances releases (Output 1.2, Output 2.1, Output 2.3). Support to public awareness and capacity building activities (Outcome 3 and 4)
Russian Federation Ministry of Energy	Provides functions related to the development and implementation of State policy and regulations in the fuel and power sectors operations, including electrical power generation and rational use of energy resources.	Permanent member of national inter-agency coordination body (Output 1.1) – active participation in approving detailed agenda of project activities and monitoring and evaluation plans, seminars and round tables. Contribution with expertise and professional opinion to project activities related to energy and energy efficiency issues, including legal proposals for testing, labeling, MEP standards and procurement models, calculations and monitoring of energy savings (Output 1.2, Output 2.1, and Output 2.3). Preparation and submission of legal proposals relevant to product S&L national policy, initiate and coordinate inter-ministries and public consultations, integration of project activities with the existing sectoral long-term oriented programs with possible joint budgeting (Output 1.2) Support to public awareness and capacity building activities (Outcome 3 and 4)
Russian Federation Ministry of Economic Development	Provides functions related to State policies concerned analyses and forecasting in the fields of social development processes, development of business and enterprises, creation of international and federal	Permanent Member of national inter-agency coordination body (Output 1.1) – active participation in approving detailed agenda of project activities and monitoring and evaluation plans, seminars and round tables, Contribution with expertise and professional opinion to project activities related to business and enterprises issues, including proposals for procurement models, capacity building and support to manufacturers of equipment, public private partnerships,

	<p>programs (long-term programs), specific task programs related to the various departments, development of general programs related to the social and economical progress of Russian Federation</p>	<p>approval and implementation of financial and other incentive strategies towards energy efficient products and equipment. (Output 1.2, Output 3.1, Output 3.4, output 3.4).</p> <p>Preparation and submission of legal proposals relevant to product S&L national policy, initiate and coordinate inter-ministries and public consultations, integration of project activities with the existing sectoral long-term oriented programs with possible joint budgeting (Output 1.2)</p> <p>Support to public awareness and capacity building activities (Outcome 3 and 4)</p>
Russian Federation Ministry of Industry and Trade	<p>Implementation of the technical regulation and metrology policy. Provides functions related to the creation and implementation of State policy and regulations concerned with development of technical control and uniform measurement system</p>	<p>Permanent Member of national inter-agency coordination body (Output 1.1) – active participation in approving detailed agenda of project activities and monitoring and evaluation plans, seminars and round tables,</p> <p>Contribution with expertise and professional opinion to project activities related to technical regulation and metrology policy, including proposals testing standards and procedures, verification and compliance system, certification procedures, laboratory accreditation procedures (Output 1.2, Output 2.1, Output 2.2).</p> <p>Preparation and submission of legal proposals relevant to product S&L national policy, initiate and coordinate inter-ministries and public consultations, integration of project activities with the existing sectoral long-term oriented programs with possible joint budgeting (Output 1.2)</p> <p>Support to public awareness and capacity building activities (Outcome 3 and 4)</p>
Russian Federation Ministry of Regional Development	<p>Provides functions related to the development and implementation of State policy and regulations concerned with social and economical development of federal entities of the Russian Federation and municipalities</p>	<p>Permanent Member of national inter-agency coordination body (Output 1.1) – active participation in approving detailed agenda of project activities and monitoring and evaluation plans, seminars and round tables.</p> <p>Contribution with expertise and professional opinion to project activities related to municipal and regional energy and energy efficiency issues, including proposals for labeling and MEP standards, procurement models and pilot regional implementation (Output 1.2, Output 1.3, Output 2.1 Output 2.3).</p> <p>Preparation and submission of legal proposals relevant to product S&L national policy, initiate and coordinate inter-ministries and public consultations, integration of project activities with the existing sectoral long-term oriented programs with possible joint budgeting (Output 1.2)</p> <p>Support to public awareness and capacity building activities (Outcome 3 and 4)</p>
Federal Agency of Technical Regulations and Metrology	<p>Executive agency in the field of standards, technical regulations and metrology. It provides certification and accreditation to the certification centers and laboratories countrywide and controls compliance, via its seven territorial bodies and subordinate organizations.</p>	<p>Permanent Member of national inter-agency coordination body (Output 1.1) – active participation in approving detailed agenda of project activities and monitoring and evaluation plans, seminars and round tables</p> <p>Participation in the development and adoption of technical standards (testing and MEPS) for products included in the project (Output 2.1)</p> <p>Participation in the development and the leading actual implementation of compliance, verification and certification</p>

		system (output 2.2)
Federal Supervisory Office of Consumer Rights Protection and Human Welfare	Government authority, which provides supervision and control in the field of sanitary and epidemiological safety of the Russian Federation population and in the field of consumer and consumer goods market rights protection	<p>Permanent Member of national inter-agency coordination body (Output 1.1) – active participation in approving detailed agenda of project activities and monitoring and evaluation plans, seminars and round tables</p> <p>Participation in the development and adoption of labeling standards and regulations (testing and MEPS) for products included in the project (Output 2.1)</p> <p>Participation in working group to elaborate public-private partnerships (output 3.2) and voluntary agreement on product labeling</p> <p>Participation in the development and implementation of voluntary agreements on product labeling with manufacturers and retailers (output 3.3)</p> <p>Provide input and advocate to development of joint strategies to make energy efficient products more competitive and affordable (output 3.4)</p>
Federal Supervisory Office for Environmental, Technological and Nuclear Industry Issues	Government authority, which issues regulations and provides supervision and control in the field of environmental protection, specifically related to the minimization of negative impact of industrial activity and other adverse anthropogenic impact.	Possible Non-Permanent Member of national inter-agency coordination body (Output 1.1) – to participate in specific activities mostly related to development and approval of CO ₂ monitoring plan or other issues related to environmental protection.
Industry and Professional Associations		
Russian Union of Industrialists and Entrepreneurs	Protection of local equipment manufacturers' interests in the course of power efficiency marking standards implementation	<p>Representing manufacturers interests in the National Inter-Agency Coordination Body (Output 1.1)</p> <p>Provide expert opinion to the Pilot region S&L programme development and support the implementation by attracting manufacturers to participate (Outcome 1.3)</p> <p>Provide input and expert opinion in the process of S&L standards development for the selected products (Outcome 2.1)</p> <p>Active participation in the process of training and technical support to various equipment manufacturers mainly by surveying and identifying needs for technical assistance, help in the organization of training events, initiate and coordinate exchange of experience with other local and foreign manufacturers. (Output 3.1)</p> <p>Coordinate and participate in negotiations for adoption of voluntary agreements on product energy efficiency labeling (Output 3.3)</p> <p>Expert participation in Public Private partnership working group and provision of assistance to local manufacturers in the development of various marketing and product pricing strategies – hosting seminars, round table discussions, training sessions, etc, Lobbying in the State authorities. (output 3.4)</p> <p>Providing support to ensure manufacturers cooperation in the development and implementation of the national and regional</p>

		awareness campaign activities to final consumers, large buyers (outcome 4)
RATEK (Russian association of trading companies and manufacturers of household electrical appliances and computer equipment)	Protection of the merchants' and trade companies' interests in sales related to the power efficiency marked products	<p>Representing manufacturers and retailers interests in the National Inter-Agency Coordination Body (Output 1.1)</p> <p>Provide expert opinion to the Pilot region S&L programme development and support the implementation by attracting manufacturers and retailers to participate (Outcome 1.3)</p> <p>Provide input and expert opinion in the process of S&L standards development for the selected products (Outcome 2.1)</p> <p>Initiate and coordinate exchange of experience between local and foreign manufacturers. (Output 3.1)</p> <p>Actively working with retailers to shift their product mix towards more energy efficient products and to train their personnel (Output 3.3 and Output 4.4)</p> <p>Providing support to ensure retailers and manufacturers cooperation in the development and implementation of the various national and regional awareness campaign activities to final consumers, large buyers (outcome 4)</p>
AVOK Non-Commercial Partnership	Association of engineers for heat supply, HVAC and building thermo physics. Coordination of both manufacturers' and consumers' interests in terms of contemporary equipment promotion on the local markets.	<p>Provide input and expert opinion in the process of S&L standards development for selected products (Outcome 2.1)</p> <p>Provide expert opinion to the Pilot region S&L programme development (outcome 1.3)</p> <p>Input to the development of a guidelines for building energy efficiency (Output 3.3)</p> <p>Expert participation in Public Private partnership working group and the development of various procurement models as well as incentive strategies for large commercial buyers of equipment. (output 3.4)</p>
Certification and testing authority		
ROSTEST certification center	State control (supervision) for natural and juridical persons' and private entrepreneurs' compliance with regulations implemented in the form of State Standards in the course of development & manufacturing process, control of compliance with obligatory certification regulations, rules of conformity certification, other obligatory rules	<p>Participation in test standards and in gap analysis of local and international standards related to energy efficiency indicators (Output 2.1)</p> <p>Implement testing procedures for selected appliances following adopted voluntary certification schemes (Output 1.3 and Output 2.2)</p>
Organisations of civil society, consumers and end users; NGOs		
The Public Chamber at the Russian Federation President's Office		Provide expertise to the development of S&L standards and legislation, lobbying the proposed regulations in the State authorities (output 2.1)
Consumer Rights Protection Society	Protection of common consumers' rights, especially related to the information	Active participation in negotiations with manufacturers and retailers on voluntary agreements on product labeling (Outcome

	issues, legal protection of consumers; interests	3.2) Expert opinion and analyses in the process of public private partnerships and financial strategies development and implementation (Outcome 3.4) Development of joint awareness campaign and marketing strategies (Outcome 4)
State Enterprise “Moscow energy directorate”	Audit services for industrial plants and utility sector operators.	Provide expertise to the development of S&L standards and legislation, lobbying the proposed regulations in the State authorities (output 2.1) Possible participation in public private partnerships (output 3.2 and 3.4)
Energy Service Holding Eskotek	Audit services, project engineering, measurement systems installation and services	Provide expertise to the development of S&L standards and legislation, lobbying the proposed regulations in the State authorities (output 2.1) Possible participation in public private partnerships (output 3.2 and 3.4)
Rossijskoje Teplosnabzhenie Non-commercial partnetship	Integration of efforts of all heating suppliers in the field of minimization of heat losses and increase of heating efficiency	Provide expertise to the development of S&L standards and legislation, lobbying the proposed regulations in the State authorities (output 2.1) Possible participation in public private partnerships (output 3.2 and 3.4)
Moscow Office of Greenpeace Russia	This office works to drive mass media, government and public attention to the relevant power saving issues	Development and implementation of joint strategy to promote energy efficiency product and equipment to final consumers in pilot regions and at national level (Outcome 4)
Independent Environmental Rating Agency	This agency develops and provides environmental efficiency ratings for enterprises countrywide	Provide expertise to the development of S&L standards and legislation, lobbying the proposed regulations in the State authorities (output 2.1)
Supply chain stakeholders		
OOO “Vodnaya Tehnika”	Pumps supplier	Possible public – private partnership established and coordination in promotion activities of energy efficiency products (Outcomes 3 and 4)
Media Market	Household equipment and domestic machinery	Participation in the negotiations for introduction of financial schemes and incentives to consumers for purchase of efficiency equipment, possible implementation of approved scheme (Output 3.)
Eldorado	Household equipment and domestic machinery	
M-video	Household equipment and domestic machinery	Development of marketing campaign for final consumers focusing of energy efficient products – information points, information days, advertisements, etc. (output 4.2 and 4.3)
Technosila	Household equipment and domestic machinery	
Mir	Household equipment and domestic machinery	Provide regular information for update if the information clearinghouse (Output4.1)
Expert	Household equipment and domestic machinery	Willingness to training sales personnel a and active participation in training sessions (Output 4.4) Provide regular sales information in terms of energy rating of products(Output 5.1)
Scientific and technological research and educational institutes		
Moscow Energy		Research works during the development of testing standards and

Institute (Technical University) (MEI TU)		MEPs (Output 2.1) Development of market studies methods and participation in the said studies (Output 5.1)
Moscow State Construction University (MGSU)		Research works during the development of testing standards and MEPs (Output 2.1) Development of market studies methods and participation in the said studies (Output 5.1)
Nizhegorodsky State University R&D of energy efficient technologies		Research and analysis work for the creation of testing centers (Output 2.2) Development of methods and carrying out researches related to cost effect of the project implemented. (Output 5.1)
Public entities and energy supplier(s) of the Moscow pilot region		
Moscow City Municipal Services Office	Provides management and coordination of Moscow City municipal services	Permanent member of national inter-agency coordination body (Output 1.1) – active participation in approving detailed agenda of project activities and monitoring and evaluation plans, seminars and round tables Coordination and implementation of activities related to the pilot project, approval and S&L programme and regulations, monitoring of results and providing feedback to project management (Output 1.3 and output 5.2)
Moscow City Government Department for Fuel and Energy	Coordination and management of Moscow City Power and Power Resources complex. Coordination and management of City Energy Saving program	Various activities related to pilot project implementation, to be determined after approval of S&L programme (Output 1.3)
Moscow City Housing and Utility Services Department	Managements of housing and utility services of Moscow City	Various activities related to pilot project implementation, to be determined after approval of S&L programme (Output 1.3)
Housing Overhaul Maintenance Department	Management of city program of major overhaul related to the residential development	Various activities related to pilot project implementation, to be determined after approval of S&L programme (Output 1.3)
Moscow City Government Consumer Market Department	Coordination of consumer market participants operations	Various activities related to pilot project implementation, to be determined after approval of S&L programme (Output 1.3)
OJSC Mosenergosbyt	Major Russian energy distribution and service company, serving more than 6 million clients in the Moscow area	Various activities related to pilot project implementation, surveys of electricity use in residential buildings, participation in the development of EE testing and labeling standards, development of the company's own test laboratory to carry out energy efficiency compliance tests and the active participation in consumer awareness campaigns and targeted training activities and preparation of guidelines for the application of energy efficiency measures at public and private organizations. Details to be determined after approval of S&L programme

PART V: GREENHOUSE GAS EMISSION REDUCTION ANALYSIS

Baseline

1. According to the Energy Strategy for Russia until 2020, the total electricity output may grow to 1,070 TWh by 2010 and to 1,365 TWh by 2020. In the case of a more conservative scenario of economic development, total generation would be 1,015 and 1,215 TWh respectively (see figure V-1).

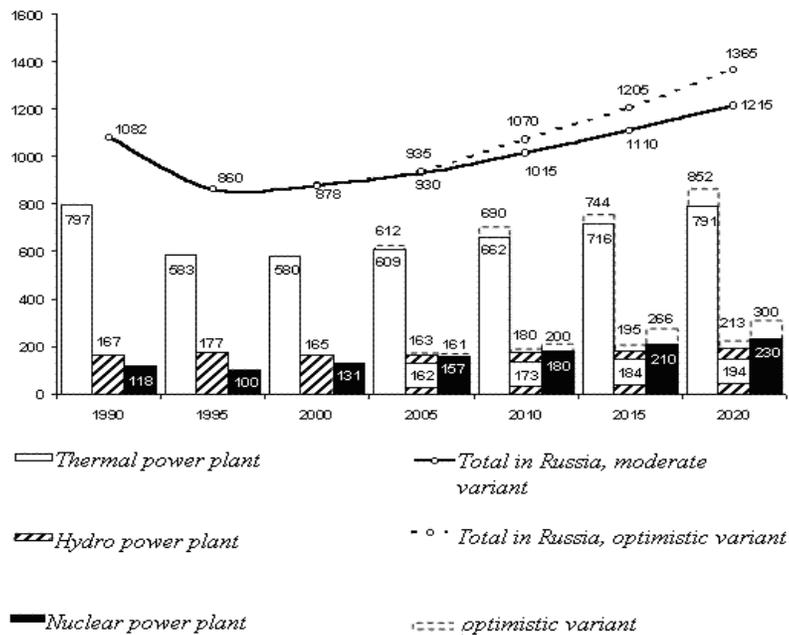


Figure V-1: Electricity Generation in the Russian Federation (including forecast until 2020)
Source: Energy Strategy for Russia until 2020

2. Although the generation from nuclear and hydropower stations is expected to increase, the major part of electricity (60-70%) will continue to be produced in fossil-fired thermal power stations, in particular coal and natural gas. The marginal power generation technology in the Russian Federation is therefore assumed to be a mix from coal and natural gas-fired thermal power generation, resulting in an emission factor for marginal power generation as of 0.5 tons of CO₂ per MWh.

3. Figures V-2 and V-3 show the forecasts of electricity consumption (TWh/year) and CO₂-emissions of the household appliances and technical building equipment directly addressed by the project (refrigerators/freezers, washing machines, pumps, industrial air conditioners and fans, and refrigeration units for air conditioning systems) until 2030. The same data in a table format in five-year intervals is shown in tables V-1 and V-2. In the baseline scenario it is expected that the energy consumption of technical building equipment, in particular of pumps, is expected to grow strongly during the period 2005 - 2030, while the energy consumption of household appliances is expected to decrease slowly by the end of the period. These expected developments in the BAU can be explained by (i) the strong increase of building construction and associated demand for pumps need for modern technical building services and (ii) by stagnation of population growth in Russia and the slow, but steady improvement of the energy efficiency of household appliances (white goods) over time.

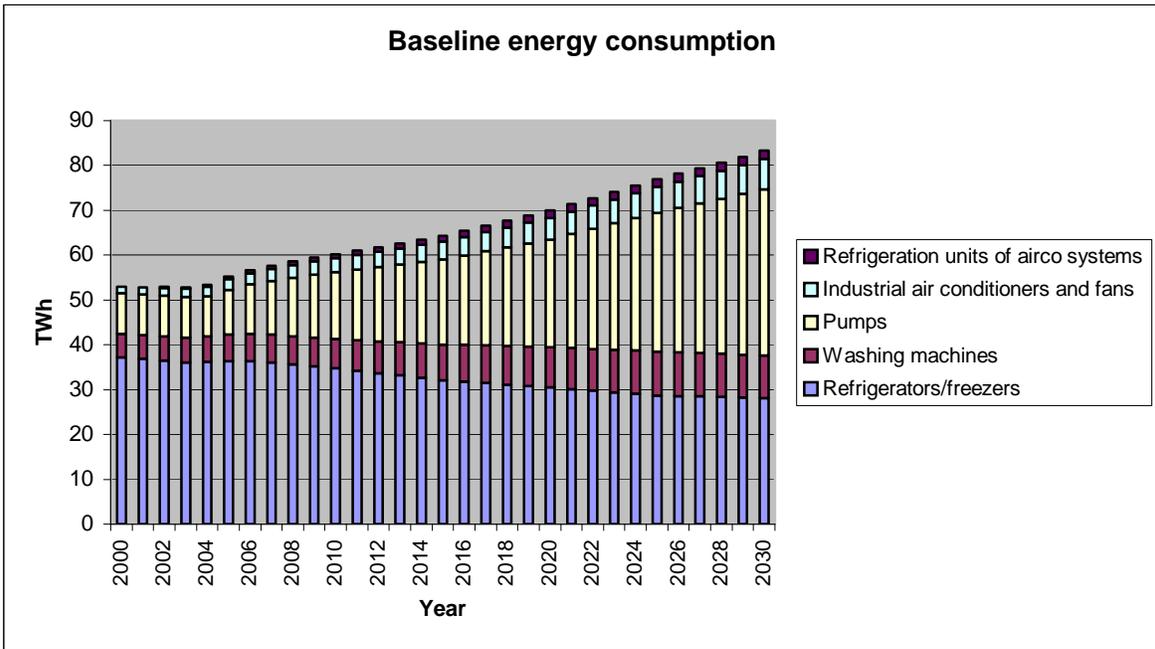


Figure V-2: Baseline energy consumption of selected appliances and equipment (until 2030)

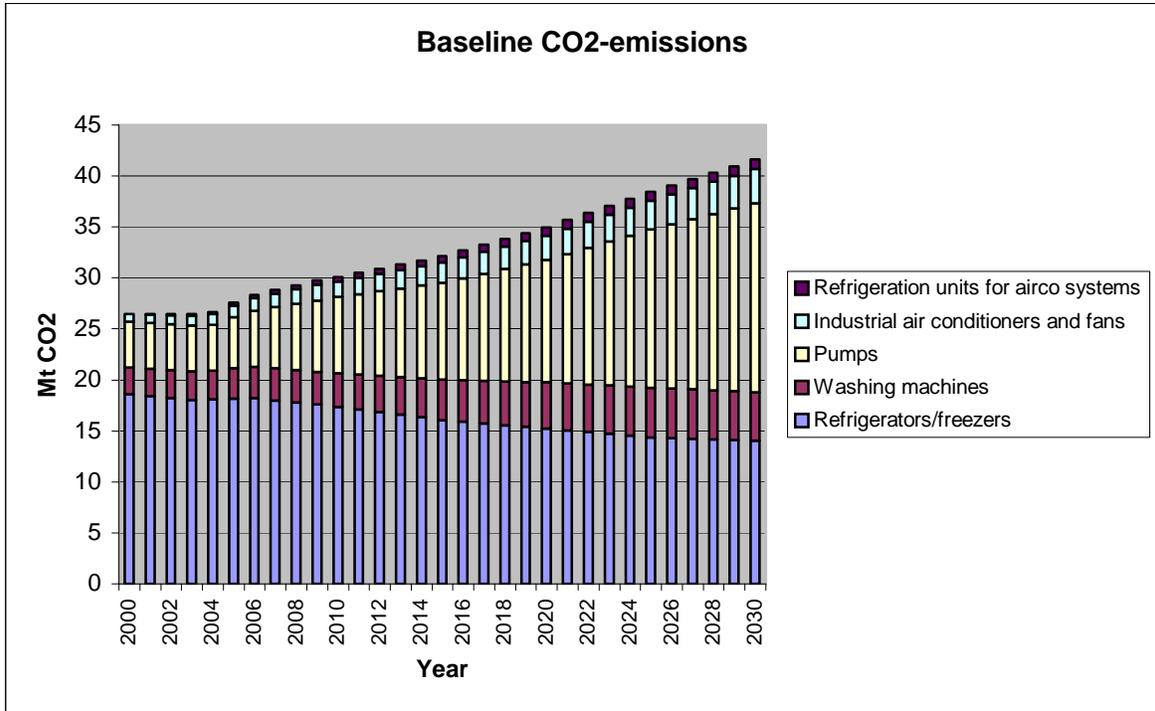


Figure V-3: Baseline CO₂-emissions of selected appliances and equipment (until 2030)

Table V-1: Forecast of baseline electricity consumption of the selected household appliances and technical building equipment until 2030 (TWh)

Appliance / equipment	Year					
	2005	2010	2015	2020	2025	2030
Refrigerators/freezers	36.35	34.76	32.11	30.45	28.73	28.07
Household washing machines	5.95	6.50	7.97	9.07	9.74	9.56
Subtotal household appliances	42.3	41.26	40.08	39.52	38.47	37.63
Pumps	10.0	15.0	19.0	24.0	31.0	37.0
Industrial air conditioners and fans	2.3	3.02	3.92	4.82	5.72	6.8
Refrigeration units of central air conditioning systems	0.58	0.92	1.35	1.60	1.75	1.85
Subtotal technical building equipment	12.88	18.94	24.27	30.42	38.47	45.65
Total selected appliances and equipment	55.18	60.20	64.35	69.94	76.94	83.28

Table V-2: Baseline of CO₂-emissions due to the electricity consumption of the selected appliances and technical building equipment until 2030 (Mt CO₂)

Appliance / equipment	Year					
	2005	2010	2015	2020	2025	2030
Refrigerators/freezers	18.18	17.38	16.06	15.23	14.37	14.04
Household washing machines	2.98	3.25	3.98	4.53	4.87	4.78
Subtotal household appliances	21.15	20.63	20.04	19.76	19.23	18.82
Pumps	5.0	7.5	9.5	12.0	15.5	18.5
Industrial air conditioners and fans	1.15	1.51	1.96	2.41	2.86	3.4
Refrigeration units of central air conditioning systems	0.29	0.46	0.68	0.80	0.88	0.93
Subtotal technical building equipment	6.44	9.47	12.14	15.21	19.24	22.83
Total selected appliances and equipment	27.59	30.1	32.17	34.97	38.47	41.64
Cumulative CO ₂ emissions (2000-2030)	160.1	306.4	463.0	632.3	817.7	1019.4

4. The scenarios presented above are based on the following assumptions:

Household appliances:

- Average lifetime of refrigerators: 10 –12 years and of washing machines: 8 –10 years;
- Distribution of the age of refrigerators and washing machines in operation, according to expert estimates;
- The energy efficiency of new appliances, as shown in tables 4 and 5 in the body of the project document (chapter “Context and global significance”). It is assumed that without the intervention of the project, the distribution of energy efficiency classes of different appliances operating in the market in 2030 would be equivalent to the present distribution in the European Union;

- The Unit Energy Consumption (UEC) of washing machines will increase in the short-term, due to changes from hot-fill to cold-fill technologies (i.e. that washing machines with integrated electric heating will be used, in contrast to traditional hot-fill technology using hot water from district heating).
- The number of appliances in operation is extrapolated from the data given in table 3 by assuming an increase of the penetration rate of households with refrigerators from 83% in 2003 to 95% in 2030, and to 90% for washing machines, taking into consideration the demographic trend of constant size of the population.

Technical building equipment:

- The energy efficiency classes of new appliances as shown in table 9 (chapter “Context and global significance”). It is assumed that – without intervention of the project – the distribution of energy efficiency classes of appliances operating in the market in 2030 would be equivalent to the present distribution in the European Union.
- The number of equipment in operation is extrapolated from the data given in table 7 in chapter “Context and global significance”, assuming a continued strong increase in building construction.

5. As can be seen from the data, the energy consumption of technical building equipment, in particular of pumps, is expected to grow strongly, while the energy consumption of household appliances is expected to decrease over time. These expected developments can be explained by (i) the strong increase of building construction and associated need for technical building equipment, primarily pumps and (ii) by stagnation of population growth in Russia and the slow, but steady improvement of the energy efficiency of household appliances (white goods) over time.

Alternative (Project) Scenario

6. In the alternative scenario, the future energy consumption and CO₂-emissions affected by the EE S&L programme are based on the following assumptions:

- Following the implementation of a full-scale EE S&L programme in the pilot region of Moscow, the mandatory labeling and minimum efficiency performance standards (MEPS) will be introduced at the national level. Energy efficiency classes and thresholds will reflect existing and proposed new EU-legislation, in particular the Framework Directive on the “Ecodesign of Energy-Using Products” and its expected implementing directives;
- No accelerated substitution of appliances/equipment in operation has been assumed. This means that this assumption is conservative, as the programme should have some effect on the existing habits of consumers to use appliances and equipment until the very end of its technical lifetime (giving preference to repairs instead of substitution by new equipment).

7. Due to the specific character of this project, its main impacts will be indirect i.e. resulting in the targeted GHG savings from technical assistance rather than direct investments by the project itself.¹³ Furthermore and if the project will be successful, the most notable impact of market transformation on the actual greenhouse gas emissions is likely to be observed after the project i.e. in the medium and long-

¹³ Although the planned pilot programme in the Moscow region is likely to include also some financial incentive schemes (financed by the project’s co-financing partners) , the direct impact of this at this stage is quite difficult to assess and is, therefore, not separated from the overall market development scenarios.

term. For further details, please see figures V-4 and V-5 as well as tables V-3 and V-4 showing the same data in a table format at five year intervals. Table V-5 shows the incremental reduction of CO₂-emissions due to the project impact until 2030. Table V-6 presents underlying assumption for estimating energy consumption in BAU and Alternative Scenarios.

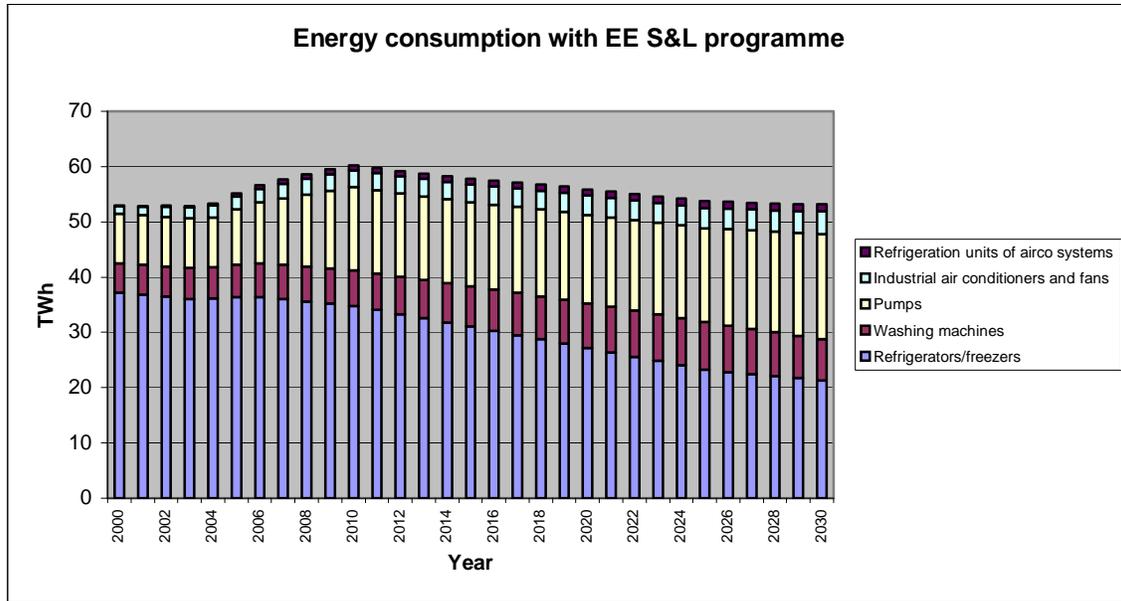


Figure V-4: Annual energy consumption of the selected appliances and equipment with EE S&L programme until 2030

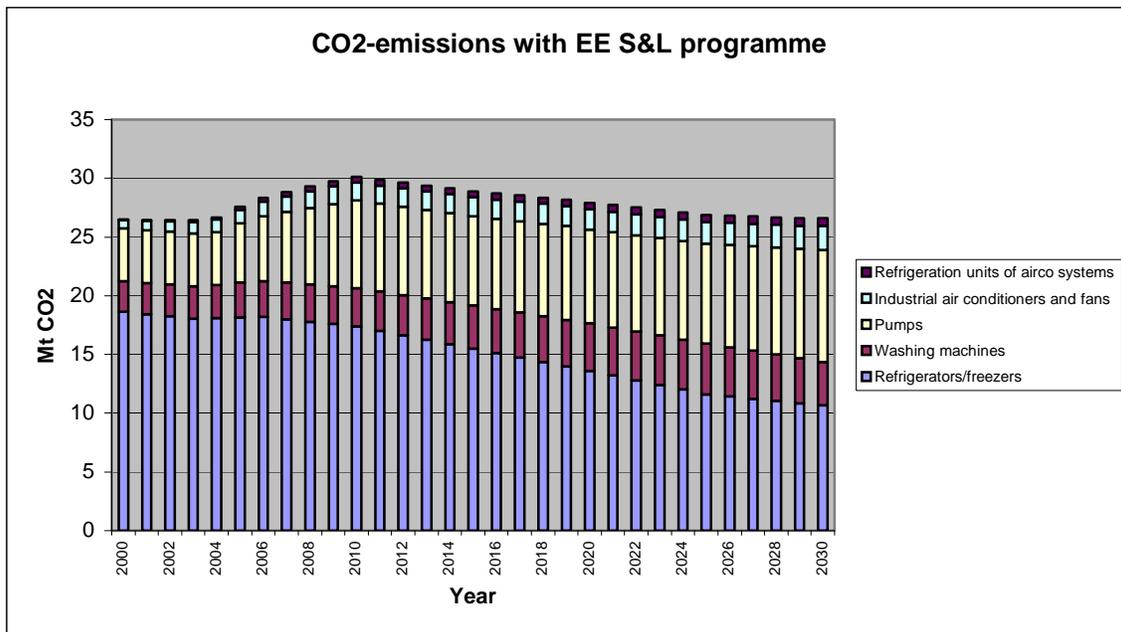


Figure V-5: Annual CO₂-emissions of the selected appliances and equipment with EE S&L programme (until 2030)

Table V-3: Annual electricity savings of the selected household appliances and technical building equipment until 2030 (TWh)

Appliance / equipment	Year					
	2005	2010	2015	2020	2025	2030
Refrigerators/freezers	0	0	1.07	3.26	5.53	6.74
Household washing machines	0	0	0.64	0.97	1.09	2.12
Subtotal household appliances	0	0	1.71	4.23	6.62	8.86
Pumps	0	0	3.85	8.0	14.0	18.0
Industrial air conditioners and fans	0	0	0.68	1.35	2.03	2.70
Refrigeration units of central air conditioning systems	0	0	0.35	0.50	0.55	0.55
Subtotal technical building equipment	0	0	4.88	9.85	16.58	21.25
Total selected appliances and equipment	0	0	6.59	14.08	23.19	30.11

Table V-4: Annual and cumulative reduction of CO₂-emissions due to the electricity savings of the selected appliances and technical building equipment - until 2030 (Mt CO₂)

Appliance / equipment	Year					
	2005	2010	2015	2020	2025	2030
Refrigerators/freezers	0	0	0.54	1.63	2.76	3.37
Household washing machines	0	0	0.32	0.49	0.55	1.06
Subtotal household appliances	0	0	0.86	2.12	3.31	4.43
Pumps	0	0	1.93	4.0	7.0	9.0
Industrial air conditioners and fans	0	0	0.34	0.68	1.01	1.35
Refrigeration units of central air conditioning systems	0	0	0.18	0.25	0.28	0.28
Subtotal technical building equipment	0	0	2.44	4.93	8.29	10.63
Total selected appliances and equipment	0	0	3.29	7.04	11.60	15.06
Cumulative CO ₂ emission reduction	0	0	9.77	37.32	86.17	154.5

Table V-5: Incremental reduction of CO₂-emissions due to the project impact until 2030 (Mt CO₂)¹⁴

Appliance / equipment	Year					
	2005	2010	2015	2020	2025	2030
Annual CO ₂ emission reductions due to EE S&L programme	0	0	3.29	7.04	11.60	15.06
Annual, incremental CO ₂ emission reduction due to GEF intervention	0	0	2.63	5.63	9.28	12.05
Cumulative CO ₂ emission reduction (2000 – 2030), due to the entire EE S&L programme	0	0	9.77	37.32	86.17	154.5
Cumulative, incremental CO ₂ emission reduction (2000 – 2030) due to GEF intervention	0	0	7.82	29.86	68.94	123.6

¹⁴ By assuming a causality factor of 4 (80%) on the basis that the GEF intervention is expected to be crucial in conceiving and developing a sound EE S&L programme in Russia, that otherwise would be limited to uncoordinated actions of single stakeholders and lack transparency, unified criteria, enforcement and control mechanisms.

Table V-6: Assumptions underlying calculation of energy consumption under BAU and Alternative Scenario

Appliances	BAU - 2000	BAU - 2030	Assumptions for BAU	Alternative - 2030	Δ Alt – BAU
Refrigerators freezers, UEC (kWh per unit)	760	500 (66%)	It is assumed that without the intervention of the project, the distribution of energy efficiency classes of refrigerators and freezers operating in the market in 2030 would be equivalent to the present distribution in the European Union and will bring in cca 34% in UEC	380 (50%)	Additional 16% decrease in average UEC compared to BAU
Household washing machines , UEC (kWh per unit)	144	180 (125%)	Growth of UEC of washing machines in the BAU is a result of the gradual replacement of old generation washing machines by new more technological machines. Old machines which are still owned by the Russian households are lacking many modern functions related to additional energy consumption, such as water heating included into the washing cycle. The old generation washing machines required the water to be heated outside of the machine prior to the washing cycle. Many older machines do not have an automated centrifuging function. The washing cycle of the modern washing machines is more complex, involving a number of additional energy-consuming processes and functions. This is the reason why the replacement of washing machines by the households during the first years included in the BAU will result in increased energy consumption. In future, the energy consumption by washing machines will be decreasing following the trend for other household appliances. This situation is applicable only for the washing machines. The energy consumption diagrams for various types of equipment (including washing machines) are included in the Project Document.	140 (97%)	28% decrease in UEC as compared to BAU
Pumps, energy consumption (TWh)*	9	37 (411%)	A forecast for a considerable growth in energy consumption by industrial building equipment was based on the following assumptions/data:	19 (211%)	Two-fold decrease in pumps energy consumption compared to BAU
Industrial air conditioners and fans, energy consumption (TWh)*	1.4	6.8 (486%)	- change in the structure and numbers of the pumps in use related to a massive shift from central heating systems and pumping stations to individual building level heating units and pumps;	4.1 (293%)	40% decrease in AC energy consumption compared to BAU
Refrigeration units of central air conditioning systems, energy consumption (TWh)*	0.1	1.85 (1,850%)	- increased share of constructions applying modern well-developed engineering systems. By 2000 the majority of offices, public buildings and commercial buildings corresponded to Class C (no central air conditioning systems, no cold supply systems, limited application of mechanical ventilation systems). After 2000 almost all new buildings and reconstructions correspond to Classes A and B and utilize central air conditioning, cold	1.3 (1,300%)	30% decrease in AC energy consumption compared to BAU

			<p>supply and ventilation systems. A share of buildings that apply mechanical air conditioning and ventilation systems has increased considerably;</p> <p>- before the financial crisis annual growth in new construction came to 10-12%. The government declared construction sector among national priorities. The 30-year forecast for the growth in application of engineering building equipment was prepared based on the above sectoral growth and relatively low baseline level of 2000.</p>	
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*For pumps and other industrial appliances UEC data were not possible/feasible. In contrary to the large appliances, the engineering building equipment is characterised with a wide range of unit energy consumption by individual product types. For example, the range of unit power for pumps could be between 30 Wt and 30-50 kWt; ventilators – from 20 Wt to 20-30 kWt; refrigerators for air conditioning systems – from 15 kWt to 1500 kWt. In view of this, the average UEC values are not informative. In future, in the course of the project implementation indicative power ranges will be defined for the types of engineering equipment; corresponding adequate energy efficiency indexes/classes will be defined. The total electricity consumption by the engineering building equipment was estimated through expert assessments based on the analysis of the following: a) representative buildings (residential buildings, public and industrial buildings, energy centres) by structure and numbers of the utilized equipment (pumps, ventilators, refrigerators) taking into account the number of existing buildings and building commissioning plans; and b) customs data on imports of equipment produced abroad and data from national manufacturers supplying engineering equipment for the local market.

GHG emission reduction analysis for the GEF pilot region (Moscow)

8. Activities in the pilot region (Moscow) focus on regulatory enabling environment, institutional capacity building and advocacy and thus will bring indirect GHG emission reductions according to the GEF methodologies. Actual project’s impacts in Moscow will be measured through monitoring activities embedded into the M&E plan.

9. A separate assessment of GHG emission reductions in the pilot region (Moscow) has been completed. The methodology and key assumptions for assessing indirect emission reductions through the pilot activities in Moscow was similar to the overall assessment at the country level. However, a measurable change in the Moscow pilot region is expected to occur earlier and to outpace the general market transformation in the country due to targeted GEF investment into demand-side measures in Moscow. GHG emission reduction estimates (baseline and alternative) are presented in the graphs and tables below.

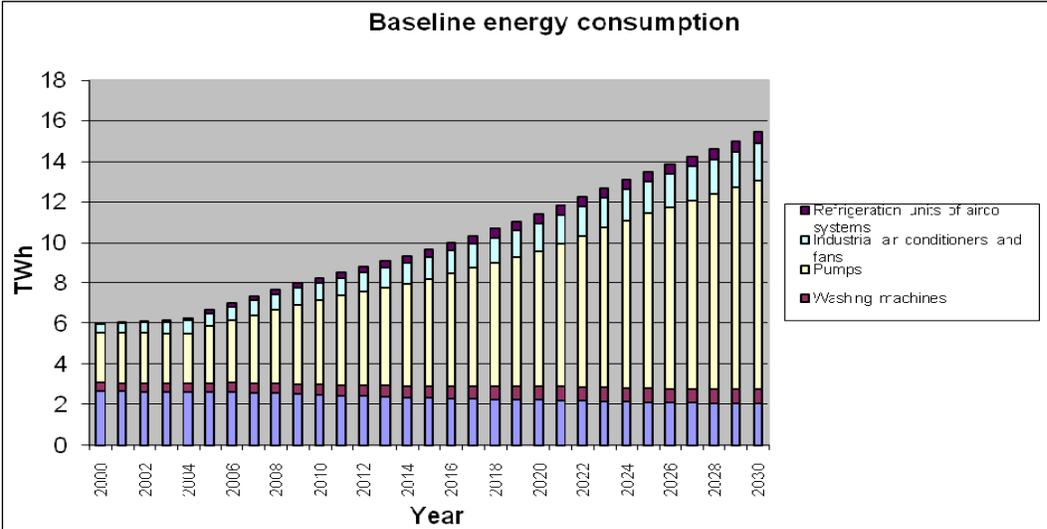


Figure V-6: Baseline energy consumption of selected appliances and equipment in Moscow pilot region (until 2030)

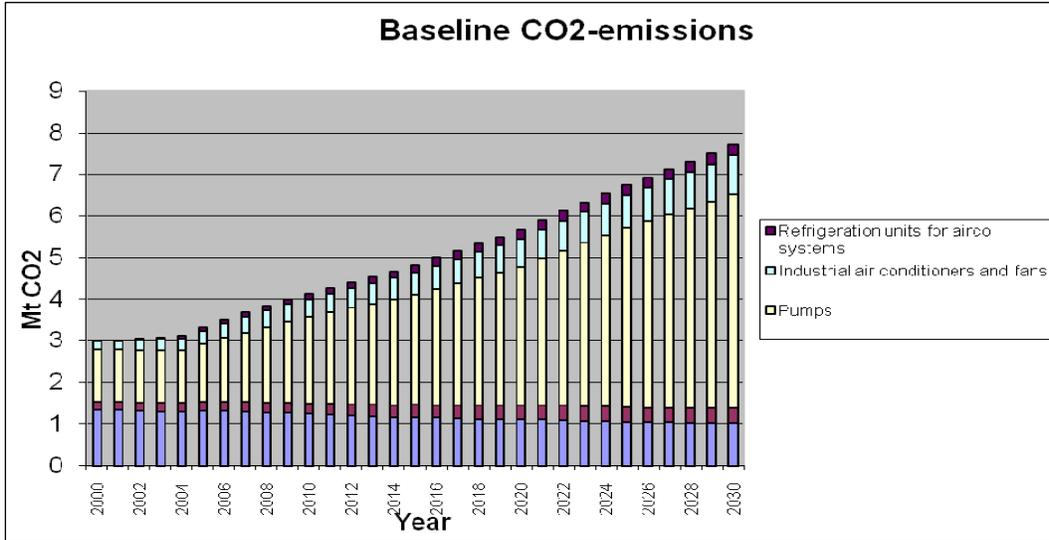


Figure V-7: Baseline CO₂-emissions of selected appliances and equipment in Moscow (until 2030)

10. According to expert estimates, the market transformation towards more energy efficient equipment in Moscow will outpace the national level situation by at least 2 years due to GEF pilot measures.

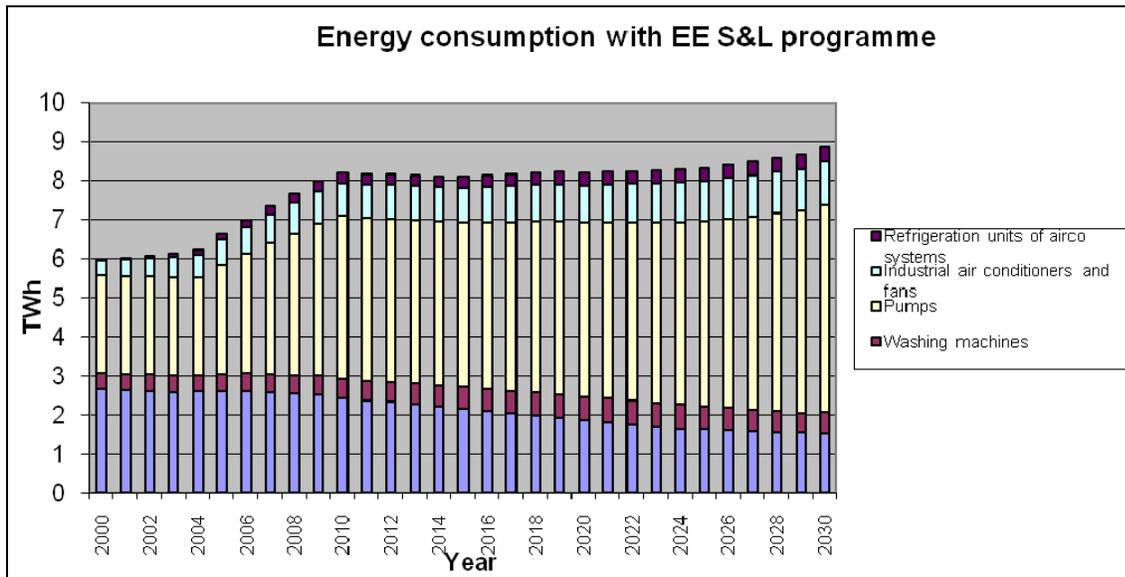


Figure V-8: Annual energy consumption of the selected appliances and equipment with EE S&L programme in Moscow until 2030

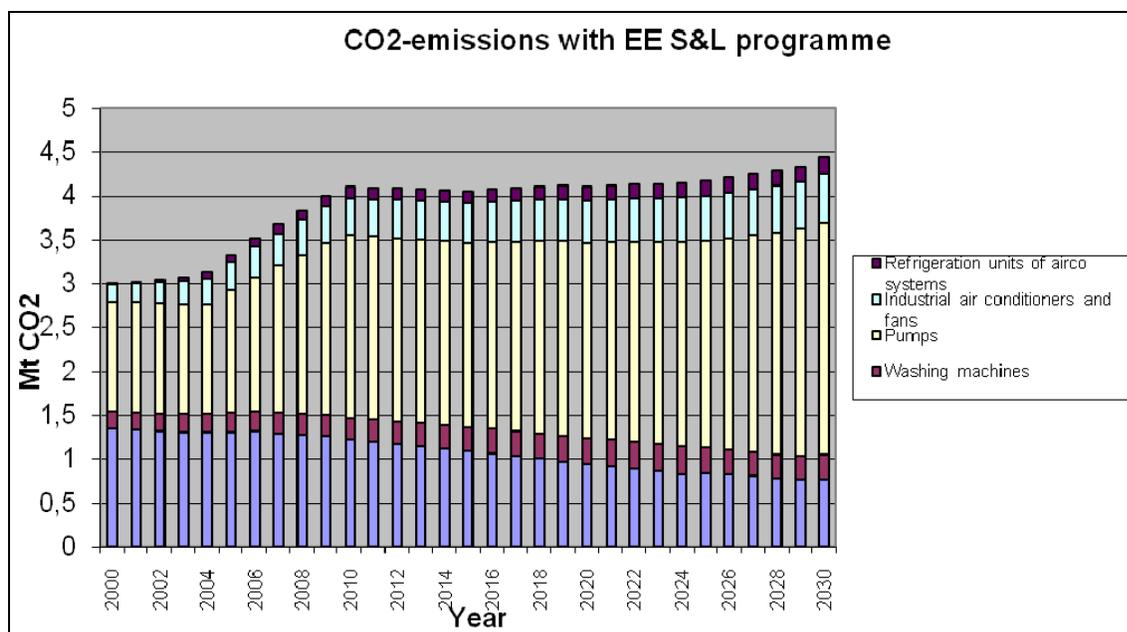


Figure V-9: Annual CO₂-emissions of the selected appliances and equipment with EE S&L programme in Moscow (until 2030)

11. The assessment of GHG emission reductions through pilot measures in Moscow are based on the following factors:

- (i) share of selected types of appliances in use in Moscow (current number and forecast);
- (ii) share of energy use by building equipment in Moscow;
- (iii) purchasing power of Moscow consumers (factor 1.25 over Russia's average reflects an accelerated growth in sales of appliances with higher energy classes);
- (iv) accelerated adoption of EE S&L schemes and consequent market transformation due to the GEF piloting activities in Moscow (2 years lead over Russian market as a conservative expert assessment).

Table V-6: Annual electricity savings of the selected household appliances and technical building equipment until 2030 (TWh) - Moscow

Appliance / equipment	Year					
	2005	2010	2015	2020	2025	2030
Refrigerators/freezers	0,00	0,00	0,14	0,35	0,44	0,52
Household washing machines	0,00	0,00	0,06	0,07	0,11	0,14
Subtotal household appliances	0,00	0,00	0,20	0,42	0,55	0,66
Pumps	0,00	0,00	1,07	2,22	3,89	5,00
Industrial air conditioners and fans	0,00	0,00	0,19	0,38	0,56	0,75
Refrigeration units of central air conditioning systems	0,00	0,00	0,10	0,14	0,15	0,15
Subtotal technical building equipment	0,00	0,00	1,36	2,74	4,60	5,90
Total selected appliances and equipment	0,00	0,00	1,56	3,16	5,15	6,56

Table V-7: Annual and cumulative reduction of CO₂-emissions due to the electricity savings of the selected appliances and technical building equipment - until 2030 (Mt CO₂) - Moscow

Appliance / equipment	Year					
	2005	2010	2015	2020	2025	2030
Refrigerators/freezers	0,00	0,00	0,07	0,17	0,22	0,26
Household washing machines	0,00	0,00	0,03	0,04	0,05	0,07
Subtotal household appliances	0,00	0,00	0,10	0,21	0,27	0,33
Pumps	0,00	0,00	0,54	1,11	1,95	2,50
Industrial air conditioners and fans	0,00	0,00	0,09	0,19	0,28	0,38
Refrigeration units of central air conditioning systems	0,00	0,00	0,05	0,07	0,08	0,08
Subtotal technical building equipment	0,00	0,00	0,68	1,37	2,31	2,96
Total selected appliances and equipment	0,00	0,00	0,78	1,58	2,58	3,29
Share of Moscow in all-Russia's annual emission reductions (%)			23,6%	22,4%	22,2%	21,8%
Cumulative CO ₂ emission reduction (2000 – 2030) in Moscow, due to the entire EE S&L programme	0,00	0,00	2,36	8,57	19,5	34,6
Cumulative, incremental CO ₂ emission reduction (2000 – 2030) in Moscow due to GEF intervention	0,00	0,00	1,89	6,86	15,6	27,68

SIGNATURE PAGE

Country: Russian Federation

UNDAF Outcome(s)/Indicator(s):
(Link to UNDAF outcome., If no UNDAF, leave blank)

N/A

Expected Outcome(s)/Indicator (s):

(CP outcomes linked t the SRF/MYFF goal and service line)

Improved environmental sustainability of development processes / Environmental dimension in development policy

Outcome 3 Improving environmental Sustainability

Expected Output(s)/Indicator(s):
(CP outcomes linked the SRF/MYFF goal and service line)

Energy efficiency measures are incorporated into local development strategies/ Number of regions in which energy efficiency strategies are being developed and implemented/

Implementing partner:
/Executing agency)

Federal Agency for Science and Innovation of the Russian Federation

Other partners:

Federal Agency for Technical Regulation and Metrology of the Ministry of Industry and Trade of the RF; Ministry of Economic Development of the RF, **Moscow City Government**

<p>Programme Period: 2008-2010 Programme Component: Energy and Environment Project Title:Standards and labels for promoting energy efficiency in Russia PIMS: 3550 Project ID: : 00070781 Project Award: 00057337 Project Duration: 2010-2014 Management Arrangement: NEX LPAC Meeting Date</p>
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<p>Total budget: 65,181,000 Allocated resources: • Government 28,889,000 • GEF 7,810,000 • Other: ○ AVOC 27,270,000 ○ RATEK 606,000 ○ Mosenergosbyt 606,000</p>

NAME	SIGNATURE	DATE
Agreed by (Government):		
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Agreed by (Implementing partner/Executing agency):		
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