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**FINANCING ENERGY EFFICIENCY FOR CLIMATE CHANGE
MITIGATION IN SELECTED TRANSITION ECONOMIES**

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PARTNERSHIPS

**ENVIRONMENTAL POLICY, INTERNATIONAL COMPETITIVENESS AND FINANCE:
CAN WE AFFORD A BETTER ENVIRONMENT?**

**FINANCING ENERGY EFFICIENCY FOR CLIMATE CHANGE MITIGATION IN
SELECTED TRANSITION ECONOMIES**

CONTENTS

	<i>Paragraphs</i>	<i>Pages</i>
I. INTRODUCTION	1-7	2
II. FINANCIAL INSTRUMENTS	8-16	3
A. State or municipal budget financing.....	9	3
B. Grants	10-11	3
C. Lending and minority equity financing	12	3
D. Energy Saving Companies (ESCOs).....	13	4
E. Leasing	14	4
F. Tax and customs tariffs incentives	15	4
G. Resolving Fund.....	16	4

CONTENTS (continued)

	<i>Paragraphs</i>	<i>Pages</i>
III. FINANCING IN PROJECT COUNTRIES	17-105	5
A. Belarus	17-36	5
B. Bulgaria	37-61	8
C. Kazakhstan	62-78	12
D. Russian Federation	79-90	15
E. Ukraine	91-105	17

I. INTRODUCTION

1. Information has been collected from the experience and outcome of the Energy Efficiency 21 Programme phase “Energy Efficiency Investment Project Development for Climate Change Mitigation”, implemented between 2000 and 2005. This project helped identify the main financial instruments for energy efficiency projects in five participating countries: Belarus, Bulgaria, Kazakhstan, Russian Federation and Ukraine.

2. In these transition economies, there is often a lack of practical financial opportunities available for public entities. State or municipal bodies are responsible for maintaining national energy systems and providing qualitative energy services to their customers. There are many complex reasons for this lack of financial opportunities lying mainly in the post-communist structural inadequacy and underdeveloped capital markets of these economies.

3. The non-payment problem is a vicious circle affecting most sectors of the economy. Heavily indebted companies with insufficient equity ratios and poor liquidity face difficulties accessing existing capital markets and cannot carry out long needed investments. The reasons for the non-payment problem are difficult to isolate and involve GDP collapse, high inflation, rising unemployment and the loss of traditional export markets. Another important factor is the fact that most companies in the energy sector are non-profit, which isolates them from the correcting mechanisms of efficient markets.

4. Another problem comes from price policies and subsidies, which artificially lower the price of energy to end consumers. Thus, the difference between actual costs and end-consumer prices needs to be covered elsewhere. However, even if the municipality ceases to cover those costs, the energy provider is saved from bankruptcy as it is a public company and thus the resources have to be found, either at the expense of the provider or of the municipality.

5. The absence of metering devices to measure the consumption at end-user levels distorts the relation between actual consumption and actual costs. Invoicing is based on apartment size or aggregated consumer level, thus decreasing substantially the incentives for end users to save energy.

6. There is a little public and managerial awareness about simple measures that could reduce energy consumption, for example the insulation of buildings. Energy efficiency demonstration zones are a mean to change this situation in the project countries.

7. An insufficient legal framework for the promotion of energy efficiency and high transaction costs, due to feasibility studies, project preparation and management are other barriers to implementing efficient energy efficiency policies.

II. FINANCIAL INSTRUMENTS

8. The following are the main financial instruments that can be used to support energy efficiency policies:

A. State or municipal Budget financing

9. Given the magnitude of needs, the high degree of public ownership in the energy sector of the project countries and the limited funds available from external sources, this is the most important financial source.

B. Grants

10. Many bilateral and multilateral partners provide grants under different programmes for financing energy efficiency in Eastern Europe. The most important international organizations are the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), the World Bank (WB) and the Global Environment Facility (GEF) – the financial mechanism of the United Nations Framework Convention on Climate Change (UNFCCC). Under this convention, climate change activities are divided into four areas: (a) removing barriers to energy efficiency and energy conservation; (b) promoting the adoption of renewable energy by removing barriers and reducing implementation costs; (c) reducing the cost of low greenhouse gas emitting technologies and (d) supporting the development of sustainable transport.

11. Other initiatives are undertaken by the European Union such as the Northern Dimension Environmental Partnership (NDEP), the Nordic Environmental Development Fund (NEFCO) and the European Union (EU) itself, operating through the TACIS (Technical Assistance Programme for the Commonwealth of Independent States) programme, which supports the transition of East Europeans and Central European countries to a market economy.

C. Lending and minority equity financing

12. International Financial Institutions (IFI) make important contributions to the financing of energy efficiency projects, as they may provide capital in an environment that is characterized by domestic capital scarcity and high investment risk. These IFIs are:

- (a) European Bank for Reconstruction and Development (EBRD), the largest single investor in Central and Eastern Europe and Central Asia, had invested €233 million in 12 projects in energy efficiency sector up until 2001;

- (b) World Bank, an implementing agency for the GEF, is primarily focused on infrastructure development and energy sector development in 28 countries in Europe and Central Asia. A small percentage of its investments are devoted to energy efficiency.
- (c) NEFCO is primarily focused on countries with a close link to the Baltic Sea area.

D. Energy Saving Companies (ESCOs)

13. This is an indirect way to attract capital to investments or third party financing through an Energy Saving Company (ESCO). The ESCO may fulfil the functions of project identification, planning, implementation and financing. Financing is obtained through contractual relations between the ESCO and the project owner, the investment is carried out by the ESCO and is financed from the cost savings achieved. There are two types of contracts. The first is a guaranteed savings contract, in which payments from the project owner are made according to savings achieved. The second might not include the ESCO in the contract but it makes the project owner liable to cover the capital outlays; payments to the ESCO from the project are not related to the actual savings achieved.

E. Leasing

14. Under a leasing contract, a lessor conveys to a lessee the right to use a piece of property for an agreed period of time against payment or a series of payments. It is sometimes chosen to be the mechanism, which provides the project owner with necessary equipment under performance contracting.

F. Tax and customs tariffs incentives

15. Another option for countries to promote measures in energy efficiency is through stimulating utilities or the market for technology distribution and providers of energy efficiency services. This may also be called a form of indirect financing. Yet another is to diminish or abolish customs tariffs on imported energy efficiency equipment.

G. Revolving fund

16. This is a financial scheme aimed at establishing sustainable financing for a row of investment projects. The fund may include loans or grants and aims at becoming self-sustainable after its first capitalization. The objective is to invest in profitable projects with short payback time, be repaid, and use the same fund to finance new projects. It can be established as a bank account of the owner or as a separate legal entity. There are several parties in a revolving fund: The owners can be either public or private companies, organizations, institutions or authorities. The operator of the fund can be either its owner or an authority appointed by him. External donors and financiers provide contributions to the fund in the form of grants, subsidies, loans or other types of repayable contributions. The borrowers can be either the project owners or contractors. According to the conditions of the revolving fund, savings or earnings gained from projects should be paid back to the fund within a fixed period of time, at certain time intervals. The revolving fund, as financial instruments has its advantages and drawbacks.

III. FINANCING IN PROJECT COUNTRIES

A. Belarus

17. With 10 million people and a heating season of more than six months, Belarus is a European country highly dependent on access to energy. From the Soviet times, the country's economy inherited dependence on the Russian Federation for the supply of primary energy sources. The country is a party to the United Nations Framework Convention for Climate Change (UNFCCC) and ratified the Kyoto Protocol in August 2005. Nevertheless, Belarus' energy efficiency policy and financing mechanisms are deemed to be producing better results than in many neighbouring states.

1. Examples of projects

18. The International Monetary Fund and the World Bank are the multilateral institutions working in Belarus: IMF works through the Ministry of Finance, while WB issues grants and credits. For credits, the bank usually covers 60% of funding and the borrower covers the remaining 40%, the interest rate varies between 5 and 7%.

19. A recent example of a loan granted to Belarus in the field of energy efficiency (EE) by International Financial Institutions is the Social Infrastructure Retrofitting Project, which started in 2001 and should close in 2007. Total cost of the project is \$40.43 million, of which the World Bank granted \$22.6 million and the remaining \$17.83 million provided the Belarusian government through the innovation fund "Belenergo".

20. Several UNDP projects devoted to sustainable development are currently being implemented in Belarus. The project Biomass Energy for Heating and Hot Water Supply in Belarus was approved in 2003 with a duration of four years. The total cost of the project is \$8.7 million, of which GEF has provided \$3.1 million via UNDP. The project addresses the reduction of GHG emissions in Belarus by increasing the capacity of the government to support biomass energy projects and the capacity of customers to finance and implement them. Its goal is to introduce low emissions energy technologies including renewable energy, energy efficiency and/or advanced fossil fuel technologies.

21. Other projects are being financed by UNECE, such as "Energy Efficiency and Climate Change Mitigation" and a project devoted to eliminating barriers to the efficient use of energy resources.

2. Public Funding

22. In December 2002 the Council of Ministers set a number energy efficiency targets for the national economy:

- (a) 4.5 % annual reduction in total energy consumption in the state sector per unit of GDP;

- (b) 7% yearly reduction of fuel and energy resources consumption in the state-owned productive sectors of the economy;
- (c) 600,000 Tce imported fuel substitution by 2005 from local and alternative energy sources.

23. To meet these targets, the Government has developed a series of regulatory, institutional, and financial instruments. Priority for energy efficiency is set by a separate act – the Law of the Republic of Belarus "On energy saving" as well as a number of important by-laws that, among other things, establish financial preferences for producers of energy from non-conventional sources.

24. Institutionally, a high level body - the Committee for Energy Efficiency - reports directly to the Council of Ministers. Among other things, the Committee is responsible for drafting new laws and regulations on energy efficiency and renewables, and implementing energy efficiency policies and energy efficiency targets. In particular, the Committee is responsible for implementing the Government's National Energy Savings Programme.

25. On the programmatic level the Government's main drive to foster energy efficiency investment has been through the national Energy Savings Programmes. The first National Energy Savings Programme (1996 - 2000) is reported to have decreased the GDP energy intensity by 25.3% and to have saved four million tons of fuel equivalent through measures such as the design and introduction of new energy saving materials and technologies, boiler rehabilitation and replacement and the installation of metering devices.

26. Based on a positive evaluation of the first Programme, the Government decided to initiate a second phase - the National Program on Energy Saving and Renewable Energy Utilization for 2001-2005. It is focused on securing planned GNP growth before 2005 without increasing fuel and energy consumption and reducing GNP energy intensity from 15.1 in 2000 to 18.6 in 2005. Among the technical measures are metering of water and heat consumption in housing, use of non-traditional local sources (e.g. wood waste), and increasing the energy efficiency of existing energy generating, distributing and consumption.

27. The National Energy Saving Programme has been continued also for the period 2006-2010. It envisages that in 2010 GDP energy intensity would be 26-30.4% against 2005 indices. The use of local, waste, alternative and renewable energy resources will go up by 1,7 million tons of fuel equivalent. Modern energy saving technologies and equipment will save at least 7,7 million tons of fuel-energy resources. Atmospheric emissions should fall by some 12 million tons.

28. One of the recent developments has been to centralize the public financing devoted to energy efficiency activities. There are three main sources: (a) State and Municipal budgets, (b) Innovation Fund of the Belenergo group and (c) Innovation Funds of Ministries and institutions.

29. Thus, the Government's energy pricing policy is adjusted to create incentives for energy savings: all energy tariffs paid by residents, as well as enterprises, contain a component which is pooled into an Energy Efficiency Fund ("Energoberezheniye") - a pool of resources to finance

the national energy savings programmes. In parallel, there is a move to gradually withdraw state control over energy prices to allow a free market between energy producers and suppliers, but with continued support to some important social objectives through targeted state subsidies. For the period 2001-2005, the emphasis of the energy saving programme was to extend the use of loans and internal funds of enterprises and to decrease the share of budget financing by 50 per cent.

30. While raising funds for energy efficiency investments has been quite successful over recent years, there are issues to be considered on the spending side. Local resources available for energy efficiency financing are significantly underutilized for a number of reasons: lack of skills in producing and advocating good business plans; lack of personnel and corporate incentives to seek energy efficiency improvements; lack of institutions such as energy efficiency business centres, capable of efficiently mediating the demand and supply of the available local energy efficiency capital. Filling these gaps is the subject of an UNDP-GEF project. By mid 2005, the partnership of UNDP, Committee on Energy Efficiency and other local stakeholders, as well as UNECE, was expected to result in a \$ 4.5 million project (with \$ 1.4 million requested from the GEF). Through institutional capacity building as a main instrument, the project is believed to catalyze additional spending of available local financing by at least \$ 7-8 million annually, ultimately relieving the planet of an estimated one million tons of GHG over a 15 year period.

3. Lending

31. It is possible to source funds on commercial terms in Belarus. Since 1998, there has been a regulation stating that all legal entities may be offered credits at favourable interest rates, which is 50% of the National Bank refinancing rate. In addition, any legal entity can receive a credit for introducing an energy saving activity within the existing energy saving framework.

4. ESCOs

32. The country is highly interested in creating ESCOs and has made the initial moves towards this goal. In 2002, a project was initiated with the aim of creating an economic mechanism that would provide incentives for energy saving activities in the budget sector.

5. Leasing

33. There are no specific rules for leasing of energy efficiency equipment in Belarus and thus it is regulated by generally established legal standards. Leasing in Belarus is not subject to licensing and can be practised by any legal entity. The two types of leasing available in Belarus are financial and operational leasing, the former provided by Banks and the latter arranged by leasing firms. Overall, Belarusian leasing legislation is considered to be liberal and provides agents of management with a wide range of opportunities.

6. Tax incentives

34. The Investment Code ratified in June 2001 has brought about important changes in the investment climate of Belarus. According to the Code, foreign investors receive government

guarantees. It also provides tax incentives in the form of profit tax exemption within 3 years of the reporting of profit gained from selling production, goods, or services, excluding trade and purchasing activities. The minimal share of the foreign investor in the statutory fund should be 30 per cent. Goods brought into the country by foreign investors are exempt from VAT and customs duties, excluding basic production assets, excisable goods, and goods aimed at forming the statutory fund. Enterprises with a share of foreign investment exceeding 30 per cent are entitled to license-free export of their own production and the import of goods for their production.

35. In Belarus, legal entities may use the method of accelerated amortization with the purpose of retrofitting their basic production assets and introducing new technologies. It may also be regarded as a form of tax incentive, because it reduces the taxable amount subject to profit tax.

36. Allowing legal entities to include the cost of the saved energy and materials into the cost price of their products within one year after introducing energy saving measures provides an indirect tax incentive. The accumulated funds may be used to finance scientific research or to repay bank credits.

B. Bulgaria

37. The available sources and mechanisms for energy efficiency investments in Bulgaria are the following: (a) low-interest loans or grants from environmental funds (such as the National Environmental Protection Fund and the National Trust EcoFund); (b) commercial financing through bank loans and municipal and commercial bonds; and (c) financing by investment companies, equipment producers, or energy service companies (ESCOs). Due to barriers to the efficient utilization of these sources, however, energy efficiency activities cannot be financed with local capital only, and that is why international parties have financed most of the energy efficiency projects in Bulgaria so far.

1. Public Funding

38. Energy Efficiency is a priority task in the latest energy efficiency strategies in Bulgaria. However the Government has met difficulties in providing local financial resources for these investments. The Ministry of Finance determines the State Budget of Bulgaria annually. It includes all budget revenues and expenditures of the State. Bulgaria has been under Currency Board Arrangement since 1997, which is a factor strongly influencing the national economy.

39. The territory of Bulgaria is divided into municipalities and districts. The former are major administrative units that conduct local self-government directly and are directly elected by the population. The latter are larger territorial units comprising one or more municipalities. They are funded by the state budget and, among others, are responsible for the implementation of energy efficiency policies at the regional level. As far as the formation of municipality budgets is concerned, there are two main sources of revenues: (a) transfers from the state in the form of subsidies, subventions and loans; the central Government also shares a percentage of its tax revenues; (b) Own revenues in terms of local taxes and charges.

40. However, the taxes are defined only by the central Government, which suggests a comparatively low level of financial decentralization, or in other words, the State has a strong influence on the finances of the local authorities in Bulgaria.
41. The high dependence of municipalities on state transfers leads to serious financial difficulties in balancing their budgets. The transfers are usually insufficient, leading to deficits or non-payment in municipalities. Another problem is in planning future budgets as they are subject to annual review and changes from the government.
42. According to a comparative study conducted in 1998, municipalities in Bulgaria possess the least control on their own revenues and are the most dependent on the subsidies allocated by the state among other Central and East European countries.
43. The share of energy costs of Bulgarian municipalities in their budget expenditures is high, often leading to delay or non-payment of energy bills. The Government solves this problem by applying financial injections from time to time. In addition, the low level of decentralization deprives municipalities of the possibility of benefiting from their own savings and thus provides no stimulus for them to save.
44. On the other hand, municipalities are assigned a crucial role in energy efficiency activities. According to the Energy Efficiency Law, all municipalities with more than 100 000 inhabitants have to establish energy efficiency units for the promotion of energy efficiency. Although they are assigned an important role, they lack the financial incentives and funds to invest in EE. The Law does not specify how municipalities have to invest in these activities. Investments with state assets alone will never be enough, if the local initiatives are not supported on their own. Energy savings due to the implementation of energy efficiency policies are not treated differently from any other type of savings mentioned above. Thus, these savings are redistributed to other, poorer regions and municipalities cannot benefit from their own savings.
45. There is a strong necessity to develop a specialized fund for financing energy efficiency in Bulgaria. However, it is very difficult under the conditions of the currency board. There are several environmental funds, though, which remain the most accessible sources to finance EE in Bulgaria. The National Environmental Protection Fund, managed by the Ministry of the Environment and Water, provides loans with low interest and, on some occasions, grants to municipalities and companies for investments in projects with positive environmental effects. The National Trust EcoFund is financed through a 'debt against environment' swap deal, because of an agreement between the Bulgarian Government and the Swiss Confederation. This fund also provides low interest loans to companies and municipalities, as well as grants when the recipient participates with a share of 30 to 50 per cent.

2. Lending

46. Since 1991, the Bulgarian National Bank (BNB) has been an autonomous entity and independent of the Government. In the following years, state-owned banks had overdue loans to state-owned enterprises and these were refinanced with BNB loans. The central Bank lost control over the money supply and the country entered into a financial crisis of hyperinflation in 1996-

1997. A Currency Board Agreement was introduced, which is still into force today. It had a stabilization effect, brought inflation down and interest rates to levels consistent with Germany, as the currency was pegged to it.

47. Nowadays, the Bulgarian bank system is composed of a significant number of detached commercial banks, privatized between 1998 and 2000. Foreign banks are free to enter the local market. They can do so by purchasing a local bank, opening branches or establishing a Bulgaria subsidiary. Foreign institutions actually bought all Bulgarian state-owned banks privatized up to 2000.

48. Under the Currency Board, the National Bank cannot give loans to commercial banks; it can only provide interbank money market with short-term and emergency financing. In general, Bulgarian banks perceive it risky to lend to the business sector of the economy and apply restrictive and cautious lending policies. Thus, they invest most of their money abroad. Private sector loans are low compared to other transition economies but privatization by foreign banks over the last years is expected to liberalize the lending practices in Bulgaria.

49. At present capital market is not an alternative for financing either, as securities markets are not fully developed yet. It is expected that these markets will expand, however, and the legislative and regulatory frameworks have been adapted to the development of non-bank financial activities too.

50. Banks remain the main lending authorities for financing of investment projects in energy efficiency. However, one of the main obstacles is that due to conservative bank credit policies, the real needs of the economy remain inadequately met. In addition, Bulgarian Banks offer predominantly short-term credits, whereas the nature of EE investments is mostly medium- to long term. Another obstacle is that banks are not interested in investing in energy efficiency projects and ESCO contracts, as they perceive them as high risk. Until recently, the only Bulgarian bank involved in EE projects was the United Bulgarian Bank (UBB), working within the United States Agency for International Development (USAID) Municipal Energy Efficiency Programme. The bank provides the Development Credit Authority (DCA) guarantee mechanism and as such, it gives loans to municipalities and industrial enterprises, which are partly covered by USAID. The unique feature of this agreement is that DCA provides guarantees on behalf of municipal and private industrial borrowers, which means that the required collateral from the borrower is lower. The term of the loans, three to five years, is in itself noteworthy. The first three DCA loans were approved in 2000, two of which were municipal EE projects aiming to improve street lighting and heating systems. The respective costs of the two projects were: \$399,500, of which the DCA loan covered 33%, and \$100,400, of which 70% was covered by UBB. Five more loans were approved during 2001.

51. The role and mechanism of ESCOs is appropriate for Bulgarian conditions as there is a need not only for financial resources but also for expertise and services such as energy project design, management, and current maintenance and equipment control. In this sense, there is a great potential for ESCOs, as the municipalities are assigned a crucial role in EE policy but lack sufficient expertise in the area.

52. According to the Energy Strategy of Bulgaria, part of the revenues coming from energy sector privatization can be used for investments in energy projects with high economic and social efficiency, including EE projects, not yet attractive to private investors due to the lack of an appropriate environment. The strategy envisages also that changing some taxation laws is a prerequisite for the establishment of energy service enterprises and their operation as profitable commercial entities.

3. Leasing

53. The Bulgarian Law does not put any particular restrictions on the nature of the leasing object. A leasing contract can be concluded not only between trade companies but also between individuals, both for movable or immovable assets. A special type of leasing contract allows the lessor to transfer to the lessee all risks and benefits associated with the possession of the asset. At least one of the following conditions must be met, the first one being obligatory:

- (a) The contract to contain a clause for transfer of property rights upon the lessee;
- (b) Transfer of property to take place at the end of the term of the leasing contract;
- (c) The term of the contract to cover the major part of the asset's economic lifetime.

4. Tax Incentives

54. In general, any tax reduction in Bulgaria is subject to approval by the International Monetary Fund. In this sense, no mechanism for the promotion of energy conservation and the utilization of renewable energy sources is enforced. Important by-laws to the Energy and Energy Efficiency Act, expected to specifically address these issues, are not yet available. For the time being, incentives are applied only to investments in environment. Tax incentives are established for legal or natural persons who donate to environmental organizations or who invest in regions with high unemployment.

5. Bilateral Financing

55. Most of the EE initiatives have been financed with grants from abroad. The most successful projects have been financed by PHARE, USAID and GEF. They established EE centres in a number of municipalities and as a result, the Municipal EE Network was created.

6. Multilateral Financing

56. The World Bank and the EBRD provide funds mainly through loans for rehabilitation of supply site utilities. They have only a few projects aimed at the demand side of EE in Bulgaria.

57. Currently, EBRD supports the restructuring and commercialisation of the Bulgarian power sector through a power transmission project. It also assisted in the preparation of the country's accession to the European Union. EBRD and a group of commercial banks are funding the modernisation of the the second Bulgarian power station, bringing it up to EU environmental standards, a requirement for Bulgaria's accession in 2007. The transaction is the biggest foreign

investment in Bulgaria and the country's first major private investment in the power sector. Financing of €650 million, provided in 2003, will refurbish the plant, increasing its efficiency, while the installation of scrubbers will cut sulphur dioxide emissions by 95 per cent. The EBRD has committed a total of €12 million while nine commercial banks, comprising both Bulgarian and international lenders, have provided the balance. Some €70 million of the EBRD loan was subsequently syndicated to the Black Sea Trade and Development Bank and other financial institutions.

58. The European Union is of significant importance through its PHARE Programme and through other pre-accession programmes of assistance for integration into the EU structures. Most of the international cooperation projects are aimed at the supply side. However, PHARE has had some demonstration projects in Lovetch and Haskovo and a project for support of the State Energy Efficiency Agency (SEEA). Other important programmes for Bulgaria are the Thermie, Joule II, and SAVE. The National Action Plan for Energy Savings in Bulgaria elaborated by the SEEA is also supported by the SAVE II programme.

59. Some of the latest projects implemented in the energy sector by the European Commission for the period 2006-2008 are: Green Labels Purchase - Making a Greener Procurement with Energy Labels; Implementing EU Appliance Policy in Central and Eastern Europe (CEECA); Monitoring Electricity Consumption in the Tertiary Sector (El-Tertiary) and Residential Monitoring to Decrease Energy Use and Carbon Emissions in Europe (REMODECE).

60. Global Environment Facility: An important project, Energy Efficiency Strategy to Mitigate Greenhouse Gas Emissions, was implemented in the Demonstration Zone in the City of Gabrovo, for the period 1998-2004. Its total budget was \$7,436,000, which was funded by GEF (\$2,575,000), the Government of Bulgaria (\$2,256,000), the USAID (\$900,000) and in-kind contributions (\$1,705,000). The objectives of the project were to promote sustainable energy policies and programmes and enhance public awareness in municipalities concerning energy efficiency, and to support municipal energy efficiency projects and promote lessons learnt to other Bulgarian municipalities.

61. Another GEF project for Building the Local Capacity for Promoting Energy Efficiency in Private and Public Buildings will be implemented from 2006 to 2010. Its total budget is \$1,000,000 and its goals are to support market transformation towards energy efficient new building design; retrofit of the existing building stock; improve the energy efficiency of the energy use of the private and public buildings in Bulgaria by strengthening the institutional framework, raising awareness and building up the capacity of the targeted end user groups.

C. Kazakhstan

1. Public Funding

62. The legal and institutional basis for action to conserve energy exists in Kazakhstan. The National Energy Saving Programme was elaborated in 1996 with the support of USAID and the Energy Saving Law was adopted in 1997, according to which the Ministry of Energy and

Mineral Resources is responsible for the energy saving policies of Kazakhstan. Regional and city administrations are responsible for implementing energy saving programmes at local level. Some of them have developed their own energy saving programmes, funded by municipal budgets.

63. Despite these attempts to improve energy efficiency, there is not much success in conserving energy in Kazakhstan, which has partly to do with the lack of financing and implementing mechanisms in the National Energy Saving Programme and executing the Energy Saving Law. As a result, the energy intensity of Kazakhstan is much higher than the Organisation for Economic Co-operation and Development (OECD) country level (2000: GDP (PPP) fuel intensity was 0.72toe/\$1000 and GDP (PPP) electricity intensity was 1.07 kWh/\$1000).

64. The National Programme for Energy Saving (NPES) was introduced for the first time in 1995 with the support of USAID. One of the main priorities of this programme was to concentrate on energy savings in the industrial sector, where the largest and the fastest reductions could be achieved. The first stage of the programme was planned for 1995-2000, but it is difficult to evaluate the results due to lack of data. The priorities of NPES were well chosen, but there are no indications that they were implemented as planned.

65. The next step after NPES was the incorporation of measures to increase energy conservation in the legal framework. The law on energy conservation was adopted in December 1997. It envisaged that a working group would be created with the task of transforming the law into practice through the creation of EE promotion centres. However, it is not clear whether any of these centres have actually been established. Without specialized bodies that promote energy efficiency and coordinate implementation, it is unlikely that energy saving will become a priority as suggested by the Law on Energy Conservation.

2. Lending

66. Since 1993, the Kazakh banking system has been a two-tier system with the National Bank of Kazakhstan on one side and the private and state-owned banks on the other. A number of reforms have been introduced to ensure that the country's system complies with international standards. The banking sector is concentrated and relatively few foreign banks have entered the market. Public confidence in the banking system is still low and medium and long-term financing is difficult to obtain.

3. ESCO

67. Energy service companies are a new and innovative source of financing for EE projects. Private and state Kazakh entities have expressed their interest in establishing ESCOs. The most recent UNDP project Removing Barriers to Energy Efficiency in Municipal Heat and Hot Water Supply also aims to overcome financing barriers to EE by promoting ESCOs. However, it does not plan to establish an ESCO itself but rather emphasizes local training and capacity building that would consequently lead to the preparation of projects that would attract third party financing. Despite this and other similar efforts, there are currently no operating ESCOs in Kazakhstan and opportunities remain unexploited.

4. Leasing

68. In Kazakhstan, leased property may consist of any kind of non-consumable property, except securities and natural resources. Leasing of land is also allowed (unlike the Russian Federation). A law on Financial Leasing was approved in 2000, which allowed banks to take on leasing as a new financial instrument and to form leasing subsidiaries. The law foresees several types of leasing: buyback leasing, bank leasing, blanket leasing and pure leasing.

68. Currently, the macroeconomic situation in Kazakhstan is quite favourable for development of the leasing industry. There is a very strong demand for financial resources in all sectors of the economy. Also, between 40 and 80 % of all equipment used in the economy is outdated and needs to be replaced. The potential leasing market in the country is estimated to be about \$500 million, taking into account the needs of major, small and medium sized enterprises.

69. Two major lease players dominate the Kazakh market: the Halyk Leasing Company and BTA Leasing. The former is focused on large clients and it first finds suppliers of various types of equipment and then researches for corporate clients. The latter is primarily focused on small and medium-sized enterprises and it starts operations by identifying potential clients and then researching for their appropriate suppliers.

70. Both internal and external industry experts agree that there is a strong potential for rapid development of the leasing market. However, in order to grow more actively the market needs to overcome some challenges, for example the lack of qualified specialists, the limited available amounts of money at lower interest rates and the absence of legal provisions allowing for higher rates of amortization.

5. Tax incentives

71. The law on Energy Conservation in Kazakhstan provides some incentives for enterprises and individuals to implement energy saving policies, for example, reduction of fuel and energy tariffs or customs fee exemption. The real impact of these incentives however remains doubtful, as the authorities do not have sufficient funds to cover them.

6. Bilateral Financing

72. The most active agency providing bilateral support to the energy sector of Kazakhstan is USAID. Governments from Scandinavian countries and other organizations are also developing interest in initiating projects in Kazakhstan and other Central Asian countries.

7. Multilateral Financing

73. Kazakhstan, as other Central Asian countries has relied heavily on multilateral support. Its major partners are the Asian Development Bank (ADB), the European Union, the World Bank, the EBRD and different United Nations agencies.

74. The ADB's main objective in Kazakhstan is to foster economic growth but it is focused on sectors other than energy. Its only project related to energy is Rehabilitation and Environmental Improvement of the Almaty Power Station.

75. The main share of aid from the EU to Kazakhstan has come through TACIS. Between 1991 and 1999, Kazakhstan received \$109.1 million through this programme – the third largest amount after Russian Federation and Ukraine. Energy efficiency is a main priority of the EU and several projects have been implemented in Kazakhstan so far.

76. The World Bank has developed two main projects in the electricity sector of Kazakhstan. The first is an Electricity Transmission Rehabilitation Project that started in 1999 with a total amount of \$ 258.4 million, the World Bank providing a \$ 140 million loan with 20 years maturity. The second is a North-South Electricity Transmission Project, approved in October 2005 with an IBRD loan of \$ 100 million with 17 years maturity. These projects will help ensure access to a reliable, cost-effective and high-quality supply of electricity for business enterprises and households in southern Kazakhstan.

77. The main GEF/UNDP project in the energy sector of Kazakhstan is Removing Barriers for Energy Efficiency in municipal heat and water supply. Its first phase (Block A) started in 1998 and concluded in 2002. The project was extended for its second phase (Block B) from 1999 to 2005. Its objective was to improve district-heating systems in two Kazakh cities - Almaty and Kokshetau. Its total cost was \$261,184 of which GEF provides \$236,900. Upon the successful completion of the two projects in Almaty and Kokshetau, there appears to be ample scope for replication, because the heating systems in other cities are in the same, if not worse, condition.

78. Other energy projects have also been financed under the GEF Small Grants programme and other programmes.

D. Russian Federation

79. Energy efficiency is one of the main priorities of the energy strategy of the Russian Federation even if the system to finance energy efficiency measures is not yet well developed. Traditional sources of finance are scarce and Russian financing institutions are not yet ready to support project-financing schemes. However, energy efficiency projects carried out so far show that it can be possible to raise funds for energy saving investments and technological equipment. The 23 Demonstration Zone projects have proved that in the Russian economy, investments by multilateral institutions and foreign governments could be made under the guarantees of the Government of the Russian Federation, local governments, and Russian financial institutions.

1. Public Funding

80. In the Russian Federation, public funding is distributed via the budgetary system, consisting of federal and local budgets. It provides for current and capital expenditures, the first supporting the functioning of state and local authorities, while the second refers to expenditures for innovation and investment activities. Financing for energy efficiency measures may be obtained from the budget in one of the following ways: (a) budgetary credits to legal entities; (b)

provision of subsidies, including grants and other financial aids; (c) budgetary investments.

81. After the adoption of the Energy Strategy in 2000, a Federal Target Programme elaborated Energy Efficient Economy programme for 2002 - 2005 and a perspective up to 2010. The main purposes of the programme are to realize the energy strategy of the Russian Federation, to employ energy saving technologies and equipment, to decrease production costs in the energy sector, to mitigate the negative effects of the energy sector on the environment, and to improve the maintenance and broaden the export of fuel and energy. This programme was subdivided into several sub-programmes. Its expected outcomes were to overcome negative tendencies in the development of industries, reach the necessary levels of exploitation and production of energy resources, and reduce energy intensity of the Russian GDP by 13.4 per cent in 2005 and 26 percent in 2010, compared to 2000. The realization of the programme would require around RUR 7000 Billion, of which the Federal Budget would allocate RUR 50 Billion.

2. Lending

82. In the Russian Federation, bank credit is less developed than in other countries of Central and Eastern Europe. One of the barriers for bank crediting is the absence of a credit rating system.

3. ESCO

83. Energy Saving Companies are developing in the Russian Federation and they include Negawatt and ZeiM-ESCO.

84. The Centre of Energy Policy established an ESCO called Negawatt. It is an autonomous Non governmental Organization (NGO) involved in research, scientific, and educational activities to increase EE in the framework of sustainable development. Despite having little capital and difficulties in attracting loans, Negawatt is one of the first Russian ESCOs to carry out its activities on a self-financing basis. During the past few years, it has successfully implemented several energy saving projects.

85. ZeiM-ESCO was founded in 1999 as a limited partnership and specializes in automating energy production, managing consumption systems, identifying and implementing energy saving measures. It aims at solving energy consumption problems through the implementation of energy saving measures from energy production to energy consumption.

86. Another private ESCO was set up in the High Efficiency Demonstration Zone of Kirovsk with the goal of reducing energy consumption in the Russian apatite production sector.

87. However, some economic and legislative difficulties arise when setting up an ESCO, primarily the non-payments crisis. If the ESCO client does not pay, it is difficult to follow up on the case due to a lack of appropriate legislation.

4. Leasing

88. The Russian domestic legislation on leasing began in September 1994. In 2002, the Federal Law on Financial Renting (Leasing) was amended and the norms of the Civil Code and the Federal Law were brought into conformity. A specific feature of the Russian Leasing Law is that it names only two parties to the leasing contract, the lessor and the lessee. The supplier acts on a separate mandatory contract, the conclusion of which is an obligation of the parties to the leasing contract. Russian legislation differentiates between three types of leasing depending on the scope of services provided to the lessee: net leasing (lessee bears all maintenance costs); wet leasing (lessor bears all maintenance costs) and severable leasing (maintenance costs are shared between lessor and lessee). Leasing can also be indirect or leveraged, primarily used to finance major investments projects. Russian legislation also allows sale and leaseback arrangements, which gives an owner the opportunity to sell property and become a lessee of the same, attracting the needed capital.

89. The Federal Leasing Law has provided for the creation of leasing companies – commercial organizations that professionally carry out the functions of lessors. There are about 80 major leasing companies in the Russian Federation. One of the main leasing companies in the energy sector in the Russian Federation is ZAO Turbokon Kaluga.

5. Tax incentives

90. Russian legislation contains a number of tax incentives for foreign investors but these privileges are granted only to investors carrying out a priority investment project, which means investment projects of more than one billion roubles. The legislation does not however contain provisions on tax incentives for investments in energy efficiency, tax exemptions, or grace periods and the Government has not yet created considerable tax privileges for producing enterprises and investors of capital in EE.

E. Ukraine

1. Public Funding

91. The Budget Code adopted in 2001 governs the system of Ukrainian public finances. In accordance with this law, state and local budgets are held separate, their only substantive link being the form of transfer payments. Specific revenue sources are assigned to state and local governments, allowing these governments to determine their own expenditure priorities within specified limits.

92. Section Four of the Integrated State Programme for Energy Saving of Ukraine stipulates energy saving activities in budget-funded entities for five years. The funds estimated in the state 2002 budget for the programme Intersectoral Energy Saving Measures were planned to be used to finance equipment for energy saving at budget funded entities, providing meters for energy use and regulation, and introducing intersectoral energy saving technologies. In 2002, such expenditures were estimated at UAH 17 Million.

93. Based on the Law on energy saving, the Complex State Programme of Energy Saving (CSPES) was developed in 1997, together with a Programme of state support for the development of non-traditional and renewable energy sources. The Complex State Programme determined respective tasks for the economy of fuel-energy resources, aiming at savings of 82.7 million tonnes of fuel equivalent during the period of 1996-2000. The achieved savings for this period were 23 million tonnes of fuel equivalent. Moreover, savings were mostly achieved by organizational and low-cost measures. Better results require improved technological processes.

2. Lending

94. In 2002, there were 189 banks registered in Ukraine, including 28 with foreign capital. Of the 189 banks, 154 operated with a nominal capital of more than UAH 4.63 billion (\$874 million).

95. Commercial funding is still rather unusual in Ukraine due to strong requirements on potential borrowers. A poor debt servicing record among many Ukrainian companies further complicates the situation and contributes to a higher risk coefficient.

3. ESCO

96. The first Ukrainian ESCO were founded in 1996. Despite the fact that several small private ESCO are now operating in the country, their business is still far from the traditional ESCOs activities.

97. Although there is a large potential for the energy service sector in Ukraine, there are still barriers to its functioning, mainly related to financial, legislative, investment risks, institutional and informational issues.

98. With a larger market emerging for ESCOs, a new problem is arising – availability of specialists. In 2002, there were only two certified energy managers in the staff of ESCO-West. Cooperation with foreign companies can prove very fruitful, because the Ukrainian side needs experience. Thus, the future of ESCO-West largely depends on its capability of adjustment to changes in the external environment, where five years of experience and constant growth in a difficult economical environment can be a good basis for future success.

4. Leasing

99. Leasing was not an existing practice in the Soviet Union and a large number of Ukrainian legal norms on leasing were developed on the basis of European legislation. As a result, there is no essential difference between Ukrainian norms on leasing and the legal code regulating leasing in most of Western Europe. However, there are no professional leasing institutions in Ukraine.

100. Since bank credits are expensive, it is rather difficult for a Ukrainian company to find the necessary investment capital. As a result, foreign companies and their Ukrainian partners widely use international leasing practices in Ukraine. International leasing is a leasing agreement

concluded between parties from different countries, between a Ukrainian company and a foreign natural person or legal entity.

101. Many Ukrainian leasing companies avoid using the term “leasing”. Instead, they will employ terms like long-term rent, temporal rent, instalment sale, or credit. The contradictory leasing legislation leads companies to resort to these linguistic tricks. The leasing legislation has some conflicts.

102. According to the current law on leasing, individuals have no right to lease. However, a discussion on conferring leasing rights for both legal entities and individuals has been engaged. However, most of the leasing companies refuse to deal with individuals because of the high non-payment risk. Experts in the field are unanimous in affirming that the current legislation makes leasing complicated. They also believe that the Tax Code and Civil Code drafts pose threats to leasing operations and their approval would drastically reduce the number of leasing agreements. The practice of leasing is not widespread, although car leasing is very popular and most banks include this in their list of activities.

5. Tax incentives

103. Different governmental and non-governmental organizations in the field of energy saving have prepared surveys and propositions to create and improve economic and investment mechanisms for this field. These include tariff and tax policies, leasing operations, performance contracts, privileges in crediting, and subsidy policies.

104. The State Committee of Energy Conservation prepared a draft of a project on the changes necessary for the Law of Ukraine on Energy-Saving. This project includes the proposal to create special local funds received from the conservation that can later be used as sources for further energy saving.

105. Ukraine is now in the process of reforming the tax policy and the new Tax Code. A supportive legislation could provide the necessary privileges and incentives to improve the situation in the field of energy efficiency.
