

**PROJECT INFORMATION DOCUMENT (PID)
APPRAISAL STAGE**

Report No.: AB1829

Project Name	Post-Chernobyl Recovery Project
Region	EUROPE AND CENTRAL ASIA
Sector	District heating and energy efficiency services (80%); Other social services (20%)
Project ID	P095115
Borrower(s)	REPUBLIC OF BELARUS
Implementing Agency	Belinvestenergoberezhenie (PMU)
Environment Category	<input type="checkbox"/> A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input type="checkbox"/> TBD (to be determined)
Date PID Prepared	September 15, 2005
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1. Country and Sector Background

At independence in 1991, Belarus had a standard of living and capital stock that were among the highest in the Former Soviet Union (FSU). At the same time, the economy was dependent on linkages with the other union states. After an estimated decline of almost 40 percent of GDP during the period 1992-95, the Belarusian economy experienced strong growth during 1996-2004; GDP grew by 77.4 percent, an average of 6.6 percent per annum. Growth in Belarus has been broad-based, driven primarily by the favorable external environment, growing demand in traditional CIS markets, and internal consumption stimulated through the administratively imposed growth of average wages and salaries. Recent macroeconomic performance remains solid, but is vulnerable to external conditions. The weakness of the private sector limits the ability to adjust to changes in market conditions.

The Chernobyl accident

The Chernobyl accident which occurred in Ukraine in April 26, 1986, released about 100 times as much radiation as the atomic bombs dropped on Hiroshima and Nagasaki. The accident affected approximately 2.5 million people of the 10.5 million population, and about 20% of the area of Belarus. In addition to the economic hardships brought by the transition to the whole post-soviet region, the people living in the Chernobyl Affected Area of Belarus (CAAB) had to deal with the additional challenges posed by the radioactive contamination, including health consequences and related anxieties, depressed economic development, an elevated levels of poverty and uncertainty about their future and the future of their children.

The accident imposed a heavy burden on the national budgets through the cost of clean-up, compensation and recovery, and diverted resources away from other priorities such as health, education and infrastructure service investments. While the physical processes are gradually reducing the level of radioactive contamination in the environment, the most vulnerable groups of people in the affected areas are facing a complex and progressive downward spiral of living conditions induced by the consequences of the accident.

The government's strategy thus far succeeded in minimizing the collective radiation dose, reduced the level of food contamination, provided good care for those who fell ill with thyroid cancer and other illnesses, and made a significant contribution to the scientific understanding of the possible causes, scenarios and consequences of nuclear power plant accidents. In preparing for the next phase of the

program, the aim is to increase the emphasis on economic and social development to empower the population to lead a normal life and expand their economic opportunities.

The energy sector

The disintegration of the Soviet Union and the ensuing regional crisis caused a shrinkage of economic activities that led to a considerable decline in resources available to the government to continue the necessary level of investments. Expenditures on energy infrastructure, particularly for heat, were reduced to the basic needs of operations and maintenance. Services were curtailed considerably. In some cases, minimum heat is provided while hot water services are completely curtailed in many communities. Investments in old facilities in need of major repair or replacement of equipment had been postponed with a negative impact on the level and quality of services. At the same time tariffs were increased to offset increasing costs of imported fuels and the operation of oversized and inefficient facilities. This situation had a larger impact on the poorer section of the population whose living conditions deteriorated due to the combination of such changes.

Following the relative improvement of economic conditions, the Government of Belarus established the National Program on Energy Efficiency (1995-2000) which was extended to 2005. The program provides funding to upgrade physical energy infrastructure with the objective of reducing energy intensity in the economy. Starting in 2000, efforts to improve the financial situation of the energy sector were intensified. This combination of physical investments and financial improvements, led to success in sustaining the performance of the sector from both the technical and financial standpoints. There are two major reasons that explain this performance: (i) continued stable structure of the sector, and (ii) reasonable level of funding available for meeting needs for operations and maintenance. Nevertheless, investment needs remain high. Careful reform to improve sector performance to take advantage of its strong current position is needed to improve overall economic development.

2. Objectives

The project aims to provide the population residing in the Chernobyl affected area with energy efficient and reliable heat and hot water services. The proposed energy efficiency measures would address immediate problems such as inefficient and old boilers, heat distribution systems, windows, lights and insulation in social institutions such as schools, hospitals and orphanages. Such measures will ensure the restoration of essential heat and hot water services to social institutions that are now receiving less than adequate services. Investments in residential gas connections will provide clean and improved space heating to households that are currently burning wood inside homes with negative environmental and health consequences.

3. Rationale for Bank Involvement

Several international institutions have provided assistance to the Government of Belarus to mitigate the consequences of the Chernobyl accident. In large part, this assistance focused on the immediate and mid-term consequences of radiation, including remediation of contaminated land, special health care services to the affected population, monitoring of long-term human exposure to radiation, environmental aspects of decommissioning the Chernobyl Plant, and addressing environmental issues related to radioactive waste. After 19 years, however, there is increased realization by the Government and the international community that it is time to address the social and economic development as an important ingredient to mitigate the persistent depressed quality of life in the regions affected. The Bank is well positioned to address these questions given its involvement in Belarus on social and economic issues and its experience in transition countries, where lessons could be used to guide the government in its careful, yet lagging transition process. The Bank is well positioned to advise the government on energy sector issues and

operations given its experience in implementing energy and environmental sector operations worldwide and its knowledge of the sector in post soviet economies.

4. Description

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The project investments will be implemented in three Oblasts of Belarus. Gomel and Mogilev are the two Oblasts most affected by the Chernobyl Accident, and few contaminated areas are found in Brest. The project has three components:

Component 1. Energy Efficiency Improvements (Estimated Costs 37.8 million). This component includes different types of investments which aim to upgrade or replace energy infrastructure in order to improve efficiencies, provide better services to the population (comfort, and access to better fuel), ensure savings on fuel and other capital and operational costs, and reduce emissions. Investments are expected to take place in about 25-30 sites in each of Gomel and Mogilev Oblasts, and about 10 sites in Brest Oblast consisting mainly of social public institutions in the education, health and social protection areas to ensure that they receive adequate heat and hot water supply. This component includes the following sub-components:

- a) Energy efficiency improvements in heat generation including modernization of boiler houses by replacing old and inefficient equipment with modern boilers or cogeneration equipment.
- b) Energy efficiency improvements in the heat distribution system including replacement of old pipelines with high heat and hot water losses, with preinsulated pipelines and modernization of building level heat substations with modern heat exchangers, regulation equipment and heat meters.
- c) Energy efficiency improvements in public buildings including replacement of windows, replacement of leaking roofs and improvement of their thermal insulation, and replacement of inadequate lighting in schools and hospitals with modern energy efficient lighting systems.

Component 2. Residential Gas Connections (Estimated Cost \$10.0M). This component aims to connect individual houses, which currently utilize wood in individual heat stoves, to the gas pipeline in order to provide better heating services to the population living in the contaminated areas. The project could also result in reduced production of potentially contaminated ashes which are usually disposed in gardens which increases the risk of radioactive intake. The Bank will provide financing for the purchase of pipes, meters, and other equipment, including those to be installed inside the houses. The government will provide the financing and undertake the civil works component of the investments. It is expected that about 10,000 houses will be connected in 20 towns in Gomel and Mogilev.

Component 3. Technical Assistance (US\$3.7M). This component would ensure effective implementation of the project and the delivery of additional benefits to the population. This component includes:

- (a) Design and supervision of the project investments.
- (b) PMU training, equipment, support, public information, energy audits, and project financial audits. The government will finance staffing costs of the PMU.

In addition, advice will be provided on (a) the government’s program to refocus on economic and social development; (b) standards and methodologies for radioactive monitoring and safety procedures; (c) public information on mitigation of radioactive impact will also be part of the project. (a) and (b) will be provided by the Bank and the IAEA within their ongoing program, and (c) will be provided by other active donors with public information programs. Where needed, funds from the loan will also be available for public information activities.

5. Financing

Source:	(\$m.)
BORROWER	12.36
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT	50.0
FOREIGN MULTILATERAL INSTITUTIONS (UNIDENTIFIED)	
Total	62.36

6. Implementation

The project will be implemented by a Project Management Unit that is successfully implementing the ongoing Social Infrastructure Retrofitting Project (SIRP) and has the necessary knowledge and capacity to implement the project. SIRP includes investments that are similar to the first component (energy efficiency) of this project. The aim of the implementation arrangements is to streamline the project within the existing framework of implementation and coordination of the government’s program of investments in the CAAB, to utilize existing capacities, and to minimize additional layers of authority. In Belarus’s centralized system, all government agencies have representatives in Oblast and Rayon governments that are responsible for the formation of investment plans and implementation of local projects along with local authorities.

The Chernobyl Committee is a ministerial level agency that reports directly to the Prime Minister, and is responsible for the coordination and monitoring of the government’s program in the Chernobyl Affected Area. The responsibilities for implementing projects are retained by the respective ministry or government agency, except in few areas, such as the management of the Exclusion Zone. The Chernobyl Committee will therefore retain its national coordination role of the project and the government’s program in the CAAB. It will manage the budgetary requests and report back to the Government on accomplishments and request action from the government where necessary.

The Committee on Energy Efficiency (CEE) is a ministerial level agency that reports directly to the Prime Minister. It is responsible for the Government’s program dedicated to improving energy efficiency in Belarus. It is separate from the Ministry of Energy. The CEE has the responsibility for implementing the SIRP.

The Ministry of Energy is responsible for the implementation of gas pipeline extensions through the national gas company Beltopgas and its Oblast branches. The Ministry will have the responsibility of implementing the Residential Gas Connection components through its normal channels.

The Project Management Unit (PMU - Belinvestenergoberezhnie) will be responsible for the detailed daily implementation and monitoring of the project and adherence to World Bank requirements. The PMU has adequate and practical knowledge of Bank procedures. It also has the technical capacities as well as the necessary linkages to the ministries and Oblasts to prepare and implement the proposed project. The PMU is well staffed with managerial, technical, procurement and financial staff. The staffing of the PMU has been augmented; two technical staff from the Ministry of Energy are assigned to the PMU to be responsible for the gas supply component. The PMU is expected to need additional short-term procurement and accounting during the first year of implementation. The PMU will be responsible for collecting, consolidating and coordinating data on project monitoring and the preparation of periodic report on achievements and obstacles to be presented to the Government/Chernobyl Committee and the World Bank. The Project Management Unit will update the existing operational manual to outline the implementation arrangements including procurement, contract management, payment authorization, environmental management, and periodic reporting.

7. Sustainability

The project addresses basic human needs in the CAAB covering vulnerable population. It is aligned with two government objectives in the region: (i) to pay specific attention to needs of the population in the CAAB, and provide them with clean energy sources to improve their living environment; and (ii) to increase efficiency in the utilization of energy resources in the country. Given the government's track record of commitment to these two areas, the project is sustainable. The government successful record in increasing tariffs, moving to cost recovery, and improving collections along with its commitment to physical improvement of the system is also a reassuring sign of commitment and sustainability. The strategy of improving physical performance of the system to avoid losses ensured tariff increases are minimal and avoided burdening the population with payments for wasted fuel and system inefficiencies. This combined strategy of physical and financial improvements ensures the sustainability of the system. Government commitment to improve the living conditions of the CAAB population as well as to increased energy efficiency has been demonstrated strongly over the last years and is expected to continue. In this regard, the government is also considering recent international advice from the Bank and UNDP to review its strategy in the Chernobyl area, to minimize expenditures on benefits and to focus on investments and incentives to improve living conditions, including employment and business development. The government has already eliminated some of the benefits that were deemed ineffective and too cumbersome to administer.

8. Lessons Learned from Past Operations in the Country/Sector

The Energy Efficiency component of the project is similar to the ongoing Social Infrastructure Retrofitting Project (SIRP) in Belarus. The implementation arrangements of the SIRP have proven effective in implementing the project. The experience has contributed to a better understanding of the need to improve technical standards to avoid excess capacity design to increase savings in the capital and operational expenditures. Coordination with project implementation at the Oblast and Rayon level is ensured. The experience gained implementing the SIRP in terms of project management and knowledge of Bank experience will be utilized in implementing the Post Chernobyl Recovery Project. The implementation arrangements draw on the latest Bank recommendations to implement projects within existing structures of the government in order to improve country capacities, avoid conflict and retain skills.

The Bank study, Investments to Improve the Energy Efficiency of Existing Residential Buildings in Countries of the Former Soviet Union (1997) clearly demonstrates the technical opportunities available to improve energy efficiency in buildings and the associated attractive financial and economic returns. The Bank has financed several energy efficiency projects worldwide, including China, Lithuania, Serbia, Ukraine, and others.

Studies, such as Coping with the Cold, have shown that air pollution, particularly indoor air pollution from burning coal or wood at home is an increasingly important environmental and public health issue. A number of studies have established the possible effects of wood stoves and other dirty fuels on respiratory illness, particularly in young children and the elderly. Because the poor are more likely to burn wood and coal in their homes, they are also more likely to be exposed to higher levels of particulate matter. Where there is extensive use of individual wood stoves at the household level, fuel users collect firewood and cut down trees by themselves which may be an important environmental issue, as is the disposal of ash.

9. Safeguard Policies (including public consultation)

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP/GP 4.01)	[x]	[]
Natural Habitats (OP/BP 4.04)	[]	[]
Pest Management (OP 4.09)	[]	[]
Cultural Property (OPN 11.03 , being revised as OP 4.11)	[]	[]
Involuntary Resettlement (OP/BP 4.12)	[]	[]
Indigenous Peoples (OD 4.20 , being revised as OP 4.10)	[]	[]
Forests (OP/BP 4.36)	[]	[]
Safety of Dams (OP/BP 4.37)	[]	[]
Projects in Disputed Areas (OP/BP/GP 7.60)*	[]	[]
Projects on International Waterways (OP/BP/GP 7.50)	[]	[]

The project is assigned an environmental screening category “B”, as it is expected to have generally positive impact on the environment. The minor negative impacts which inevitably occur during the civil works will be mitigated by proper planning and adherence to measures described in the Environmental Management Plan, including a chapter on radiological safety. The EMP was discussed on several occasions with the general public in the Chernobyl affected areas and **will be discussed** with interested parties including NGOs during appraisal. The EMP **will be** disclosed in Belarus and in the Bank’s Infoshop.

10. Contact point

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11. For more information contact:

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* By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas

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