United Nations Development Programme (UNDP) plays an important role as a key strategic partner to the Government of Belarus in developing energy efficiency policy and programmes.

UNDP supports the Government of Belarus to achieve its GDP energy intensity reduction target through the international technical assistance project “Improving Energy Efficiency in Residential Buildings in the Republic of Belarus” funded by the Global Environment Facility (GEF) in the framework of its Climate Change focal area strategy.

The project is planned for a four-year implementation period and aims at reducing energy consumption during construction and further operation of residential buildings, as well as corresponding reduction of carbon pollution that contributes to climate change.

The project focuses on developing and ensuring effective implementation of new design methods of residential buildings, as well as construction standards with related energy efficiency certification schemes.

The project is implemented by the United Nations Development Programme with financial support from the Global Environment Facility.

The Department on Energy Efficiency under the State Committee on Standardization of the Republic of Belarus acts as the National Implementing Agency of the project.

The project’s partnership network also includes Ministry of Architecture and Construction of the Republic of Belarus, Ministry of Natural Resources and Environmental Protection of the Republic of Belarus, JSCo “MAPID”, RUE “Hrodnagrazhdanproekt”.

The key project’s objectives include:

• Provide support to strengthening the legal and regulatory framework, as well as mechanisms to enforce the legislation for improving residential energy efficiency in the building sector.

• Facilitate the development of enhanced capacity of the Belarusian specialists to implement and effectively apply new energy efficiency standards and construction norms.

• Implement three pilot construction projects to demonstrate in practice energy and cost-saving potential of the new energy efficiency measures.

• Ensure awareness of industry experts and general public on energy efficiency in the residential sector.

• Establish monitoring and replication mechanisms to ensure reproduction of the project’s results in Belarus and worldwide.

Project budget: US$ 4.9 million

The GEF contribution: US$ 4.5 million

UNDP contribution: US$ 400,000
The substance of the project focuses on new residential buildings and applies effort to improve their energy efficiency by motivating the Government of Belarus to develop, effectively implement and enforce new energy efficient construction norms. The project supports the process through implementation of **four main components**: legal and regulatory framework; training, outreach/dissemination and demonstration projects, aimed at achieving the following benefits:

**Legal and regulatory framework.** Strengthened legal and regulatory framework and mechanisms to enforce the legislation aimed at energy efficiency improvement in the national building sector with particular focus on new residential buildings.

**Training.** Enhanced capacity of the Belarusian specialists allowing them to implement and effectively enforce new energy efficiency standards and construction norms with the initial focus on new residential buildings. The component will facilitate the potential and capacity of the local building professionals to design and construct energy efficiency buildings by optimizing their costs and achieving multiple benefits. These will include optimal design and location of new buildings, massive use of passive and active solar energy, cost and energy efficient construction materials, accessories and appliances, optimization of heat recovery and supply systems, correct installation and maintenance of applied materials and equipment. New training and professional courses will be developed and further introduced in building and architecture educational establishments in Belarus.

**Outreach, monitoring, dissemination.** Raise awareness, monitor, disseminate and replicate the project’s findings and achievements through using the following: mainstream implementation of the adopted new energy performance standards, design and construction practices; ensure adequate market monitoring tools are available to analyze the policy consequences even beyond the project cycle; compile best experience and lessons learnt for further adoptive management and replication of the project’s achievements in Belarus and worldwide.

**Demonstration projects.** Demonstrated energy and cost saving potential of new energy efficient measures in, at least, three new residential buildings in two Belarusian cities.

The first project is a 19-storey, 133 apartments, large-panel building with one entrance, located in Minsk. Total area of the structure is 9,300 m². The developer is the biggest state-owned construction enterprise “MAPID”.

The second demonstration site is projected as a ten-storey building with brick partition crosswalls and outer walls made of foam concrete blocks. The construction, total area of which is 9,834 m², will accommodate 120 apartments and have three entrances. The building will be built in Grodno by RUE “Hrodnagrazhdanproekt”.

The third project is presented by a 20-storey, one entrance, skeleton type residential building for 160 apartments and with a total area of 12,000 m². The developer is the Ministry of Natural Resources and Environmental Protection of Belarus (RUE “Belgeologiya”).

The design of the buildings will be based on the existing construction norms and thermal standards in force and envisages central water heating system connected to district heating with radiators, thermostatic valves and heat meters in every apartment as standard design parameters. UNDP/GEF project contribution covers energy efficiency measures costs equal to 15% of the basic investments. These measures, *inter alia*, will include: (i) increased thermal shielding of building envelopes; (ii) door-to-door mechanical supply-and-exhaust ventilation system with exit air heat recovery for heating systems; (iii) solar collectors, heat pumps utilizing soil heat potential through foundation piles, recuperative heat exchangers and heat pumps to utilize wastewater heat potential for hot water supply systems; (iv) roof PV-panels.

As expected the energy consumption for heating of the project buildings will not exceed 25 kWh/m² per year, as well as heat consumption for hot water supply will be cut by at least 40% compared to the existing buildings.

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