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# Project Information Document/ Integrated Safeguards Data Sheet (PID/ISDS)

Concept Stage | Date Prepared/Updated: 12-Mar-2018 | Report No: PIDISDSC23968

**BASIC INFORMATION****A. Basic Project Data**

Country Belarus	Project ID P165651	Parent Project ID (if any)	Project Name Sustainable Energy Scale-Up Project (P165651)
Region EUROPE AND CENTRAL ASIA	Estimated Appraisal Date Jun 18, 2018	Estimated Board Date Nov 06, 2018	Practice Area (Lead) Energy & Extractives
Financing Instrument Investment Project Financing	Borrower(s) The Republic of Belarus	Implementing Agency Energy Efficiency Department, State Committee for Standardization	

**Proposed Development Objective(s)**

The Project Development Objective is to scale up renewable biomass utilization and efficient energy use in space heating of multi-apartment buildings in selected urban localities in Belarus.

**Financing (in USD Million)****SUMMARY**

<b>Total Project Cost</b>	300.00
<b>Total Financing</b>	300.00
<b>Financing Gap</b>	0.00

**DETAILS**

<b>Total World Bank Group Financing</b>	100.00
World Bank Lending	100.00
<b>Total Government Contribution</b>	100.00
<b>Total Non-World Bank Group and Non-Client Government Financing</b>	100.00



Private Capital and Commercial Financing	100.00
of which Private Capital	0.00

Environmental Assessment Category

B-Partial Assessment

Concept Review Decision

Track II-The review did authorize the preparation to continue

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Other Decision (as needed)

## B. Introduction and Context

### Country Context

Since its independence the Republic of Belarus has pursued a gradual transition path, characterized by limited structural reforms and a modest reorganization of Soviet production networks. Instead of privatization and a reliance on the private sector as the main driver of growth, policies have focused on upgrading large state-owned enterprises (SOEs). Economic growth was rapid from 2001 to 2014 and accompanied by a remarkable fall in the number of households below the poverty line and increase in the incomes of households at the bottom forty percent. From 2003 to 2014, Belarus had the largest reduction in poverty rates in the ECA region. Measured by the internationally comparable PPP US\$5/day threshold, Belarus’s poverty headcount fell from 32 percent in 2003 to less than one percent in 2014; while in the rest of ECA it fell from 38 percent in 2003 to 13 percent in 2013. Inequality fell alongside poverty, and is low by regional standards.

The economy went into recession in 2015 and 2016 when real GDP contracted 6 percent. Real wages fell and poverty and vulnerability rose, foreign debt obligations and fiscal constraints increased and Government cut public expenditure. The limits of the growth model already began to manifest since 2008 when the global recession started. Less favorable external circumstances exposed previously hidden inefficiencies and deep-seated structural rigidities in the economy. Subsidizing inefficient parts of the SOEs became unsustainable and the economy was increasingly relying on foreign currency borrowing on external and domestic markets. The public debt to GDP ratio increased from 5.9 percent in 2008 to 19.4 percent in 2011, and then to 28.5 percent in 2016.

Real GDP grew 2 percent in 2017, ending a two-year recession. The medium term outlook of economic growth remains weak as Russian demand growth is recovering slowly, the subsidy margin on fuel imports is declining, and foreign debt constraints are tighter. Macro-economic imbalances are recurring and liabilities of SOEs have strained the financial sector. In the absence of structural adjustment, it will be difficult for Belarus to achieve rapid improvements in living



standards in the years ahead. A sustainable improvement in living standards will therefore require economic, social, and institutional transformation, with an enhanced role for private enterprises, markets, and strengthened safety nets.

Over the last two years, the Government has taken a number of macroeconomic stabilization measures and adopted policies to support private sector development. There is enhanced understanding about benefits and risks of reforms. In November 2017, the President approved a package of laws aiming to improve the environment for private businesses, with a particular emphasis on reducing inspections, improving the transparency of regulation and supporting self-employment and IT-enabled businesses. The flow of directed government lending on non-market terms is gradually declining, from 7 percent of GDP in 2013 to 4 percent in 2017.

*The Program of Activities of the Government of the Republic of Belarus for 2016-20* has the objective of improving living standards through enhanced competitiveness, innovation and an increase in the volume and efficiency of overall investment. There are four main program areas: unleashing entrepreneurship and enhanced macro-economic management, promoting innovation-based growth, developing human potential and the quality of life, and promoting the green economy

#### Sectoral and Institutional Context

Belarus consumed about 25.3 million tons of oil equivalent (toe) primary energy in 2015. Natural gas and oil accounted for 63 and 28 percent of the total primary consumption, respectively. Biomass is a distant third with a 5 percent share. Final energy consumption in 2015 was 18.3 million toe. Residential, industry and transport sectors accounted for 26, 22 and 20 percent of the final consumption, respectively. About 70 percent of residential energy use is for space heating and water heating, most which is supplied by district heating systems

Belarus has made significant progress in reducing the energy intensity of its economy. The primary energy intensity of GDP, measured in toe per thousand USD in 2010 PPP, was cut from 0.33 in 2001 to 0.16 in 2015. Compared with Poland or Lithuania, where the same energy intensity indicator is 0.10. Belarus still has the potential to significantly reduce energy intensity through adjustments of the mix of economic activities and by improving the efficiency of energy production and consumption.

#### Key Energy Sector Challenges

Reducing dependency on energy imports. Belarus is dependent on Russia for its energy needs. Virtually all natural gas and over 90 percent of crude oil are imported from Russia. About 95 percent of power and 80 percent of heat is produced from imported natural gas. Mitigating energy security risks is high on the government's energy agenda.

Removing residential heat tariff subsidies. Residential energy consumption, most of which for space heating, is heavily subsidized through direct fiscal support to district heating companies (DHCs) and via cross subsidy by industrial and commercial consumers. Currently, residential heat tariffs cover about 20 percent of DHC operating costs. Tariff subsidies undermine the financial sustainability of district heating, reduce the competitiveness of industries and services, and hinder EE investments in residential buildings. The general tariff subsidies are also biased against the bottom 20% since higher income groups capture most financial benefits. The government plans to increase all residential utility tariffs, except that of district heating, to operating cost recovery levels by the end of 2018. Gradual increases of district heating tariff are expected to reduce the shocks of rising heat bills.

Mobilizing financing for large investment needs. Large amounts of capital are needed for continued modernization of



energy supply infrastructure and improvement of end-use energy efficiency, particularly in residential and public buildings. The government has used public financing to support upgrades of energy supply infrastructure with good results. Many of the district heating systems in central cities (Minsk and oblast capitals) have been significantly upgraded. Most households are satisfied with district heating service. More needs to be done to replace outdated energy facilities to reduce cost, sustain and improve service quality. Many of the district heating systems in smaller cities and towns have very high operating cost due to the use of decades-old, highly inefficient gas boilers and deteriorated heat distribution networks. Modernizing these facilities often presents opportunities for switching to wood biomass fuels. Belarus' housing stock comprises predominantly multi-apartment buildings (MABs). Most of them were constructed before 1996 and require up to twice as much heat to achieve similar thermal comfort as those built after 2010 with stringent thermal insulation standards. Many of these buildings have deteriorated physical conditions which require substantial capital renovation to restore their thermal integrity. Comprehensive (deep) thermal renovation would bring these pre-1996 MABs to the level of EU Class C buildings and cut their heat consumption by half at a total cost of US\$14 billion. This will be a long-term effort and most of the renovation cost will need to be covered by homeowners through long-term borrowing. Currently there is no viable financing and delivery scheme to address the huge and pressing needs for MAB thermal renovation.

### **Government Priorities in Energy Sector**

Increasing the competitiveness of the economy and ensuring energy security by scaling up EE and increasing the use of local fuels and renewable energy sources, is a priority of *the Program of Activities of the Government of the Republic of Belarus for 2016-20*. The government's short to mid-term priorities in the energy sector include both sector reforms and capital investment programs. The reform agenda focuses on energy utility tariff subsidy removal and power sector development, including the integration of the Nuclear Power Plant scheduled to be commissioned in 2019. The investment agenda covers: (i) demand-side EE investments, focusing on thermal renovation of multi-apartment buildings; (ii) supply side EE investments to reduce heat supply costs and increase the use of local fuels; and (iii) power grid rehabilitation and modernization, and interconnections with neighboring countries.

The government is consciously using its investment program in EE and utility operating cost reduction to support its utility tariff reform agenda, heat tariff subsidy removal in particular, by reducing the magnitude of the net increase in household heating bills.

### **Promoting Sustainable Utilization of Wood Biomass Fuel in Space Heating**

Forests are one of Belarus's richest natural resources, covering about 39 percent of the country's land area. They are well stocked and growing (in both standing volume and area). According to a recent World Bank estimate, fuelwood supply could reach 11.3 million cubic meters by 2020, sufficient to meet the government's target to increase the share of local fuels (mainly biomass) in heat generation from 26 percent in 2015 to 32 percent in 2020. The current price of local biomass is significantly lower than the price of imported natural gas on an energy-equivalent basis even without taking into account the environmental benefits of renewable energy. Improving the EE of heat generation and scaling up the use of wood biomass would therefore help address some of the challenges in the energy sector by reducing energy production costs, diversifying energy supply, and further unlocking the potential of forestry resources in Belarus. Using low-quality wood, now treated as industrial waste, for heat and power generation could promote the development of the wood processing industry, encourage sustainable forest management, and create new job opportunities.

The main challenges to further development of biomass application in space heating, especially in centralized/district heating, are: (i) diminishing economic returns per site due to depletion of sites with large heat load; and (ii) inefficient



pricing mechanism and underdeveloped supply infrastructure for biomass fuels.

### **Promoting Thermal Retrofit of Multi-apartment Buildings**

MABs account for close to 90 percent of the residential building stock. Almost all of the pre-1996 MABs are connected to district heating systems. These buildings in general are connected to group heat substations and have building-level heat control responding to outdoor temperature. All new MABs are equipped with modern building level heat substations. Only 9 percent of the MABs have thermostatic radiator valves (TRVs) to control heating (room temperature) at the apartment level. TRV installations in pre-1996 MABs are virtually non-existent. Metering for heating and hot water is done at the building-level for more than 95 percent of the MABs. Heating costs are thus typically billed based on heat consumption at the building level and distributed among households by a factor of the floor area of their apartments.

Of the 243 million m<sup>2</sup> total residential building stock (2013 figure) in Belarus, about 56 percent, or 136 million m<sup>2</sup> has substantial potential for reducing specific heat consumption through comprehensive thermal retrofit (Chart on the left, buildings with the second and third highest specific heat consumption). Deep thermal renovation of these buildings – installation of TRVs, upgrades of windows and exterior doors and building envelop insulation – generally require 15 years or so to recover investment cost through reduced heating bill with heat tariff at full operating-cost-recovery level. The long payback period is a big challenge for households to invest in thermal retrofit

This challenge is further magnified by the highly subsidized heat tariff in Belarus. Other challenges in scaling up thermal renovation include underdeveloped community organizations such as home owners' associations (HOAs) – there are virtually no HOAs in pre-1996 MABs; underdeveloped supply chain and delivery modality for large scale retrofit programs – so far thermal renovations have been few and scattered and have virtually stopped since 2015; and the absent of a proven financing and delivery scheme effective in leveraging households' investments and enabling commercial banks' participation.

The government is initiating a national program for thermal retrofit of multi-apartment buildings. The proposed program envisions the establishment of a long-term financing and delivery platform for scaling up investments in thermal renovation of MABs. The current proposal is to pilot oblast-operated thermal renovation funds through which earmarked budgetary resources (capital grant) will be used to leverage household investment contributions. This is a model which has been successfully applied in multiple countries, such as Lithuania, Estonia, and Poland, with variations in specific designs and implementation arrangements.

#### Relationship to CPF

The proposed project is fully aligned with the Belarus Country Partnership Strategy for the FY18-22 period, which is being finalized. The focal area 3 of the new CPF (decision meeting version) – improving contribution of infrastructure to economic growth and human development, which supports government programs in transport and road safety, waste management, energy and water utilities. The proposed project also lends to focal area 1 of the new CPF – improving the environment for private sector development and efficient public investment, which supports government programs in public financial management, financial sector development, SOE efficiency and private sector development, sustainable utilities management, and roll out of targeted social assistance programs. Finally, the proposed project supports the cross-cutting area of enhanced environmental sustainability and climate change management identified in the new CPF



### C. Proposed Development Objective(s)

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The Project Development Objective is to promote sustainable and efficient energy use in multi-apartment buildings in selected towns and cities of Belarus.

#### Key Results (From PCN)

The proposed PDO indicators are:

- (1) Projected energy or fuel savings
- (2) Projected life-time avoided CO<sub>2</sub> emissions
- (3) Number of households benefitting from project investments

### D. Concept Description

The proposed project will support investments in scaling up biomass-based district/central heating and thermal renovation of MABs, as well as associated technical assistance for development of relevant sector policies and institutional capacity. The main outcomes sought are increased economical utilization of sustainable wood biomass for centralized space heating and demonstration of a viable long-term financing and delivery modality for large-scale thermal renovation of MABs. The three proposed components are briefly described below.

**Component 1. Renewable Biomass Heating.** This component will support fuel-switching and efficiency improvement of municipal district heating companies through:

- 1.1. *Biomass district heating investments:* including, inter alia, conversion of inefficient gas-fired boilers to wood-chip-firing boilers, installation of new peak boilers, modernization of heat network, installation of individual heat substations, and operational monitoring and control systems, and development of local sites for wood fuel preparation.
- 1.2. *Application of distributed biomass heating:* in locations where decentralized biomass heating option is more economical than simple fuel switching of the existing gas-fired district heating systems, distributed heating using wood pellet-fired boilers close to the buildings would be considered.

**Component 2. Thermal Renovation of Multiapartment Buildings.** This component will support the establishment, initial capitalization, and operation of a *pilot financing and delivery scheme* in one oblast. Through demonstration and if successful such a scheme would be replicated in other oblasts and provide the foundation for a sustained national program for thermal renovation of MABs. The pilot scheme will use capital from IFIs and earmarked municipal budget resources to pre-finance 100 percent of investment costs of thermal renovation projects with implementation arrangements which will enable recovery of a portion of the investment from the homeowners over multiple years.

The participating oblasts will be selected based on the amount of potential budget allocation for the pilot scheme, scale of previous thermal renovation projects for MABs, ability to repay Bank loan, and considerations of the central government, such as balancing geo-economic interests among the oblasts.



To simplify the financing structure, technical design and implementation of thermal retrofits two potential packages and one plus option would be considered for financing. *Package A* would cover limited thermal retrofits, including building-level substations, TRVs in apartments, upgrading of entrance doors and staircase windows. *Package B* would cover comprehensive thermal retrofits, including building-level substations, TRVs in apartments, upgrading of all windows (if not already upgraded by household) and exterior doors, thermal insulation of exterior walls, basement and roof. Improvement of building aesthetics (e.g., new paint in stairways) may be added to both packages. The “*Plus*” option would be included for both packages for buildings where homeowners collectively favor heat cost allocation at apartment level by using heat cost allocators (HCAs). This would support the government’s plan to introduce apartment-level consumption-based heat billing.

**Component 3. Technical Assistance and Implementation Support.** This component will support:

- 3.1 *Biomass fuel market development*: analytical work and technical assistance for developing infrastructure to facilitate the transition to energy-content-based biomass pricing;
- 3.2 *Thermal retrofit market development*: capacity building for market participants and stakeholders, development and implementation of communications and outreach programs; and
- 3.3 *Project management, monitoring and reporting*: capacity building for Project Management Unit and incremental operating cost.

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## SAFEGUARDS

### A. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

While the project will be implemented country wide, at this stage of the project design the specific type of investments and their locations are not yet known.

### B. Borrower’s Institutional Capacity for Safeguard Policies

The project will be implemented by the Energy Efficiency Department of the State Committee for Standardization. The day to day project implementation will be the responsibility of the Project Implementation Unit (PIU) "Belinvestenergosberezhenie", which will be in charge of implementation of Component 1 and 3 of the project, while for the Component 2, - Regional Housing Modernization Funds to be established before project negotiations. The PIU has prior experience of implementation of Bank-financed projects (e.g. Energy Efficiency, Post-Chernobyl Recovery; Biomass District Heating) and a designated environmental specialist which supervise implementation of the projects ESMPs. Based on previous WB missions the PIU EA capacity has been qualified as “satisfactory”. As Regional Housing Modernization Funds will be only established, it is expected they will not have adequate knowledge of safeguards issues. Taking this into consideration, the project will support a special EA capacity building program, targeted at providing special training to Funds’ Safeguards Specialists to be hired, including helping in drafting relevant regulations and templates.

### C. Environmental and Social Safeguards Specialists on the Team





Arcadii Capcelea, Environmental Safeguards Specialist  
Aimonchok Tashieva, Social Safeguards Specialist

**D. Policies that might apply**

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	<p>The types of activities to be implemented will have either minor or no adverse environmental impacts and provide significant environmental benefits (reductions in local pollution such as dust and sulfur dioxide emissions and reductions in emissions of greenhouse gases such as carbon dioxide; improving livelihoods by securing heat supply; etc.). Negative environmental impacts are primarily associated with civil works (e.g. dust, noise, disposal of non-hazardous wastes and/or older equipment; degradation of vegetation, traffic disruption (depending upon specific location), worker safety (e.g. welding operations) etc.) In most cases these impacts will be minor, short-lived, and primarily limited to the project sites (except for movement of equipment and materials to/from the construction sites), and they can be addressed with good engineering and construction practices as well as by preparing and implementing adequate mitigation measures and applying best housekeeping practices.</p> <p>As at this stage of the project development the investments and their location are not known, for addressing potential adverse impacts, the client will prepare an ESMF which will specify the rules and procedures for the subprojects ESIA and ESMP, including guidelines on conducting environmental screening, identifying potential impacts, mitigation and monitoring activities for different types of potential sub-projects. The ESMF will also provide criteria and process for conducting assessment of cumulative impacts for specific potential cases related to ambient air quality (particularly particulate matter) given the switch from Russian natural gas to national biomass. While preparing the ESMF the client will revise and update the EMP document that is in place for the ongoing similar Biomass Heating project in Belarus, complementing it with a special section devoted to safeguards issues related to the second project component on thermal renovation of multi apartment buildings. A special section of the ESMF will provide EA capacity building activities for the new</p>



		Regional Housing Funds to be created. To ensure that the biomass comes from sustainable sources, the ESMF will provide estimations of fuel supply needs and sustainability of the resource in the country and include same criteria for sustainable wood supply as approved in the existing biomass project. The document will include an assessment of supply chain and include estimates of wood supply in Belarus and specify requirements that biomass sourcing is certified and provide procedures for verification related to the biomass supply chain. Additionally, the ESMF will provide safeguard requirements for the TORs of the TA activity within Component 3 on Biomass fuel market development and specify that no Category A subprojects will be supported. The draft ESMF document will be disclosed and publicly consulted in the country.
Natural Habitats OP/BP 4.04	No	There will be no sub-projects involving conversion of areas, which are important wildlife habitat and/or would have impacts on them – such subprojects will be excluded from the project financing during environmental screening.
Forests OP/BP 4.36	No	There will be no sub-projects that would have impacts on forests, - such subprojects will be excluded from the project financing during environmental screening.
Pest Management OP 4.09	No	No pesticides will be purchased or used for the proposed activities
Physical Cultural Resources OP/BP 4.11	No	The project will not finance any subprojects that might have impacts on such resources, - such subprojects will be excluded from the project financing during environmental screening. Standard requirements regarding chance finds will be included in contracts for earth works.
Indigenous Peoples OP/BP 4.10	No	N/A
Involuntary Resettlement OP/BP 4.12	TBD	At this stage, it is not fully clear whether sub-project activities would require or cause physical or economic displacement. While it is highly unlikely that activities will cause physical resettlement, some economic impacts may occur. The selection process for building renovation is it relates to homeowners will need to ensure that it does not involve (or minimally) temporary or permanent relocation of homeowners/tenants. Under Component 2, the thermal renovation activities might lead to impacts on livelihoods, particularly potential economic displacement to small retail businesses located on the



first floor of the buildings. These impacts are expected to be temporary and could occur due to a temporary closing of the business or if clientele cannot easily access during construction. The list of locations for sub-projects to be financed will be identified during project preparation. Depending on the identified risks, the client will prepare appropriate instrument (i.e. RPF, site-specific RAPs/or livelihood restoration plans, etc.). Robust GRM with active outreach campaign will need to be established in order to ensure participation of project beneficiaries/affected people.

Safety of Dams OP/BP 4.37	No	The project will not support any activities which rely or may have impacts on dams.
Projects on International Waterways OP/BP 7.50	No	The project activities will not have any impacts on international waters.
Projects in Disputed Areas OP/BP 7.60	No	The project will not involve any disputed areas.

**E. Safeguard Preparation Plan**

Tentative target date for preparing the Appraisal Stage PID/ISDS

May 31, 2018

Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing should be specified in the Appraisal Stage PID/ISDS

Draft safeguards instruments shall be prepared prior to appraisal. The project ESMF will be prepared by May 31, 2018, being ready for disclosure and public consultation.

**CONTACT POINT**

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**Borrower/Client/Recipient**

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**Implementing Agencies**

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**APPROVAL**

Task Team Leader(s):	Feng Liu
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**Approved By**

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Country Director:	Satu Kristiina Kahkonen	22-Mar-2018

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