



Sustainable Energy Scale-Up

Part I: Project Information

GEF ID

10152

Project Type

FSP

Type of Trust Fund

GET

CBIT/NGI

CBIT

NGI

Project Title

Sustainable Energy Scale-Up

Countries

Belarus

Agency(ies)

World Bank

Other Executing Partner(s):

Energy Efficiency Department (EED) of the State Committee for Standardization

Executing Partner Type

Government

GEF Focal Area

Climate Change

Taxonomy

Focal Areas, Climate Change, Climate Change Mitigation, Energy Efficiency, Influencing models, Strengthen institutional capacity and decision-making, Demonstrate innovative approaches, Stakeholders, Type of Engagement, Consultation, Information Dissemination, Participation, Beneficiaries, Communications, Behavior change, Awareness Raising, Gender Equality, Gender results areas, Access to benefits and services, Gender Mainstreaming, Sex-disaggregated indicators, Capacity, Knowledge and Research, Capacity Development

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 1

Climate Change Adaptation

Climate Change Adaptation 1

Submission Date

6/25/2019

Expected Implementation Start

9/26/2019

Expected Completion Date

1/31/2025

Duration

60In Months

Agency Fee(\$)

347,000

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CCM-1-3	Promote innovation and technology transfer for sustainable energy breakthroughs for accelerating energy efficiency adoption	GET	3,653,000	200,000,000
		Total Project Cost(\$)	3,653,000	200,000,000

B. Project description summary

Project Objective

Scale up efficient energy use in space heating of multiapartment buildings and renewable wood biomass fuel utilization in selected urban localities in Belarus.

Project Component	Component Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Renewable Wood Biomass Heating	Investment	Utilization of indigenous renewable wood biomass fuel for space heating scaled up	Renewable wood biomass heating capacity and heat production Households supplied with biomass district heating	GET		138,000,000
Thermal Renovation of Multiapartment Buildings	Investment	Business model for sustainable financing and delivery of thermal renovation of multiapartment buildings demonstrated Apartment-level consumption-based heat billing demonstrated at scale	Multiapartment buildings undergone thermal renovation Households participated in apartment-level consumption-based heat billing	GET	1,000,000	60,000,000

Project Component	Component Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
Technical Assistance and Implementation Support	Technical Assistance	Homeowners empowered to make informed decisions for thermal renovation investments; Effective business model for scaling up thermal renovation of multiapartment buildings developed and deployed; Capacity of market participants of thermal renovation supply chain strengthened Energy content based wood biomass fuel pricing system designed and tested MRV system for tracking GHG emission reductions in space heating developed	Homeowners informed and consulted with through informationa campaign and outreach efforts Design and implementation support activities for the demonstration of sustainable financing and delivery mechanisms Training of market participants, including energy auditors, designers, contractors, inspectors, and commercial banks Design and implementation support activities for establishing energy content based wood biomass pricing system Design and implementation support activities for the MRV of GHG emission reductions in space heating as a result of energy efficiency improvement in heat supply and consumption, and switching to renewable wood biomass fuel	GET	2,506,000	2,000,000

Project Component	Component Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing(\$)	Confirmed Co-Financing(\$)
				Sub Total (\$)	3,506,000	200,000,000
Project Management Cost (PMC)						
				GET	147,000	
				Sub Total(\$)	147,000	0
				Total Project Cost(\$)	3,653,000	200,000,000

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
GEF Agency	World Bank	Loans	Investment mobilized	99,000,000
GEF Agency	World Bank	Loans	Recurrent expenditures	1,000,000
Donor Agency	EIB	Loans	Investment mobilized	99,000,000
Donor Agency	EIB	Loans	Recurrent expenditures	1,000,000
			Total Co-Financing(\$)	200,000,000

Describe how any "Investment Mobilized" was identified

Known World Bank and EIB loans, cofinancing letters are provided

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)
World Bank	GET	Belarus	Climate Change		3,653,000	347,000
Total Grant Resources(\$)					3,653,000	347,000

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Amount (\$)

PPG Agency Fee (\$)

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)
				Total Project Costs(\$)	0	0

Core Indicators

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)	3800000	3800000	0	0
Expected metric tons of CO₂e (indirect)	4600000	4600000	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)				
Expected metric tons of CO₂e (indirect)				
Anticipated start year of accounting	2019			
Duration of accounting	20			

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)	3800000	3,800,000		
Expected metric tons of CO₂e (indirect)	4600000	4,600,000		
Anticipated start year of accounting	2019	2020		
Duration of accounting	20	20		

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)	61,000,000.00	61,000,000.00		

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
Biomass select	225.00	225.00		

Part II. Project Justification

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

See map in follow on section. Coordinates for Belarus are 53.7098° N, 27.9534° E.

2. Stakeholders

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Detailed Stakeholder Engagement Plan is uploaded in the GEF roadmap for this proposal

A summary of this plan is provided below

Stakeholders	Mandate and relevant roles in the project
Energy Efficiency Department (EED)	The proposed project will be implemented by the Energy Efficiency Department (EED) of the State Committee for Standardization (SCS) through its project management unit (PMU) and in close collaboration with participating oblast and municipal governments and local DHCs. The EED is the designated national agency responsible for the implementation of national EE and renewable energy programs.
The Ministry of Housing and Utility (MOHU)	The Ministry of Housing and Utility (MOHU), the sector line ministry, is a government partner of the proposed project and will be closely working with the EED to support project implementation.
Oblast (Municipal) Governments	Two oblasts, namely Grodno and Mogilev, are selected for piloting of a partially repayable grant scheme for implementation of thermal renovation projects. Each Oblast Government will facilitate the selection of multi-apartment buildings (MABs) for thermal renovation and will increase the impact of locally existing capital repair program and the thermal renovation pilot by upgrading the targeted buildings to an “as new” condition and take advantage of synergies and cost savings by implementing both capital repairs and thermal renovation at the same time.
Project Management Unit (PMU)	The PMU is subordinated to the Energy Efficiency Department. It will be responsible for daily project implementation and for the monitoring of and adherence to World Bank requirements. The PMU has the overall fiduciary responsibility of project implementation. The PMU has successfully implemented multiple Bank-financed investment projects and has adequate and practical knowledge of Bank procedures. It also has both the technical capacity and the necessary links to ministries and oblasts to prepare and implement the proposed project. The PMU has skilled managerial, technical, procurement, and financial management staff, and these staff would receive further training for the specific needs of the project. To handle the increased responsibility in implementing the thermal renovation pilot, the PMU will hire additional technical staff both based in its Minsk office and in the Project Implementation Units (PIUs) of the pilot oblasts.

Participating District Heating Companies (DHCs)	All participating DHCs are subordinate to the MOHU and the oblast and rayon executive committees. Each beneficiary DHC will assign a coordinator (project manager) responsible for project implementation to work with the PMU. The DHCs are responsible for providing terms of reference for design documents or approving design documents when they are available, ensuring appropriate technical supervision of the contracts, accepting payment orders, and submitting adequate documentation to the PMU so that it can prepare and sign disbursement applications. The bidding documents will be prepared by the PMU's procurement staff in close collaboration with the technical staff of participating DHCs. The PMU's Tender Committee will evaluate bids or proposals. The Review Committee, which includes ministry representatives and technical staff of the participating DHCs, will clear evaluation reports before sending them to the Bank on a 'no objection' basis.
Project Implementation Units (PIUs)	The PIUs of the two selected oblasts, which will coordinate the thermal renovation component activities at the oblast level. The PIUs will include locally based specialists hired by PMU and will coordinate its activities with the Oblast Housing and Utility Department (OHUD)
Multi-apartment building (MAB) Homeowners	<p>MAB homeowners are the main actor as well as the main beneficiary of the proposed project by participating in the thermal renovation activities. The implementation of a thermal renovation project will require approval from two thirds of homeowners. They will decide whether they want to proceed with a detailed energy assessment or energy audit to determine the scope of thermal renovation, investment costs, and potential repayment obligations of homeowners, and then decide based on recommendations of the detailed energy assessment or energy audit.</p> <p>As MAB homeowners are key to success the project implementation, large-scale, intensive outreach effort to inform and consult with homeowners to encourage participation will be included as part of stakeholder engagement. The project will ensure the implementation of regular gender-sensitive homeowner consultations and gender-sensitive MAB homeowner monitoring committees (bridging the gender gap in voice and participation at the project-level).</p> <p>Engagement of citizens in providing feedback as well as monitoring the project will be ensured through (i) gender-sensitive consultation with MAB homeowners before starting EE investments in any MAB capturing female and male homeowners' views and questions, discussing concerns, needs, and recommendations, (ii) participatory monitoring through MAB homeowner monitoring committees which will monitor the progress of works, contribute and influence planning processes and decisions during renovations, disseminate results of consultation and how female and male homeowners' recommendations have been considered, and collect female and male homeowners' opinions before and after thermal retrofit works, (iii) two beneficiary satisfaction surveys at the mid-term and end of the project analysing perceptions of female and male beneficiaries on project investments and the project's responsiveness to their needs and concerns, and (iv) a well-promoted and easily accessible grievance redress mechanism relying on the national grievance system.</p>
Municipal Contracting Authorities (MCAs)	Municipal Contracting Authority is a housing maintenance company or a separate entity directly responsible for implementing the thermal renovation projects in its home municipality. Project preparation for Component 2 will be carried out by the MCA contingent upon MAB homeowners' decision on a detailed energy assessment or energy audit.
The Oblast Expertise (OE)	The Oblast Expertise (OE) is the government agency authorized to review and approve the technical aspects of thermal renovation projects. It applies technical due diligence for construction projects on behalf of the government. Project preparation done by the MCA, for instance, requires OE approval for its technical design.
Civil Society	The project will reach out to civil society organizations during project implementation as part of its information and outreach campaign efforts. Mobilizing civil society support in communication and consultation with homeowners is important to build broad-based participation in reaching consensus thermal renovation investment decisions.

Other Agencies and Development Donors	The European Investment Bank is a partner and co-financer of the project. Coordination with the European Bank of Reconstruction and Development has been maintained during project preparation and will be continued during project implementation.
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A national survey on willingness to pay (WTP) has been conducted as part of the project preparation and has informed project design, including stakeholder engagement. Proposed elements of stakeholder engagement will include: large-scale, intensive outreach efforts to inform and consult with homeowners to encourage their participation in the thermal renovation investment; capacity building for government agencies, market participants and other stakeholders (e.g., administrators of thermal renovation projects, homeowners' associations/organizations, contractors and commercial banks); and annual multi-stakeholder dialogues which share information and opinions between end-users from public institutions and MAB homeowners which benefited from the project.

The project will ensure the implementation of regular gender-sensitive homeowner consultations and gender-sensitive MAB homeowner monitoring committees (bridging the gender gap in voice and participation at the project-level). Engagement of citizens in providing feedback as well as monitoring the project will be ensured through:

- (i) gender-sensitive consultation with MAB homeowners before starting EE investments in any MAB (presenting information on thermal retrofit options and its benefits, capturing female and male homeowners' views and questions, discussing concerns, needs, and recommendations regarding MAB renovations, particularly including vulnerable homeowners, and forming homeowner committees through the election of committee members); specific outreach efforts to female homeowners and homeowners from other vulnerable groups (e.g. elderly) shall contribute to representative attendance of female and other vulnerable homeowners; consultation efforts and outcomes are summarized for semi-annual project reports;
- (ii) participatory monitoring through MAB homeowner monitoring committees. The committees will closely cooperate with local PIUs which support them to get organized and regularly exchange between different MABs supported under the project. In addition, the committees will monitor the progress of works, contribute and to and influence planning processes and decisions during renovations, disseminate results of consultation and how female and male homeowners' recommendations have been considered, and collect female and male homeowners' opinions before and after thermal retrofit works (committees will consider a gender composition representative of homeowners' gender composition). Efforts and activities of homeowner committees are summarized for semi-annual project reports;
- (iii) two beneficiary satisfaction surveys (at the mid-term and end of the project) analyzing perceptions of female and male beneficiaries on project investments and the project's responsiveness to their needs and concerns; and
- (iv) a well promoted and easily accessible grievance redress mechanism relying on the national grievance system, which will be well promoted and easily accessible through the project. Results are reported in semi-annual project reports.

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement.

Participatory monitoring through MAB homeowner monitoring committees. The committees will closely cooperate with local PIUs which support them to get organized and regularly exchange between different MABs supported under the project. In addition, the committees will monitor the progress of works, contribute and to and influence planning processes and decisions during renovations, disseminate results of consultation and how female and male homeowners' recommendations have been considered, and collect female and male homeowners' opinions before and after thermal retrofit works (committees will consider a gender composition representative of homeowners' gender composition). Efforts and activities of homeowner committees are summarized for semi-annual project reports.

Secondly, a well promoted and easily accessible grievance redress mechanism relying on the national grievance system will be promoted and made easily accessible through the project. Results will be reported in semi-annual project reports.

Select what role civil society will play in the project:

Consulted only; Yes

Member of Advisory Body; Contractor;

Co-financier;

Member of project steering committee or equivalent decision-making body;

Executor or co-executor;

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

According to the World Bank Belarus Country Gender Profile (2016), 70% of households in Belarus are headed by women and on average, female headed households show lower income per capita than male headed-households. This indicates that a large proportion of households required to make investments in thermal renovations are headed by women. Because of their greater vulnerability to poverty, female headed-households are more likely to live in less energy-efficient dwellings because they cannot afford improvements. A regional qualitative research in Europe and Central Asia, covering Belarus, found that insufficient access to heating services and the length of the heating season affects women more than men, as women often spend more time at home doing housework and looking after children, elderly people and people with disability. Other findings show that information about energy efficiency is often technical, available to a narrow, specialized audience and thus more frequently spread among men's social circles. According to the willingness to pay survey conducted during project preparation, female headed-household show greater willingness to pay for a thermal retrofit package that is more limited than alternative packages. In order to incentivize female-headed household to make EE investment in their dwellings, the proposed project would include the following measures: (i) targeted financial support through HUS to low income homeowners, including female headed households for EE investment, and (ii) gender sensitive outreach programs to homeowners on the benefits of energy saving measures, thermal heating upgrades and financing options (also helping to close the gender gap in knowledge about EE investments and benefits to homeowners and to increase female-headed households' uptake of thermal renovation investments - described above). The outreach programs will include easily understandable brochures informing on thermal retrofit options (including contact information for the relevant MAB homeowner committees) and will take into account appropriate communication channels and language to better reach women. Increasing female-headed households investments in thermal renovation will not only improve female-headed households' living conditions, but will also lead to savings in energy expenditures in the long run, as the government of Belarus plans to reduce energy subsidies.

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

Closing gender gaps in access to and control over natural resources;

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

Does the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

The project will support private sector participation. All contracts will be competitively tendered out. Private contractors will be encouraged to participate in the bidding

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

See pg 21 and 35 of the PAD

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

Matrix of responses to the available Council and STAP comments is uploaded in the GEF Portal for this project. See the matrix below:

Belarus: Sustainable Energy Scale-Up (World Bank) (GEF ID 10152)

Response to Comments from GEF Council and STAP

Comments from Norwegian-Danish constituency	Response
<p>Relatively small GEF grant contribution to larger lending program financed by IBRD and EIB seems relevant, targeted and with value added potential. As a likely inhibitor of a larger scale-up potential it is unfortunate that the current available mapping wood biomass resources for energy purposes is not sufficient to estimate its economically viable potential (component 1). The simplified two packet approach to design of thermal renovation of multiapartment buildings seems very limited (component 2).</p> <p>We would recommend allocating funding for a full-scale assessment to map the potential and assist Belarus in designing a sustainable bioenergy policy, preferably applying the FAO methodology.</p>	<p>The proposed GEF grant activities are intended for addressing the most critical mitigation barriers in Belarus, which are those hindering the scale-up of thermal renovation of multiapartment buildings.</p> <p>Belarus has a well-managed forest sector and the government has capacity to conduct resources assessment. The Bank team plans to seek other sources of donor support (e.g., the Energy Sector Management Assistance Program) to the government for wood biomass resources mapping.</p> <p>The thermal renovation market in Belarus is at a very nascent stage. The simplified two package approach is designed based on international experience to deal with the situation where households in general have little knowledge about thermal renovation and would be more receptive to a more structured approach, which also reduces the burden on project management since the implementation agency also needs time to learn. As the market matures a more customized approach could be adopted.</p>

STAP Comments	Response
<p>Component a) involving the introduction of wood biofuels is less well-configured. Two studies are suggested which question the replacement value of wood biofuels as a carbon mitigation strategy, in particular whether the kind of wood replacement and forest management envisaged would be undertaken to allow the comparative value of biofuels to be harnessed. Further detailed analysis should be provided, as well as analysis of competing high value non-combustible uses of timber from the same land acreage. Wind, solar and hydropower comparisons with biofuels would also be useful. This comparison should also consider the potential biodiversity, hydrological, and other ecosystem function impacts of using forest as a replacement for fossil fuel, and measures to mitigate these impacts.</p>	<p>Point well taken. Note that the wood chips used for biomass district heating in Belarus are mostly made from byproduct of forestry management and not from commercial fuel wood production. For the investments undertaken by the proposed project, the environmental management requirements specifically require that all wood chips must be sourced from forestry enterprises (which are all state-owned) that are certified for sustainable forestry according to international standards. In addition the current government investment program for biomass district heating, which this project supports, would only consume one third of the estimated sustainable wood biomass harvests from forest management in Belarus.</p> <p>The World Bank has been engaged in supporting sustainable forestry in Belarus for more than 10 years and has an on-going forest management project. It is thus determined that for this particular project the focus is on more-efficient utilization of forest by product as a fuel source for district heating services in small towns close to the forested areas.</p>
<p>With any efficiency project, there is always the danger of a “rebound effect” whereby consumption of energy and materials increases as efficiency is improved. This is an important missing element in the project’s contingency planning. How would overall consumption be limited if greater efficiency leads to lower fuel costs which ramp up demand for energy? A discussion of this is needed to ensure global environmental benefits are delivered.</p>	<p>Indeed, “rebound effect” is widely observed in energy efficiency investments, especially for residential sector. In district heating, especially for countries from former Soviet bloc, under heating is quite common. In such case, the main issue of concern from an emissions reduction point of view is that actual energy savings would be lower than theoretical estimate because some energy savings will in fact be eating up by compensating from underheating before thermal renovation. In Belarus, current heating quality is generally high and majority household consider they are adequately heated. Thus thermal renovation in this case would bring about significant actual energy savings because of the relatively high energy consumption baseline.</p> <p>The proposed GEF activity will support the development of a MRV system for thermal renovation, which would provide a better understanding how consumer behavior may affect energy savings and ultimately emissions reduction.</p>

ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:

N/A

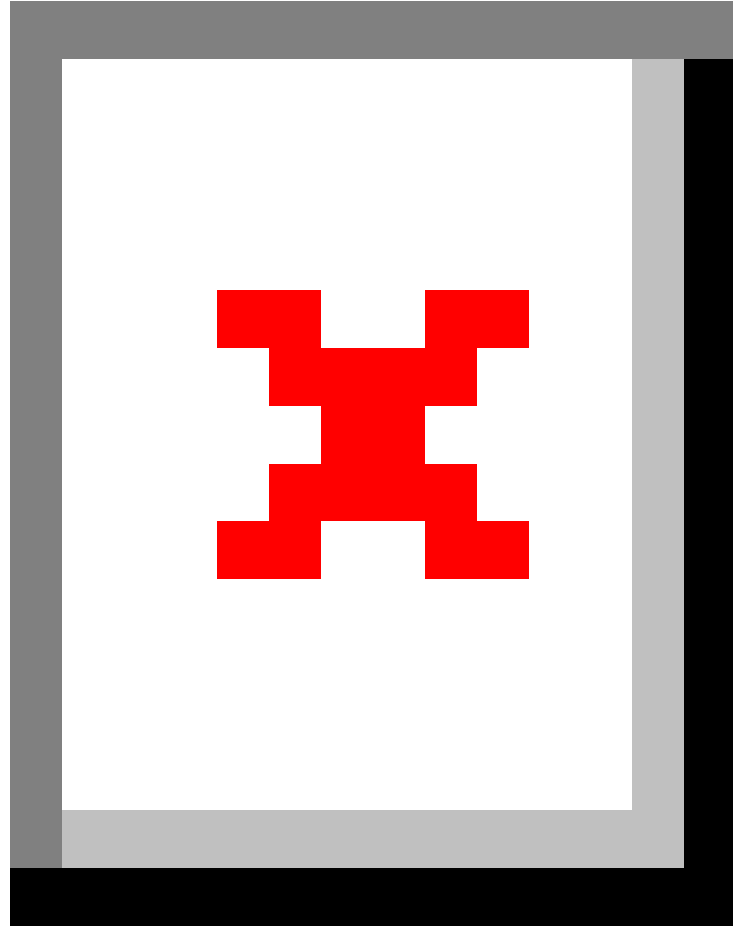
ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/CBIT Trust Funds or to your Agency (and/or revolving fund that will be set up)

N/A

ANNEX E: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.





Submitted to GEF Secretariat Review

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