



Developing National Capacity of Turkmenistan through Improving Regulatory Environment towards Energy Efficient and Sustainable Building Sector

Review CEO Endorsement and Make a recommendation

Basic project information

GEF ID

10996

Countries

Turkmenistan

Project Name

Developing National Capacity of Turkmenistan through Improving Regulatory Environment towards Energy Efficient and Sustainable Building Sector

Agencies

UNDP

Date received by PM

6/23/2023

Review completed by PM

12/20/2023

Program Manager

Remy Ruat

Focal Area

Climate Change

Project Type

FSP

PIF
CEO Endorsement

Part I ? Project Information

Focal area elements

1. Does the project remain aligned with the relevant GEF focal area elements as presented in PIF (as indicated in table A)?

Secretariat Comment at CEO Endorsement Request

6/30/2023 MY:

Yes. the project remain aligned with the GEF CCM focal area elements as presented in PIF.

7/13/2023 MY:

Please address following comments from the GEF PPO:

PPO comments:

1. Co-financing:

- Please include a letter of co-financing support for \$40,000 from UNDP:

GEF Agency	UNDP	In-kind	Recurrent expenditures	40,000.00
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- Please consider revising the 'recurrent expenditures' to 'investment mobilized' for \$50,000 from UNDP in below:

GEF Agency	UNDP	Grant	Recurrent expenditures	50,000.00
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2. Geographic location data at CEO endorsement: in Annex E on Project Map and Coordinates, please consider inserting the geographic location of the site directly under the dedicated data entry field. This includes the Location Name, Latitude and Longitude. Further guidance and resources on how to proceed is provided in the write up just below the title of Annex E.

3. Gender: Please ask the Agency to tick Yes on Improving women's participation in decision-making (see below) as the project addresses women's participation.

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

Generating socio-economic benefits or services for women Yes

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

Yes

4. On the proportionality of the PMC: the co-financing contribution to PMC is not proportionate compared with the GEF contribution to PMC. If the GEF contribution is kept at 5%, for a co-financing of \$41,786,428 the expected contribution to PMC must be around \$2,089,321 instead of \$1,189,285 (which is 2.8%). As the costs associated with the project management have to be covered by the GEF portion and the co-financing portion allocated to the PMC, the GEF contribution and the co-financing contribution must be proportional, which means that the GEF contribution to PMC might be decreased and the co-financing contribution to PMC might be increased to reach a similar level. Please amend either by increasing the co-financing portion and/or by reducing the GEF portion:

	Sub Total (\$)	1,967,958.00	41,786,428.00
Project Management Cost (PMC) <input checked="" type="checkbox"/>			
	GET	98,375.00	1,189,285.00
	Sub Total(\$)	98,375.00	1,189,285.00
	Total Project Cost(\$)	2,066,333.00	42,975,713.00

5. According to the section of "Implementing Partner and Entities:" on pages 61-62, it seems that the UNDP will perform some executing functions for the project. Please be aware that

the GEF Program Manager does not support the UNDO to perform any executing functions for the project. Please revise the section and other part of the project document to make sure that the UNDP will not play any executing role for the project.

6. Budget table:

a. Office equipment and furniture for project activities should be charged to PMC but not to project component;

Expenditure Category	Detailed Description	Component (US\$eq.)						Total (US\$eq.)	Responsible Entity (Executing Entity receiving funds from the GEF Agency)[1]
		Component 1	Component 2	Component 3	Sub-Total	M&E	PMC		
		Sub-component 1.1	Sub-component 2.1	Sub-component 3.1					
Equipment	Materials and goods for auditing and energy performance measurements	22,500			22,500			22,500	MAEP
Equipment	Information technology and equipment for project activities		6,615		6,615			6,615	MAEP
Equipment	Materials and goods on NZEB research and curricula in academic institutions			25,000	25,000			25,000	MAEP
Equipment	Information Techn equipment for awareness and capacity building activities (Comp 3)			7,500	7,500			7,500	MAEP
Equipment/ Vehicle	Office equipment and furniture for project activities		7,500		7,500			7,500	MAEP

b. Project Manager and Finance and Admin Officer are charged to both components and PMC, the costs should only be charged to PMC utilizing the co-financing portion allocated to PMC:

Expenditure Category	Detailed Description	Component (US\$eq.)						Total (US\$eq.)	Responsible Entity (Executing Entity receiving funds from the GEF Agency)[1]
		Component 1	Component 2	Component 3	Sub-Total	M&E	PMC		
		Sub-component 1.1	Sub-component 2.1	Sub-component 3.1					
Contractual Services – Individual	Tasks of project staff related to technical support Comp.1, including Project manager (30.3% (USD 57,570) of annual salary of USD 190,000), Technical+Pilot Coord (33.34% (USD 37,341) of annual salary of USD 112,000), Social Safeguards and Gender (33.34% (USD 11,669) of total allocation of USD 35,000) and Fin-adm Officer's services (14.8% (USD 13,320) of annual salary of USD 90,000) - total USD 119,865 as well as Lead Advisor, USD 12,000: (Total related to outputs of Component 1 - USD 131,865)	131,865			131,865			131,865	MAEP
Contractual Services – Individual	Tasks of project staff -, including Project manager (30.3% (USD 57,570) of annual salary of USD 190,000), Technical+Pilot Coord (33.34% (USD 37,341) of annual salary of USD 112,000), Social Safeguards and Gender (33.34% (USD 11,669) of total allocation of USD 35,000) and Fin-adm Officer's services (14.8% (USD 13,320) of annual salary of USD 90,000) - total USD 119,865 as well as Lead Advisor, USD 12,000: (Total related to outputs of Component 2 - USD 131,865)		131,865		131,865			131,865	MAEP
Contractual Services – Individual	Tasks of project staff -, including Project manager (30.3% (USD 57,570) of annual salary of USD 190,000), Technical+Pilot Coord (33.34% (USD 37,341) of annual salary of USD 112,000), Social Safeguards and Gender (33.34% (USD 11,669) of total allocation of USD 35,000) and Fin-adm Officer's services (14.8% (USD 13,320) of annual salary of USD 90,000) - total USD 119,865 as well as Lead Advisor, USD 12,000: (Total related to outputs of Component 3 - USD 131,865)			131,865	131,865			131,865	MAEP
Contractual Services – Individual	Cost of management & administration tasks (project manager: USD 17,405 = 9.1% of annual salary of USD 190,000 and fin-adm assistant - 50,000=55.56% of annual salary of USD 90,000), USD 67,405.				-		67,405	67,405	MAEP

9/12/2023 (RR):

1. While the co-financing letter refers to the investment mobilized and in-kind contributions, the CEO ER portal entry still refers to the 50,000\$ contribution as recurring expenditure - please revise as appropriate
2. The geographic data does not appear on the dedicated data entry field of the CEO ER, could the agency please double check?
3. Noted
4. Noted
5. In view of the specific circumstances highlighted by the agency in its justification and the proposed scope of activities to be covered by execution support, per Guidelines an exception is granted by GEFSEC on the proposed support to execution modality. The agency can submit on the portal the OFP support letter in line with GEF template available here <https://www.thegef.org/documents/ofp-letter-support-template-gef-agency-execution>

Please also clarify the following points in the revised submission:

- confirming the budget to be transferred to UNDP for these services and its source, as the current CEO ER refers to \$50,000 as non-GEF resources in one section, while PMC lines in the budget table do not fully match - if UNDP is expected to execute a budget, it should be noted as UNDP in the last column.
- a reference is made to a Justification Note in several instances of the document but no such note is available on the portal or PM records - based on information provided by the Agency in the CEO ER, an exception has now been given so these references can be deleted. Similarly, some sections of the Institutional Arrangement sections can also be streamlined/deleted as not directly relevant to the justification / project description (for example on operational modalities of other agencies)

6. Pending clarifications on point #5 above.

RR(11/17/23):

1. Noted with thanks
 2. Noted with thanks. Could you please consider inserting these coordinates, if applicable, in the dedicated portal entry, which reads as follow : Location Name Latitude Longitude
Geo Name ID Location & Activity Description ?
- 5 and 6. Support letter is conform with template. However the budget format is problematic - now the entire budget is allocated to UNDP as responsible entity - please only note UNDP on the lines matching the tasks mentioned in the support letter (i.e. the ones corresponding to PMC and M&E that will be executed by UNDP).

RR (11/17):

Thank you for provided clarifications.

5. Please amend the information section accordingly - UNDP should be featured in the information section to all projects where UNDP carries out executing functions / activities. This concerns the "Other Executing Partner" and "Executive Partner type" fields.

6b. Project Manager and Finance and Admin Officer are charged to both components and PMC, should only be charged to PMC utilizing the co-financing portion allocated to PMC: UNDP's explanation says that: "Project Manager is expected to fulfil technical tasks, which are charged equally to the three components (USD 164,595) and PM's admin-managerial tasks (USD 25,405) are charged to GEF-PMC (USD 7,405) and UNDP co-financing (USD 18.000). Technical tasks of PM are included and described in the PM's TOR attached as the Annex I (p.114) in the Project Document. Please kindly see GEF budget table and budget table in the revised Project Document."

However when reviewing the TORs, the great majority of activities are managerial in nature with some very few component-specific activities - however, the salary distribution charges 86% of the salary to the components. Please revise accordingly.

7. The cancellation deadline is on December 23rd and this UNDP project needs to be circulated 4 week for Council review - hence, the Agency needs to process a Request for Extension to avoid cancellation.

12/12/23:

Noted with thanks.

Agency Response

Nov. 2, 2023

1. UNDP notes the GEF PPO comment on discrepancy in the UNDP co-financing and its entry in the CEO ER portal and made relevant corrections in the portal version.

2. UNDP notes the GEF comment and made relevant changes. Locations were indicated in the first map, but they have been mentioned at the beginning of the related section in the portal as well now.

5. UNDP appreciates GEF SEC's understanding of specific circumstances and thanks GEF SEC for granting an exception on the proposed support to execution modality. The GEF OFP support letter in line with the GEF template is included in the submission package.

UNDP's grant contribution of \$50,000 is used for the Project Management Costs. Two budget lines have been indicated to the last column of GEF TBWP regarding the mentioned resource.

-All text related to justification provided for the execution modality has been removed from both CEO ER Document and UNDP Project Document. Also, the Justification note shared with GEF Sec as an email is now uploaded to the GEF Portal as Annex G.

6. Please kindly see above responses.

1. UNDP notes the GEF PPO comment and included a revised co-financing letter from UNDP comprising \$50,000 cash contribution as investment mobilized and \$40,000 in-kind contribution.

2. Geographic location, name, latitude and longitude have been inserted in dedicated data entry field of CEO Endorsement.

3. This comment has been addressed with relevant box on Improving women's participation in decision-making ticked 'Yes' in the CEO Endorsement Document relevant Subsection 3. Gender Equality and Women's Empowerment.

4. UNDP notes the GEF comment and made relevant changes in the Project Document, CEO Endorsement Document Table B and other documents. The GEF contribution of PMC is kept at 5% (USD 98,375), while the part in co-financing has been increased to 5% (USD 2,150,000) of the total co-financing (USD 42,975,713)

5. UNDP thanks GEF for this comment and brings to the GEF's attention the following:

UNDP Country Office has carried out a full analysis on the rationale for execution support provided in the justification note for the proposed execution modality shared with the GEF Sec as part of the Project submission package. This analysis follows UNDP protocols for assessing capacities of our partners (PCAT Analysis) as a prerequisite for determining the most appropriate implementation modality. This issue has been raised to the GEF Sec's attention currently and the relevant changes in the project document will be made following GEF decision and guidance.

6. UNDP notes the GEF comment and made relevant changes. No office equipment and furniture for project team are being charged in the Components and items have been

transferred to the UNDP TRAC Fund. Finance and Admin Officer has been charged to GEF-PMC (USD 60,000) and UNDP co-financing (USD 30,000). Project Manager is expected to fulfil technical tasks, which are charged equally to the three components (USD 164,595) and PM's admin-managerial tasks (USD 25,405) are charged to GEF-PMC (USD 7,405) and UNDP co-financing (USD 18,000). Technical tasks of PM are included and described in the PM's TOR attached as the Annex I (p.114) in the Project Document. Please kindly see GEF budget table and budget table in the revised Project Document.

November 22 2023

UNDP acknowledges the GEF comment and provides the following clarification. Both GEF OFP Execution Support Letter and GEF Checklist explicitly list the execution support that is expected from UNDP. This encompasses the procurement of goods, services, and works, as well as the recruitment of the Project Management Unit (PMU) and international and national consultants. Additionally, UNDP is tasked with providing financial, administrative, and logistical services. This execution support from UNDP is also affirmed in the justification note submitted to GEF Secretariat during the previous review. Please see the final paragraph of the Note below.

This implies UNDP's responsibility for all project activities and is not limited to PMC and M&E related activities only. UNDP will provide support services for the execution of the project on behalf of the Government of Turkmenistan as per the "Support to NIM Modality". UNDP will thus manage the entire project budget in accordance with UNDP POPP, ensuring a clear segregation of execution and oversight functions as stipulated by the GEF and aligned with the UNDP Internal Control Framework.

Final paragraph of the Justification Note:

As a result, UNDP would consider "Support to NIM Modality" on behalf of the Government as the most appropriate for the implementation of this project and the CO has all the required capacities to use this approach given that the majority of its bilateral projects are directly managed by UNDP. This modality indicates execution support by UNDP for all project activities and expenditures. UNDP execution support will be provided (as requested by the Government and subject to approval of the GEF) by ensuring strict separation of execution and oversight functions as required by the GEF and in accordance with the UNDP Internal Control Framework. The execution services will be delivered by different staff members, i.e., independently from the GEF-specific oversight and quality assurance services. UNDP will maintain a strict firewall between project management, execution support and oversight to ensure that there is no overlap (neither in people nor in reporting lines) among the Project Management Unit, UNDP Programme Team and UNDP Operations Team.

December 12, 2023

5. UNDP thanks GEF Secretariat for their comment. The Other Executing Partner and Executive Partner Type fields are now updated and UNDP is added as executing agency.

6b. UNDP notes the GEF's comment and further clarifies that Finance and Admin Officer was fully charged to PMC. In addition to managerial duties, UNDP also emphasizes Project Manager's need for technical capacities and role in all three components to contribute to the work of the Project Technical/Pilot Coordinator Specialist, who is the only technical member in the project team and overall policy level interventions, ensuring quality assurance and sustainability of project activities. In line with GEF's comment, the following revisions were made to the allocation of PM's salary distribution:

1. Project Manager's salary was recalculated and reduced from USD 190,000 to USD 179,671 over the project duration of 5 years;

2. PM's salary charge to the three components was reduced from USD 164,596 to USD 105,120 (from 86% to 58.5% in percentage of total PM's salary);

2. 3. Project Finance and Admin Officer's salary was recalculated and reduced from USD 90,000 to USD, 40,855 on a part time (50%) engagement for the project duration of 5 years ? all charged to PMC;

3. 4. The PMC share of the PM's salary has been increased from USD 25,405 to USD 74,549 (41.5% of total PM's salary);

4. 5. Total of USD 59,474 - the amount reduced from the PM's salary charge to the three components (point 2 above), has been redistributed to Local Consultants (BL 71300), Audiovisual-printing costs (BL 74200) and Trainings, Workshops & Conferences (BL 75700) within the all three components.

7. UNDP notes the GEF Secretariat comment on Request for Extension. The letter has been provided from OFP and uploaded to the portal.

Project description summary

2. Is the project structure/design appropriate to achieve the expected outcomes and outputs as in Table B and described in the project document?

Secretariat Comment at CEO Endorsement Request

Agency Response

3. If this is a non-grant instrument, has a reflow calendar been presented in Annex D?

Secretariat Comment at CEO Endorsement Request

6/30/2023 MY:

N/A

Agency Response

Co-financing

4. Are the confirmed expected amounts, sources and types of co-financing adequately documented, with supporting evidence and a description on how the breakdown of co-financing was identified and meets the definition of investment mobilized, and a description of any major changes from PIF, consistent with the requirements of the Co-Financing Policy and Guidelines?

Secretariat Comment at CEO Endorsement Request

Cleared

6/30/2023 MY:

Not at this time.

1. The UNDP \$40,000 in-kind co-financing is not indicated in the UNDP co-financing letter. Please provide an evidence of this amount;
2. The co-financing amounts of Ministry of Construction and Architecture (MCA) in the letter and in the project document are not identical. Please revise the amounts.
3. For the co-financing letters of other co-financiers, please use US dollars to indicate the amounts of co-financing.
4. Please use officially recognized translation agency to do the translation of the co-financing letters.
5. Please make sure the Sources of Co-financing for the Project by name and by type in the co-financing letters exactly match those in Table C.

9/12/23 (RR):

1. Noted
2. The amounts noted in the co-financing letter and in the CEO ER portal entry should match - please revise as appropriate, currently the only amount mentioned in the letter is 13,000,000 with no reference to recurring expenditure or investment mobilized.
3. Noted

4. Noted

5. See above comment.

RR (11/17/2023):

1. The amounts now match, and the further details about this co-financing as mentioned in the review sheet are well noted.

Agency Response

Nov. 2, 2023

2. UNDP notes GEF's comment on the Ministry of Construction and Architecture's co-financing letter of 13,000,000 and following the clarifications with the MCA representatives, we made appropriate revisions in all co-financing tables in the CEO ER Document and Project Document, reflecting this sum as investment mobilized.

1. *This comment is well-noted and in-kind co-financing of \$40,000 is indicated in the revised co-financing letter from UNDP attached to the CEO ER.*

2. *UNDP notes GEF's comment and further informs that a total co-financing from the Ministry of Construction and Architecture (MCA) indicated in the official letter is USD 13,000,000. A total sum is comprised of \$12,150,000 of investment mobilized for construction of pilot buildings and \$850,000 of recurrent expenditures of the MCA, reflected in the co-financing Boxes 12 and 16 in the Project Document, which was discussed with the relevant Ministry's specialists during the working meetings.*

3. *UNDP notes GEF comment and further informs that all Government and other public institutions in Turkmenistan use official exchange rate set by the Central Bank of Turkmenistan (CBT) in issuance of official letters. The Ministry of Construction and Architecture co-financing letter has been provided in USD as an exception.*

An official foreign currency exchange rate of the CBT, at the date of submission as of June 23, 2023 was 1 USD = 3.5 TMT (2023-nji ýylyň 23-nji iňunyndan g??je gir??n da?ary ?urt pullarynyň gatna?yklarynyň sanawy (cbt.tm). Exchange rates are published at the official website of the CBT at [Central Bank of Turkmenistan \(cbt.tm\)](http://Central Bank of Turkmenistan (cbt.tm)) and historic daily rates can be found at: [Central Bank of Turkmenistan \(cbt.tm\)](http://Central Bank of Turkmenistan (cbt.tm))

Furthermore, the Treasury of the United Nations also uses official exchange rate of the United States Dollars with Turkmen Manats and UN Treasury exchange rate can be found at: [UN Operational Rates of Exchange - Rates](#)

As per official exchange rate the following USD equivalent calculations of the co-financing provided by the Ministry of Agriculture and Environmental Protection and the Ministry of Energy have been used in the Project Document:

The MAEP's co-financing of 4.6 mln TMT /3.5 TMT = USD 1,314,285

The Ministry of Energy's co-financing of 100 mln TMT/3.5 TMT = USD 28,571,428

4. This comment is well-noted by UNDP and translations of the co-financing letters by the officially registered and recognized translation agency have been accordingly attached.

5. UNDP notes this comment and further informs that in relevant working meetings with the participating national ministries (MAEP, MCA and ME) the amount and types of expected co-financing (investment mobilized and in-kind contributions) have been duly discussed. However, in official co-financing letters, all three participating national ministries have provided total figures of their relevant co-financings without break down of types of co-financing.

GEF Resource Availability

5. Is the financing presented in Table D adequate and does the project demonstrate a cost-effective approach to meet the project objectives?

Secretariat Comment at CEO Endorsement Request

Cleared

6/30/2023 MY:

Not yet.

The financing presented in Table D is adequate. But the project demonstrate does not show a cost-effective approach to meet the project objectives. The project needs tangible or concrete investments. Please see the comments in the previous Box.

9/12/2023 (RR):

Thank you for these details. Further clarification would be welcome regarding the investments and activities that are expected to lead to the bulk of the estimated impact (i.e., the indirect emission reductions corresponding to the response provided to the comment above), given that the direct emission reductions are not sufficient to justify considering this proposed

investment as cost-effective. Please see further comments in the core indicator section to further support your clarification.

11/17/2023 (RR):

Thank you for the clarifications provided. Clarity on how further investments will be fostered by the project outputs beyond the two pilot buildings in order to lead to the expected indirect impact is essential to ensure outcomes are reached. Please take this into account in the project design and implementation.

Agency Response

Nov. 2, 2023

Clarification is provided under the question 7 (core indicators) of the Review Sheet. Also, further details are provided under the Private Sector section of the Review Sheet as well as the Private Sector Engagement section of the CEO ER.

UNDP notes GEF's comment. The following explanation is provided in Section C of the CEO Endorsement Document and GEF portal which is amended with additional explanatory text now:

Public investment under the aegis of the "Presidential Programme for socio-economic development of Turkmenistan for the period of 2022-2028" adopted by presidential decree No. 179, dated July 07, 2022 provides relevant co-financing for the construction of pilot NZEB multi-floor residential and office buildings through the Ministries involved. Within the above-mentioned Presidential Programme, the Ministry of Energy plans to make investments, including the introduction of energy efficient equipment and other interventions for the total amount of 100 mln. Turkmen Manats (TMT), (equiv. of USD 28,571,428 at an official exchange rate of USD 1 = 3.5 TMT). The Ministry of Construction and Architecture is committing USD 13 mln. The estimated cost of building of state-of-the-art multi-family residential building and one public (kindergarten) building is within the above-mentioned budgets. The Ministry of Agriculture and Environmental Protection is ready to commit 4.6 mln. TMT (equiv. of USD 1,3 mln.) within the above-mentioned Programme intended for various greening interventions around Ashgabat.

The GEF INV (USD 750,000) is meant as a top up NZE investment to already state-of-the-art buildings to reach full "nearly-zero energy" (NZE) characteristics. It should be noted that during project implementation an investment strategy will be implemented with an estimated value of incremental NZE investment of about USD 11.3 million, leading to an estimated CO₂

emission reduction of 81.6 ktCO₂ (in addition to the 5.2 ktCO₂ of the project-supported two pilot NZEBs.

Project Preparation Grant

6. Is the status and utilization of the PPG reported in Annex C in the document?

Secretariat Comment at CEO Endorsement Request

6/30/2023 MY:

Yes. The status and utilization of the PPG is reported in Annex C in the document.

Agency Response

Core indicators

7. Are there changes/adjustments made in the core indicator targets indicated in Table E? Do they remain realistic?

Secretariat Comment at CEO Endorsement Request

Cleared

6/30/2023 MY:

Not completed.

According to the Table of Core Indicators, from the PIF stage to the CEO Endorsement Stage, both of the direct and indirect CO₂ emission reductions are reduced , but the total targeted energy savings are increased. Please elaborate the changes.

9/12/2023 RR:

Thank you for the elaboration on the changes.

1. Could you please share through the portal the updated Excel sheet from the EE-Tool that is reportedly used for this revised calculation?

2. Per Guidelines, fuel savings should be converted to energy savings by using the net calorific value of the specific fuel. End-use electricity savings should be converted to energy savings by using the conversion factor for the specific supply and distribution system. These energy savings are then totaled over the respective lifetime of the investments. Annex H of the pro-doc and the answer to the previous review comment seem to suggest that end-use

electricity savings are assessed without such a conversion factor. Providing the updated excel sheet as suggested above may also help to clarify this.

3. Two sample projects are provided as justification for the replication potential underlying the indirect emission reductions. Please clarify the rationale of this data in terms of its representativity with regards to existing plans and its attributability to the GEF investment (sharing the updated excel file may also help to clarify this).

RR (11/17/2023):

1. Thank you for sharing the details of the model used in annex G. While several of the reasons mentioned for using an alternative model are unfounded (the GEF EE tool does allow to assess energy savings starting from fossil fuel sources, through the first tab of the tool, under the Electricity grid factor options), the approach which is specific to the buildings to be tested remains broadly in line with GEF principles and slightly clarifies the scope without and with the project, and project duration. Please update the calculation, sources of emission factors and activity data by MTR stage in line with GEF guidelines.

2. Thank you for the details. In the update by MTR stage, please take into account the evolution of the grid factor over the lifetime of the investment if significant, as well as LCA values for solar if significant.

3. While assumptions made in the replication sound conservative (possibly too conservative as it is surprising to assume that such a small share of new buildings would adhere to energy efficiency codes to be implemented and this over a 20 year period), they do not take into account the degree of attribution of this impact to the GEF (the GEF EE tool uses a causality factor for this, on the Results tab). They also do not fully clarify why and how this indirect impact is expected to be the result of the interventions made in this project. Please clarify this in the update by MTR stage with up to date data.

Agency Response

Nov. 2, 2023

1. The EE-Tool was used during the development of PIF, but the tool was not used for the CEO endorsement calculations. The calculations developed for the CEO ER is annexed to the CEO ER and uploaded to the portal as a separate document as Annex G.

2. To respond to this comment, we illustrate using the model residential building as an example. By using several interventions (envelope isolation, heat recovery, heat pump replacing boiler), the otherwise natural gas consumption is reduced from 556 MWhth (2000 GJ) of gas per year, giving 110 tCO₂/year, using the carbon content of factor of 55 kgCO₂ per GJ). However, electricity consumption will increase with 56.8 MWh_e? (and 39.4 tCO₂?,

assuming grid T&D losses of 10% and grid carbon factor of 0.63 tCO₂/MWh). So net emissions reductions are $110.1 - 39.4 = 70.7$ tCO₂/yr. In addition, PV installed will offset most of the (increased) electricity use of the nearly-zero building 9.5 tCO₂/yr, in this case replacing 78.1 MWh/yr (= 54.1 tCO₂ per year). Thus, total emission reduction of the nearly-zero emissions apartment = $70.7 + 54.1 = 124.8$ tCO₂ per year. So, there are basically two conversion factors, one for avoided natural gas use (using carbon content of the fuel) and one for emissions due to electricity (increased consumption but offset with PV to almost zero grid power consumption).

A similar calculation is done for the model office building.

3. The two model (residential and office) are indeed used as a basis for calculations. We consider the (partly planned, partly constructed) total of 438 residential buildings in the Arkadag and New Ashgabat projects as representative for the future construction of large building complexes. Apartment building vary in floor sizer and number of apartments, but the average building will have 12 floors, with a total of 60 apartments (about 5 per floor). Taking a conservative approach (assuming not all future buildings in Turkmenistan will be as high as in the flagship New Ashgabat), the nine-floor building (with 54 apartments) can be seen as a type of average for future residential buildings in these types of urban developments.

The government intends to showcase these type of projects (Arkadag, New Ashgabat, Azawa, other) as urban development where the latest of technologies are applied, "smart house" and "smart city", with special attention paid to energy saving, creating comfortable conditions for residents, and being environmentally friendly. In the planned New Ashgabat, 237 residential and office buildings will be constructed, so having 32 out of these (13%) built according to nearly-zero building codes is a reasonable assumption. Total NZEB floor space of these 32 buildings will be 210,600 m² (residential) and 51,840 m² for office buildings.

With regards to the future period (2029-2038), the conservative assumption is that each year the same amount of NZEB residential floor space is added (210,600 m², thus 2,106,000 m² in total) and 34,560 of office space). Thus by 2038, 260 NZEB residential and 60 NZEB office space would have been added. This would be a growth figure of 25%, which sounds ambitious. However, one has to take into account recent residential growth figures. By 2022, residential space was 165,677,523 m², of which at least 10% in the type of large residential buildings discussed in the Project (10% figure is based on 2015-16 data (EERB project); Energy audit report), or about 16.57 million m². Residential space increased was 132,134,018 m² in 2012 (see <https://turkmenportal.com/en/blog/64480/over-1-million-residential-buildings-registered-in-turkmenistan>), so an increase of 2.25% annually. Assuming a similar growth figure (conservative, more people urbanize and relatively more will move to taller

buildings), total large residential building space is 23.60 million m² by 2038. The NZE residential building projection is 2,340,700 m² (built over 2025-2038) or 10% of large residential building complexes (and 1% of total residential space in 2038) and amounting to 30% of new large residential complexes built over 2025-2038, which is a plausible assumption, given the current push by the Government to build modern 'state-of-the-art' residential complexes and with an assumption that building code regulations would be updated towards NZE norms with the Project assistance.

UNDP notes GEF's comment and kindly informs that this change is described in detail in Section F and Annex G (additional information on GHG) to the CEO Endorsement Document. The relevant part explaining these differences with PIF is copied below.

Differences with the project concept (PIF)

At the PIF stage, the emission reductions have been calculated using the GEF-EE-Tool-v1.0, and by assuming that the greenhouse gas emission reduction would come from:

- Direct emission reduction due to two pilot residential buildings*
- Direct ER, due to building codes getting into force*
- Indirect ER, due to replication in 130 apartment buildings after project closure*
- Energy savings are assumed to be 395.1 MWh/yr.*

The PPG phase has provided more nuance to the calculation methods, and the basis for the determination of energy savings and substitution potential in reference apartment and office buildings. While both the PIF approach and the calculation presented in Annexes G and H lead to more or less the same level of emission reduction, the calculation methods have some differences:

1) The PIF does not indicate how the reported savings of 395.1 MWh are derived at. The figure seems to correspond to the energy savings measured in the EERB project in three 9-floor renovated residential apartment blocks (393 MWh per year; as mentioned in the summary

document on Key Achievements of the project) although the document gives lower savings in new 9-floor apartment blocks (228 MWh per year). It may not be correct to use energy savings from the EERB period as a basis for comparison. The project resulted in the 2020 EERB building codes, and thus the corresponding energy values should be taken as the new baseline and not those based on the pre-EERB building codes. For the TEESB Project, the GEF alternative is adhering to newer NZEB norms, while the 2020 EERB building code should now be considered as the baseline. In other words, the savings are calculated by comparing energy consumption at the current building codes (SNT, as explained in the previous Annex G) with future NZEB energy performance. In addition, the GHG emission of the remaining building energy consumption (for heating, cooling and ventilation) efficiency in the building's fabric will then be nearing zero by compensating for the remaining energy consumption with (on-site) renewable energy.

2) The GEF-EE-Tool-v1.0 assumes all energy savings are electricity savings. Based on more detailed information and calculations in the PPG phase, it should be noticed that most savings come from reduced direct natural gas consumption (in a boiler) for heating in addition to reduced power consumption (mainly from reduced energy-for-cooling needs). Since all power is generated from natural gas, in practice the result are a reduction in natural gas demand (direct from heating savings) and indirectly (from electricity savings). Since the calculations encompass more technologies than assumed in the PIF, the energy savings results per building will differ.

Part II ? Project Justification

1. Is there a sufficient elaboration on how the global environmental/adaptation problems, including the root causes and barriers, are going to be addressed?

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

Yes. It is shown on pages 15-18.

Agency Response

2. Is there an elaboration on how the baseline scenario or any associated baseline projects were derived?

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

Not at this time.

Exhibit 1 (Theory of change: how TEESB's interventions address identified barriers and challenges) is not readable. The words are too small. Please enlarge the words and simplify structure of the Table to make it readable.

9/12/2023 RR:

Noted.

Agency Response

UNDP notes GEF's comment and made relevant changes in font size and structure of Exhibit 1 of the CEO Endorsement Document to make it readable.

3. Is the proposed alternative scenario as described in PIF/PFD sound and adequate? Is there sufficient clarity on the expected outcomes and components of the project and a description on the project is aiming to achieve them?

Secretariat Comment at PIF/Work Program Inclusion

Cleared

6/30/2023 MY:

Not completed.

Please see the comments in Box 2 under Project description summary, and revise the section of alternative scenario accordingly.

9/12/2023 (RR) :

See comment under core indicators section. Clarity would be welcome on the representativity of the cases outlined in the alternative scenario leading to the indirect GHG emission reduction impact.

11/17/2023 (RR)

Thank you for the provided clarifications.

Agency Response

Nov. 2 2023

Clarification is provided under question 7 (core indicators) of the Review Sheet.

UNDP notes GEF's comment with the revision of relevant section of alternative scenario. Responses are provided under the Box 2.

4. Is there further elaboration on how the project is aligned with focal area/impact program strategies?

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

Yes. It is shown on page 40.

Agency Response

5. Is the incremental reasoning, contribution from the baseline, and co-financing clearly elaborated?

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

Yes. It is shown on pages 40-41.

Agency Response

6. Is there further and better elaboration on the project's expected contribution to global environmental benefits or adaptation benefits?

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

Yes. It is shown on pages 42-43.

Agency Response

7. Is there further and better elaboration to show that the project is innovative and sustainable including the potential for scaling up?

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

Yes. It is shown on pages 44-45.

Agency Response
Project Map and Coordinates

Is there an accurate and confirmed geo-referenced information where the project intervention will take place?

Secretariat Comment at CEO Endorsement Request

6/30/2023 MY:

Not at this time.

Please provide a project map in the project document.

9/12/2023 RR:

Map is provided, thank you - please also see corresponding comment in section 1 above regarding data field entry.

11/17/2023 RR:

Please see comment in section 1 above regarding data field entry, as shown below, which is still blank at this stage (or if this is intentional because data is not available, please confirm).

Location Name	Latitude	Longitude	Geo Name ID
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11/17/2023 RR:

Thank you for including the indicative coordinates (noting these are examples of cities as benchmark of the indirect impact).

Agency Response
Nov. 2, 2023

Corresponding comment in Section 1 above is addressed.

Project map is now included in Annex E of the CEO Endorsement Document, 1.b under Part II. Project Justification section of the GEF portal and also in Annex C of the UNDP Project Document.

22 November 2023

The project coordinates are provided in the portal.

Arkadag is located west of the city limit of Turkmenistan's capital city, Ashgabat, and east of the neighbouring city of G?kdepe at?Lat. 38.07 ? Long. 58.06.

The new Ashgabat City development will be located north of the capital Ashgabat at?Lat. 37.96 - Long.58.19.

Child Project

If this is a child project, is there an adequate reflection of how it contributes to the overall program impact?

Secretariat Comment at CEO Endorsement Request

6/30/2023 MY:

N/A

Agency Response

Stakeholders

Does the project include detailed report on stakeholders engaged during the design phase? Is there an adequate stakeholder engagement plan or equivalent documentation for the implementation phase, with information on Stakeholders who will be engaged, the means of engagement, and dissemination of information?

Secretariat Comment at CEO Endorsement Request

6/30/2023 MY:

Yes. It is shown on pages 48-50.

Agency Response

Gender Equality and Women's Empowerment

Has the gender analysis been completed? Did the gender analysis identify any gender differences, gaps or opportunities linked to project/program objectives and activities? If so, does the project/program include gender-responsive activities, gender-sensitive indicators and expected results?

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

Yes. It is shown on pages 51-52.

Agency Response
Private Sector Engagement

If there is a private sector engagement, is there an elaboration of its role as a financier and/or as a stakeholder?

Secretariat Comment at CEO Endorsement Request
Cleared

6/30/2023 MY:

Not at this time.

The project does not have any private co-financing and activities.

The GEF Program Manager does not agree the following statement in the section of Private Sector Engagement on page 53: "A real investment from the nascent domestic private sector, mostly comprised of small and medium scale enterprises, in the supply or installation of the technology to the pilot NZE buildings, may not be expected at this stage." Please take into account the following private investments in EE and RE by the building owners: (1) investments in EE appliances such as EE lighting, air conditioning, windows, doors, insulations, etc. (2) solar PVs on the roofs of buildings. With good government policy and incentives, building owners will invest in their homes to promote energy efficiency and renewable energy use. These investments can be counted as co-financing from the private sector in the project.

9/12/2023 (RR):

Thank you for the elaboration in connection with the pilot investments. Given that most of the project impact is expected to be achieved through indirect emission reductions, the above

comment would still call for further clarity on the expected role of private sector co-financing in the longer term beyond pilot buildings (it is also noted that private sector stakeholders are mentioned in the co-financing letter related to pilot buildings).

11/17/2023 (RR):

Thank you for the clarification on private sector role in shared equity construction and in expected replications, including through component 3. Please consider that awareness raising itself, as compared to adequate incentives and policies, is unlikely to reach the same long term impact.

Agency Response

Nov. 2, 2023

UNDP notes GEF's further comment on providing clarity on the expected role of private sector co-financing in the longer term and provide further clarifications below:

Regarding the residential buildings, these are in the end partly funded by public funds and by private construction companies on a shared equity construction basis. Future owners that register for an apartment in a new building, sign an agreement with the construction company and transfer from 10 to 30 % of the cost of the property (apartment flats) in advance payment, and construction company uses this and its own funds to complete the construction and then property owners pay the rest of the cost after receiving the keys of the apartment. Although the residential buildings for a large part paid for by private entities, the Ministry (MCA) is responsible for the investment planning and fully coordinates the process from design through the commissioning until these are fully sold out to private property owners. The process applies to the pilot building; hence MCA has reflected this in its co-financing letter. For the office building, it will depend on who will own office space in the end, a national or local government entity, or private entity.

The same public-private partnership process (and thus the expected role of private sector funding) is followed in the longer term (that is beyond the pilot buildings and post-project). So, indeed there is substantial role for the private sector.

In addition, the apartment owners will be encouraged to acquire efficient appliances (efficient fridges, efficient washers, LEDs, etc.) through Project's interventions under the Component 3 for awareness raising. Although, such highly efficient appliances are not part of the project as such, their supply to prospective clients offers scope for private suppliers and vendors.

The relevant 'private sector' sections in CEO ER Document and UNDP Project Document were revised to reflect the above.

UNDP notes GEF's comment on private sector co-financing and further informs the GEF that the statement is based on UNDP's knowledge of Turkmenistan and role of SMEs and private sector acquired by the Project Development team during the PPG phase. In its overview of the country, the World Bank indicates that: 'Tight administrative controls and the public sector's dominant role in economic activity have hindered private sector development. Despite the growth of the private sector's share in segments of the economy, public sector and state-owned monopolies continue to govern the economy and the formal labor market' (see . www.worldbank.org/en/country/turkmenistan/overview).

The following paragraphs have been added to CEO Endorsement Document Subsection 4. Private sector engagement:

The investments in air-con (or heat pump), doors, windows, wall and roof insulation etc. are not done individually (as add-ons after construction by the apartment owner), but are an integral part of the construction contract with the consortium that will be selected as part of the procurement process. SMEs may be contracted by such a consortium on an as-need and competitive basis to provide goods, materials, services. The capacity building activities of Component 3 will help getting SMEs up to date to provide NZEB relevant services.

The same applies to solar PV, which will be integrated as part of the pilot buildings construction; these will be installed during the construction by the contracting entity (a ministry or other government entity). If individual apartments are later sold by such an entity to individual families, the solar PV (and heat pumps, etc.) will be already installed, and as such no additional EE investment by the individual apartment owner will be required. Additionally, should in the future decisions be made to further improve these apartments, these would need to be done to the association of owners of the apartment building.

Apartment dwellers will be encouraged to acquire efficient appliances (efficient fridges, efficient washers, etc.) through Project's interventions under the Component 3 for awareness raising as EE appliances are not considered part of the project.

Risks to Achieving Project Objectives

Has the project elaborated on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved? Were there proposed measures that address these risks at the time of project implementation?

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

Yes. It is shown on pages 54-60.

Agency Response
Coordination

Is the institutional arrangement for project implementation fully described? Is there an elaboration on possible coordination with relevant GEF-financed projects and other bilateral/multilateral initiatives in the project area?

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

Yes. It is shown on pages 61-68.

Agency Response
Consistency with National Priorities

Has the project described the alignment of the project with identified national strategies and plans or reports and assessments under the relevant conventions?

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

Yes. It is shown on pages 68-70.

Agency Response
Knowledge Management

Is the proposed ?Knowledge Management Approach? for the project adequately elaborated with a timeline and a set of deliverables?

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

Yes. It is shown on pages 70-73.

Agency Response
Environmental and Social Safeguard (ESS)

Are environmental and social risks, impacts and management measures adequately documented at this stage and consistent with requirements set out in SD/PL/03?

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

Yes. It is shown on pages 78-86. The UNDP also saved a supporting document on ESS in the Portal.

Agency Response
Monitoring and Evaluation

Does the project include a budgeted M&E Plan that monitors and measures results with indicators and targets?

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

Yes. It is shown on pages 77-78.

Agency Response
Benefits

Are the socioeconomic benefits at the national and local levels sufficiently described resulting from the project? Is there an elaboration on how these benefits translate in supporting the achievement of GEBs or adaptation benefits?

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

Yes. It is shown on page 78.

Agency Response
Annexes

Are all the required annexes attached and adequately responded to?

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

Not at this time.

Annex D, the project map, is not attached.

9/12/23 (RR):

Map is well noted in annex D - please see comment in section 1 above regarding data entry fields.

11/17/2023 (RR):

See comments above on specific data entry fields if applicable.

Annex A is now off margins which prevents proper circulation of documentation. please adjust the width of the columns to fit within margins (currently about half of the last column is overlapping with margins).

11/22/2023

Thank you for the adjustments

Agency Response
Nov. 2, 2023

Comment in Section 1 regarding data entry fields is addressed.

The project map is now included in Annex E of the CEO Endorsement Document and also in Annex C of the UNDP Project Document.

November 22, 2023

Project coordinates are provided. Also, Annex A is now fixed to be within the margins.
Project Results Framework

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

Yes. It is shown in Annex A.

Agency Response
GEF Secretariat comments

Secretariat Comment at CEO Endorsement Request
11/22/2023

Please see remaining comments from a policy perspective

11/17/2023 (RR):

Please see remaining comments

9/12/2023 RR:

Please see comment above.

6/30/2023 MY:

Please address the following comment which was indicated in the PIF by the GEF SEC and remained unaddressed:

4/29/2022: MY:

2. the engagement of the private sector in co-financing;

Agency Response

Nov. 2, 2023

Comments are addressed.

UNDP notes GEF Secretariat comment on the engagement of the private sector in co-financing and informs the GEF Secretariat that the infrastructure sector (including buildings but also encompassing such facilities as roads, ports, railways, or street lighting) still lacks normative frameworks providing for the return on private investment into NZE technologies from the energy savings delivered to public facility owners or private residents of the public property. However, in the course of implementation, the project will work with the national partners to look at potential opportunities to attract private sector investment, including from large international construction companies active in country. Being publicly financed, no engagement with the financing sector is foreseen for NZE pilots. Widening financing to private sector is an issue that will be addressed in the NZEB investment strategy (Output 1.3).

Elaboration of the private sector engagement in potential co-financing is provided in the footnotes 19 and 20 added in the CEO Endorsement Document Subsection 4. Private sector engagement.

November 22, 2023

Clarification is provided for UNDP execution support.

Annexes are revised to have coordinates and Annex 1 to be within margins.

Council comments

Secretariat Comment at CEO Endorsement Request

6/30/2023 MY:

Yes. It is presented on pages 92-94 in Annex B.

Agency Response

STAP comments

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

Yes. It is presented on pages 94-95 in Annex B.

Agency Response
Convention Secretariat comments

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

N/A

Agency Response
Other Agencies comments

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

N/A

Agency Response
CSOs comments

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

N/A

Agency Response
Status of PPG utilization

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

Yes. It is shown in Annex C.

Agency Response

Project maps and coordinates

Secretariat Comment at CEO Endorsement Request

6/30/2023 MY:

Not at this time.

The Map and coordinates are missing.

9/12/2023

Noted - see comment in section 1 for coordinates.

11/17/23 :

Noted - see comment in section 1 for coordinates.

11/22/23

thank you for addressing the comments

Agency Response

Nov. 2, 2023

Comment on coordinates has been addressed in Section 1 above.

The project map is included in Annex E of the CEO Endorsement Document, 1.b under Part II. Project Justification section of the GEF portal and also in Annex C of the UNDP Project Document.

November 22, 2023

Coordinates are provided.

Does the termsheet in Annex F provide finalized financial terms and conditions? Does the termsheet and financial structure address concerns raised at PIF stage and that were pending to be resolved ahead of CEO endorsement? (For NGI Only)

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

N/A

Agency Response

Do the Reflow Table Annex G and the Trustee Excel Sheet for reflows provide accurate reflow expectations of the project submitted? Assumptions for Reflows can be submitted to explain expected reflows. (For NGI Only)

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

N/A

Agency Response

Did the agency Annex H provided with information to assess the Agency Capacity to generate and manage reflows? (For NGI Only)

Secretariat Comment at CEO Endorsement Request
6/30/2023 MY:

N/A

Agency Response

GEFSEC DECISION

RECOMMENDATION

Is CEO endorsement recommended? (applies only to projects and child projects)

Secretariat Comment at CEO Endorsement Request
12/12/23

Comments from a policy perspective have been responded to, project is recommended for endorsement.

11/22/23

Comments have been addressed from a technical perspective.

From a policy perspective, 2 comments remain (information section, and PMC vs components costs).

Also, as the cancellation deadline is on December 23rd and this UNDP project needs to be circulated 4 week for Council review ? hence, the Agency needs to process a Request for Extension to avoid cancellation.

11/17/2023 RR:

Please adjust the margins of annex A, if available enter geolocation coordinates in the adequate entry field (or confirm that they are not available), address budget table comment. These are all mostly format related comments which could be addressed as soon as possible for the finalization of the review.

9/12/2023 RR:

Clarifications pending on mitigation potential estimate, underlying cost-effective activities, co-financing numbers and execution modalities. Thank you for addressing these comments in the next iteration.

7/13/2023 MY:

Not at this time.

Please address the comments above.

Please be aware that some comments from the GEF Policy Unit are similar to that from the GEF Program Unit. Please kindly address them even if the comments are similar. Thank you.

Review Dates

	Secretariat Comment at CEO Endorsement	Response to Secretariat comments
First Review	7/13/2023	
Additional Review (as necessary)	9/12/2023	
Additional Review (as necessary)	11/17/2023	

	Secretariat Comment at CEO Endorsement	Response to Secretariat comments
Additional Review (as necessary)	11/22/2023	
Additional Review (as necessary)	12/12/2023	

CEO Recommendation

Brief reasoning for CEO Recommendations

Using \$2 million from Turkmenistan's GEF-7 STAR allocation, this Climate Change Mitigation project is to support Turkmenistan's low carbon development in the achievement of climate mitigation goals by reducing GHG emissions from multi-family residential (and public) buildings.

The project intends to facilitate the implementation of nearly-zero energy buildings (NZEB) options in residential apartment and public buildings by improving codes and strengthening institutional capacity and awareness. It targets activities at a national level and examples provided regarding the nature of pilots building type include the two planned cities of Arkadag and new Ashgabat City, near Turkmenistan's capital.

The project has four components: (i) Piloting energy efficient technologies and EMIS in residential and public buildings; (ii) Policy, regulations and institutional mechanism for energy efficient buildings sector; (iii) Knowledge sharing and capacity building ; (iv) Monitoring and evaluation. The project will be executed by Turkmenistan's Ministry of Agriculture and Environmental Protection as Executing Partner receiving Execution support from UNDP (support to NIM). It leverages \$42,9 million of anticipated co-financing (ratio of 20:1), including \$40 million of investment mobilized through recipient country government contribution and \$2,7 million in-kind, as well as 90,000\$ of GEF agency contribution (\$50,000 grant, \$40,000 in-kind).

The project is expected to lead to the avoidance of 847,418 tCO₂e emissions, including 86,911 tCO₂e of direct GHG emission reductions through the pilot investments in two buildings (output 1.1) and investments approved/implemented in the latter years of TEESB following the drafting of new upgraded energy-relevant building codes and NZEB public investment strategy (Outputs 1.3 and 2.2), and 760,507 tCO₂e of indirect GHG emission reductions from expected replications through technical assistance and policy-level interventions, with post-

project investment flows (for 10 years after project's end) in NZEB buildings following approved NZEB-type upgraded building codes (for new buildings) and public NZEB strategy (with a conservative estimate of 10% of compliance with potentially implemented new codes given country context). It will also lead to co-benefits in terms of incremental renewable energy installed capacity enabled in the selected pilots (2.10 MW) and to Energy saved (1,580,208,000 MJ). Finally, a total of 8440 beneficiaries (of which 3,714 female) will benefit from the pilot investments.

Main changes since PIF stage include GHG emission estimates that are slightly lower than the PIF's (see Exhibit 4), although energy savings have increased, with a revised model developed during PPG - updates in line with GEF guidelines will be expected by MTR stage ; precision of executing modalities with UNDP support to implementation; clarification of private sector engagement modality including as a co-financier.