

# Energy Efficiency through the Development of Low-carbon RAC Technologies in Trinidad and Tobago

Review CEO Endorsement and Make a recommendation

## Basic project information

**GEF ID**

9789

**Countries**

Trinidad and Tobago

**Project Name**

Energy Efficiency through the Development of Low-carbon RAC Technologies in Trinidad and Tobago

**Agencies**

UNDP

**Date received by PM**

5/22/2019

**Review completed by PM**

2/13/2020

**Program Manager**

Ming Yang

**Focal Area**

Climate Change

**Project Type**

FSP

**PIF** ☐

**CEO Endorsement** ☐

**Project Design and Financing**

**1. If there are any changes from that presented in the PIF, have justifications been provided?**

**Secretariat Comment at CEO Endorsement**

5/28/2019 MY:

There is not any significant change from the PIF stage to the CEO RE stage.

**Response to Secretariat comments**

**2. Is the project structure/ design appropriate to achieve the expected outcomes and outputs?**

**Secretariat Comment at CEO Endorsement**

5/28/2019 MY:

Yes.

**Response to Secretariat comments**

**3. Is the financing adequate and does the project demonstrate a cost-effective approach to meet the project objective?**

**Secretariat Comment at CEO Endorsement**

5/28/2019 MY:

Yes. The co-financing increased significantly from the PIF stage to the CEO ER stage.

**Response to Secretariat comments**

**4. Does the project take into account potential major risks, including the consequences of climate change, and describes sufficient risk response measures? (e.g., measures to enhance climate resilience)**

**Secretariat Comment at CEO Endorsement**

5/28/2019 MY:

Yes. It is on pages 39-42.

## **Response to Secretariat comments**

### **5. Is co-financing confirmed and evidence provided?**

## **Secretariat Comment at CEO Endorsement**

5/28/2019 MY:

Yes. All co-financing letters are saved in the GEF Portal.

## **Response to Secretariat comments**

### **6. Are relevant tracking tools completed?**

## **Secretariat Comment at CEO Endorsement**

5/28/2019 MY:

Not completed at this time. Please attach the Annex (not Annex B) that is about GHG emission reduction calculation. (The sheet of the GEF core indicators is submitted, but the assumptions and calculation for the amounts in the sheet are missing) .

6/13/2019 MY:

Not completed at this time.

Please provide more detailed assumptions and data in GHG calculation.

6/27/2019 MY:

Yes, comments were addressed and issues were cleared. Annex B in the agency's Project Document (not in CEO RE document) shows the GHG accounting information.

For example, in Annex B: GHG Emissions Calculations on page 2, it shows the following:

"• Pilot 1 (Piarco):

With the new District Cooling system fully developed, the reduction of electricity consumption is about 2.3 GWh annually. With an emission factor of 0.77 ton CO<sub>2</sub>/MWh electricity, it results in about 1,800 ton CO<sub>2</sub>/year reduction".

Please describe both the baseline scenario and GEF project scenario quantitatively, and demonstrate the how the calculation gets savings of 2.3 GWh yearly. Also, please justify the emission factor of 0.77 ton CO<sub>2</sub>/MWh. For the calculations of any other sub-areas, please do the same work.

#### **Response to Secretariat comments**

Annex B: Emissions Reductions Calculations includes more detailed assumptions and reference to the Emission Factor. Changes have been highlighted in yellow.

GEF EE Tool attached.

Annex B of the Project Document includes a narrative for the assumptions taken into consideration for the calculation of GHG savings. Excel Spreadsheet with calculations attached.

**7. Only for Non-Grant Instrument: Has a reflow calendar been presented?**

#### **Secretariat Comment at CEO Endorsement**

5/28/2019 MY:

Not applicable.

#### **Response to Secretariat comments**

**8. Is the project coordinated with other related initiatives and national/regional plans in the country or in the region?**

**Secretariat Comment at CEO Endorsement**

5/28/2019 MY:

Yes, it is stated on pages 47-48.

**Response to Secretariat comments**

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

**Secretariat Comment at CEO Endorsement**

5/28/2019 MY:

Yes, it is stated on pages 54-56.

**Response to Secretariat comments**

10. Does the project have descriptions of a knowledge management plan?

**Secretariat Comment at CEO Endorsement**

5/28/2019 MY:

Yes, it is stated on page 49.

**Response to Secretariat comments**

Agency Responses

11. Has the Agency adequately responded to comments at the PIF stage from:

**GEFSEC**

**Secretariat Comment at CEO Endorsement**

5/28/2019 MY:

Not applicable. .

**Response to Secretariat comments****STAP****Secretariat Comment at CEO Endorsement**

7/15/2019 MY:

Please address the comments of STAP.

7/18/2019 YM:

Yes, the comments of STAP were addressed and presented in the Agency's responses to GEF SEC comments.

**Response to Secretariat comments****GEF Council****Secretariat Comment at CEO Endorsement**

5/28/2019 MY:

Not completed at this time.

The third bullet of the German Council member requested the assumptions and detailed calculation of GHG emission reductions. The responses of the agency are not convening. The Agency refers to Annex B as GHG emission calculation. But Annex B is about responses to project reviews/comments. Please resubmit the Annex on GHG accounting and list all assumptions.

6/27/2019 MY:

Yes, comments were addressed and issues were cleared. Annex B in the agency's Project Document (not in CEO RE document) shows the GHG accounting information.

### **Response to Secretariat comments**

GEF EE Tool attached.

Response to the German Council member refers to Annex B of the Project Document – GHG Calculations.

Annex B of the PRODOC includes more detailed assumptions for the Emissions Reductions Calculations.

### **Convention Secretariat**

### **Secretariat Comment at CEO Endorsement**

5/28/2019 MY:

Not applicable.

### **Response to Secretariat comments**



## **Recommendation**

### **12. Is CEO endorsement recommended?**

#### **Secretariat Comment at CEO Endorsement**

5/28/2019 MY:

Not at this time, please address comments in Box 6 and bullet 3 of the comments from the German government (they refer to the same issue).

6/27/2019 MY:

The UNDP has mistakenly listed the Executing Partner Type as “GEF Agency”. Please correct it.

7/15/2019 MY:

Please address PPO's comments: 1. Agency needs to include core indicator 11 as entry in portal; 2. Agency needs to respond to STAP comments.

7/18/2019 MY:

All comments were addressed and technical issues were cleared.

7/25/2019 MY:

Please address policy related issues that were indicated by the GEF PPO Unit. The comments are in a document that was saved in the "Documents" Folder of the GEF Portal, with a file name of "[Comments of GEF PPO-7-24-2019](#)"

The file was also sent to the UNDP via email.

9/23/2019 MY:

The UNDP has addressed the first set of comments of the PPO. But the agency needs to address more comments shown below:

1. The OFP's Service request letter indicates that the UNDP would perform some executing functions (procurement and recruitment). In addition, in the ProDoc, there are other functions that are not included in the letter, including payments, disbursements and visa applications. The UNDP is not allowed to perform executing activities.
2. The ProDoc indicates that the Senior supplier has the possibility of: “9. Senior Supplier: The Senior Supplier is an individual or group representing the interests of the parties concerned, which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing). The Senior Supplier’s primary function within the Board is to provide guidance regarding the technical feasibility of the project. The Senior Supplier role must have the authority to commit or acquire supplier resources required. If necessary, more than one person may be required for this role. Typically, the implementing partner, UNDP and/or donor(s) would be represented under this role. The Senior Supplier is the UNDP.” What indicated in the above is an executing function. The UNDP should not perform such a function in the project.
3. Some activities in the project are ineligible to be paid from the M&E Budget including Audit, Stakeholders Engagement plan and Gender Action Plan. Please remove the Audit charge from the M&E Plan and charge it to the right source, namely to the PMC. Regarding the Gender and the Stakeholder Plans, they should have been prepared during the PPG phase. As such, their payments have to be completely removed.

It is suggested that in the future the UNDP submit a table to show the the questions and the comments of the GEF and the UNDP responses to them, and upload the table to the project document folder in the GEF Portal.

10/04/2019 MY:

Not completed at this time. The agency addressed bullets 1 and 3, but bullet 2 needs more work. Please elaborate how the executing role of the UNDP Senior Supplier is removed or revised in the Project Document.

Thanks for presenting the responses in an MS-Excel table. But in the meantime, highlight of responses is also needed in the GEF Portal below this window for quick references.

11/11/2019 MY:

Not completed at this time.

In addition to the MS-Excel file attached to the GEF Portal which is good, IN THE RESPONSE TO SECRETARIAT COMMENTS BELOW, please briefly highlight how and where the above PPO's comments are addressed and where the ProDoc and/or the CEO ER document is revised accordingly. Please put date while adding the responses below.

11/12/2019 MY:

Not completed at this time.

In the section of RESPONSE TO SECRETARIAT COMMENTS below, please briefly highlight how and where the above PPO's comments are addressed and where the ProDoc and/or the CEO ER document is revised accordingly. Please also put the date of the responses.

11/18/2019 MY:

Not completed at this time.

In the section below "**Response to Secretariat comments**", Please indicate the page numbers where revisions have been made. For example, in the following response, please show at which pages and or paragraphs in the Updated PRODOC and CEO ER have the revisions. This request applies for all other comments. Please clearly indicate all the revisions on page/paragraph numbers in the PRODOC and the CEO RE documents. Thank you.

"UNDP's response (25 october 2019): After discussions with the Government, it was agreed to modify the implementing modality from DIM to NIM, where the Ministry of Planning and Development will act as Executing Entity (EA). Updated PRODOC and CEO ER attached. "

11/26/2019 MY:

Yes, all comments have been addressed and the CEO ER document has been revised accordingly at the following pages:

Page 45: item 155 has been modified to better reflect the Role of UNDP as Implementing Agency.

Page 46: item 162 has been modified to better reflect the Role of the MPD as Executing Entity;

Page 47: item 164 has been modified to better reflect the Role of UNDP as Implementing Agency.

Page 48: item 172 has been modified to better reflect the National Project Manager's role.

Page 53: items 202, 203 and 204 have been modified to better reflect the tasks UNDP as Implementing Agency and the National Project's Manager's role.

But not completed at this time. Please change Rio Marker from "1" to "2".

12/27/2019 MY:

Not completed yet at this time. Please address the comments of the GEF PPO below:

- 1- Still in ProDoc the Agency mentions that they will perform some executing activities – please ask the Agency to complete remove any intent of carrying out executing functions

202. UNDP will function as Responsible Party for Monitoring and Evaluation and for Project Management, and as such will be responsible for the selection, appointment and oversight of consultants and contractors, and for the procurement of other goods and services necessary under these components.

- 2- Still the Senior Supplier is UNDP – please ask the Agency to amend

207. **Senior Supplier:** The Senior Supplier is an individual or group representing the interests of the parties concerned, supporting the implementation of the project and oversight of its execution. The Senior Supplier's primary function within the Board is to provide guidance to ensure that the project is being carried out in accordance with agreed standards and requirements. Typically, the implementing partner, UNDP and/or donor(s) would be represented under this role. The Senior Supplier is the UNDP.

- 3- On M&E Plan: though the Audit was removed from the budget, still is part of the M&E narrative – please ask the Agency to amend:

187. **Audit:** The project will be audited as per UNDP Financial Regulations and Rules and applicable audit policies on NIM implemented projects.<sup>31</sup>

**Additional GEF monitoring and reporting requirements:**

2/18/2010 MY:

Not completed at this time. Project is returned to the UNDP due to Audit. It was removed from the budget, but it is still in the M&E narrative. Please remove it from M&E. In case the UNDP wants to carry out the Audit for the project (which seems to be the case as there are 15 references to Audit in the ProDoc), please budget the cost of the Audit somewhere in the Financial Planning and Management in the ProDoc.

2/27/2020 MY:

Yes, the comments have been addressed. The UNDP confirmed that no audit costs will be charged to the Project's M&E Component.

All comments have been addressed and the project has been technically cleared. The PM recommends CEO endorsement.

## Response to Secretariat comments

20 February 2020

All Nationally Implemented projects must be audited as per agreed rules and regulations with the Countries. Since the PRODOC is a binding document for Nationally implemented projects, the information regarding mandatory audits must be kept in the narrative. UNDP confirms that no audit costs will be charged to the Project's M&E Component. Footnotes 31 on PRODOC and 37 on CEO Endorsement Request have been added for additional clarity. Budget note "cc" has been introduced on TBWP

January 2020

Still in ProDoc the Agency mentions that they will perform some excurting activities - please ask the Agency to complete remove any intent of carrying out executing functions . PRODOC and CEO ER M&E sections have been updated.  
UNDP's reponse: All references have been removed

Still the Senior supplier is UNDP - please ask the Agency to amend  
UNDP's reponse: PRODOC and M&E Management arrangements sections have been updated . All references have been removed

On M&E Plan: through the audit was removed from the budget, still is part of M&E narrative please ask the Agency to Amend  
UNDP's reponse: UNDP confirms that no audit costs will be charged to the Project. All National Implementation projects must be audited as per agreed rules and regulations with Countries.

Dec. 2, 2019 Rio Marker was changed to 2

19 Nov 2019 - UNDP responses:

PRODOC:

- page 75: item 205 has been modified to better reflect the Role of the MPD as Executing Entity; item 207 has been modified to better reflect the Role of UNDP as Implementing Agency.
- Page 81, item X, Total Budget and Work Plan: responsible partner / Atlas Implementing Agent (Executing Entity) has been modified to reflect MPD as Executing Entity
- Page 86, Legal context, item 233 has been modified to better reflect the Role of the MPD as Executing Entity

#### CEO ER

- Page 45: item 155 has been modified to better reflect the Role of UNDP as Implementing Agency.
- Page 46: item 162 has been modified to better reflect the Role of the MPD as Executing Entity;
- Page 47: item 164 has been modified to better reflect the Role of UNDP as Implementing Agency.
- Page 48: item 172 has been modified to better reflect the National Project Manager's role.
- Page 53: items 202, 203 and 204 have been modified to better reflect the tasks UNDP as Implementing Agency and the National Project's Manager's role.

13 November 2019

1. The OFP's Service request letter indicates that the UNDP would perform some executing functions (procurement and recruitment). In addition, in the ProDoc, there are other functions that are not included in the letter, including payments, disbursements and visa applications. The UNDP is not allowed to perform executing activities. UNDP's response (October 25): After discussions with the Government, it was agreed to modify the implementing modality from DIM to NIM, where the Ministry of Planning and Development will act as Executing Entity (EA). Updated PRODOC and CEO ER attached.

UNDP's response (25 October 2019): After discussions with the Government, it was agreed to modify the implementing modality from DIM to NIM, where the Ministry of Planning and Development will act as Executing Entity (EA). Updated PRODOC and CEO ER attached.

2. The ProDoc indicates that the Senior supplier has the possibility of: "9. Senior Supplier: The Senior Supplier is an individual or group representing the interests of the parties concerned, which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing). The Senior Supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project. The Senior Supplier role must have the authority to commit or acquire supplier resources required. If necessary, more than one person may be required for this role. Typically, the implementing partner, UNDP and/or

donor(s) would be represented under this role. The Senior Supplier is the UNDP.” What indicated in the above is an executing function. The UNDP should not perform such a function in the project.

UNDP's response (25 october 2019): Text has been updated (changes highlited)

3. Some activities in the project are ineligible to be paid from the M&E Budget including Audit, Stakeholders Engagement plan and Gender Action Plan. Please remove the Audit charge from the M&E Plan and charge it to the right source, namely to the PMC. Regarding the Gender and the Stakeholder Plans, they should had been prepared during the PPG phase. As such, their payments have to be completely removed.

UNDP's response (25 october 2019): Audit fees have been removed from M&E budget table. References to the Stakeholder Engagement Plan and Gender Action plan refer to the monitoring of these plans and not their development. These plans have been developed during the PPG Phase and payments have been completed.

Thanks for presenting the responses in an MS-Excel table. But in the meantime, highlight of responses is also needed in the GEF Portal below this window for quick references.

UNDP's response (13 november 2019): Requested changes have been included on the GEF Portal, CEO Endorsement Request document and Project Document. Excel table has been updated.

In addition to the MS-Excel file attached to the GEF Portal which is good, IN THE RESPONSE TO SECRETARIAT COMMENTS BELOW, please briefly highlight how and where the above PPO's comments are addressed and where the ProDoc and/or the CEO ER document is revised accordingly. Please put date while adding the responses below.

UNDP's response (13 november 2019): Requested changes have been included on the GEF Portal, CEO Endorsement Request document and Project Document

In the section of RESPONSE TO SECRETARIAT COMMENTS below, please briefly highlight how and where the above PPO's comments are addressed and where the ProDoc and/or the CEO ER document is revised accordingly. Please also put the date of the responses.

UNDP's response (13 november 2019): Requested changes have been included on the GEF Portal, CEO Endorsement Request document and Project Document

UNDP's response (October 25): After discussions with the Government, it was agreed to modify the implementing modality from DIM to NIM, where the Ministry of Planning and Development will act as Executing Entity (EA). Updated PRODOC and CEO ER attached.

06/27/19: MH

Kindly note the Executing Partner type is already pre-loaded in the portal, therefore can't be changed by us. The only entries we can modify under Part I are: agency fee, taxonomy and Rio Markers.

Grateful if you could please bring this issue to your IT colleagues, so they can change the Executing Partner type to *government* instead of Gef Agency.

July 18, 2019

Response to Secretariat comments

Core indicator 11:

<u>Project Indicator 3</u> (GEF Core indicator 11): Number of direct project beneficiaries disaggregated by gender as co-benefit of GEF investment during the project implementation period.	<i>Total: 145 (100%)</i>  <i>Men: 100 (69%)</i>  <i>Women: 45 (31%)</i>	<i>Total: 160 (100%)</i>  <i>Men: 104 (65%)</i>  <i>Women: 56 (35%)</i>	<i>Total: 250 (100%)</i>  <i>Men: 150 (60%)</i>  <i>Women: 100 (40%)</i>
--	---	---	--

STAP Comments:

1. The project aims to promote the adoption of low-carbon technologies for refrigeration and air conditioning end-use in Trinidad and Tobago.



**UNDP Response:** Noted

2. Given the rapid growth of refrigerators and air conditioners in T&T, the project will make low-C refrigeration and air-conditioning technologies more efficient. This includes, through the use of standards and labeling, as well as fiscal incentives for imports. Market transformation is also planned to replace high energy technologies, including for district cooling as part of the USD 8.5M investment portfolio from cofinancing. The project also includes awareness raising and capacity building efforts, along with data collection on F-gas emissions.

**UNDP Response:** Noted

3. High per capita emissions are evident in T&T, although the 2005 and 2006 data quoted is out of date and should be updated in the proposal.

**UNDP Response:** Noted. The Project establishes emissions trends and uses the latest available Official data sources such as:

- Energy Dossier: Trinidad and Tobago, Interamerican Development Bank, Technical Note No. IDB-TN-938, February 2016.
- Energy Sales and Peak Demand Forecast,, October 1st, 2015.
- Framework for Development of a Renewable Energy Policy for Trinidad and Tobago, Ministry of Energy and Energy Affairs, January 2011.
- National Climate Change Policy, Government of the Republic of Trinidad and Tobago, July 2011.
- State of the Environment Report 2010, Environmental Management Authority (EMA).
- MPD, LECB, UNDP: NDC Policy Brief Series: Policy Brief No.2, October 2016
- Government of the Republic of Trinidad and Tobago. Strategy for Reduction of Carbon Emissions in Trinidad and Tobago”, Page 49, August 2015
- Climate change connection: Common Ground In Bangladesh, Ghana, Nepal, Senegal and Trinidad and Tobago

4. The current baseline scenario of use of high GWP refrigerants and low-efficiency equipment can be improved by various practical means such as ensuring imported technology meets stringent guidelines. Disposal of spent refrigerant can also be improved but not totally avoided. The project, through the outline activities, seeks to achieve this.

**UNDP Response:** Noted.

5. A 1.5 Mt CO<sub>2</sub>-eq emission avoidance is projected over 20 years in line with the country's NDC. Replication from other projects is also possible and can provide further climate benefits. A further 62.5t of emissions can be avoided indirectly by using natural refrigerants to replace ODS.

**UNDP Response:** Noted. Annex B – includes the emissions Reductions Calculations where more details can be found.

6. The introduction of energy efficient equipment/technologies through the GEF funding will also allow for the introduction of low-GWP refrigerants which will be implemented through funds from the Montreal Protocol. Hence, GEF funding would indirectly help the phase-out of ozone-depleting substances – (such as HCFCs). This should have been recognized in the project document, but was not.

**UNDP Response:** Trinidad and Tobago is currently implementing its HCFC Phase-out Management Plan to phase-out Ozone-depleting substances with support from the MLF. The HPMP includes bans on ODP-containing equipment and imports of HCFCs.

7. Furthermore, since 100% of T&T's electricity comes from natural gas and diesel oil units (see Paragraph 53 in the project document), improving energy efficiency in the refrigeration and air conditioning sectors will not only provide CO2 emission reduction benefits, but will also help avoid black carbon emissions reduction for which diesel power generators are an important source (see for example, Evans et al, 2015: <https://www.atmos-chem-phys.net/15/8349/2015/acp-15-8349-2015.pdf>; WHO:

<http://www.who.int/sustainable-development/cities/health-risks/climate-risks/en/>; and Chow et al., 2006:

[https://www.arb.ca.gov/research/apr/past/04-307\\_v1.pdf](https://www.arb.ca.gov/research/apr/past/04-307_v1.pdf)). This should be recognized as part of the possible climate benefits from this project.

**UNDP Response:** Noted

8. A wide range of project stakeholders exists with several ministries involved in the project. Close cooperation and communication across ministries will be essential. Lessons learned, such as from the district cooling scheme, will be shared with the private sector.

**UNDP Response:** Noted. A stakeholder engagement plan was developed during the PPG Phase. In addition, M&E considerations have been incorporated into the project and Workplans.

#### Review Dates

#### Secretariat Comment at CEO Endorsement

#### Response to Secretariat comments

#### First Review

	Secretariat Comment at CEO Endorsement	Response to Secretariat comments
Additional Review (as necessary)		
Additional Review (as necessary)		
Additional Review (as necessary)		
Additional Review (as necessary)		

#### CEO Recommendation

#### Brief Reasoning for CEO Recommendations

The objective of this project is to promote the adoption of low-carbon technologies for Refrigeration and Air Conditioning (RAC) end-use..

Rationale: Trinidad and Tobago has relatively high per-capita emissions, the highest in the Caribbean region as a result of small population coupled with high of oil and natural gas production and consumption. In its Nationally Determined Contributions (NDCs), the country has committed to achieving reduction of 15% GHG emissions by 2030 from BAU scenario, which in absolute terms is equivalent to 103 million tonnes of CO<sub>2</sub>e. The country is experiencing high growth in emissions in the RAC sector. Although it has committed to eliminating HCFCs, HCFC-22 will most likely be displaced by consumption of HFC refrigerants. The GEF project will support alternative approaches to displacing HFCs with low GWP alternatives, such as natural refrigerants. The barriers to change existing inefficient technologies includes; (1) limited institutional capacity at the national level to mainstream energy efficiency measures into current actions in the RAC sector; (2) absence of awareness raising and technical capacities on issues related to the safe handling and use of low carbon technologies; and (3) the lack of local experiences on EE targets, payback/cost-effectiveness analysis and business models sustaining large investments in energy efficiency.

The project includes the following components:

1. Enhance national policy, regulatory and institutional frameworks for sustainable end-use of RAC technologies.
2. Accelerate RAC market transformation towards less energy intensive and low-GWP technologies.
3. Information outreach and Monitoring & Evaluation (M&E) implemented.

The project is aligned with GEF-6 focal area objective CCM-1, Promote the timely development, demonstration, and financing of low-carbon technologies and mitigation options.

Co-financing of \$21.16 million comes from numerous partners, including the government (\$3.5 million); private sectors (\$16.75 million); CSO (\$0.77 million); and UNDP \$0.1 million.

The project will mitigate about 1.5 million tCO<sub>2</sub>e in direct and indirect emissions reductions.