

Promoting Low-carbon Electric Public Bus Transport in Mauritius

Review PIF and Make a recommendation

Basic project information

GEF ID

10372

Countries

Mauritius

Project Name

Promoting Low-carbon Electric Public Bus Transport in Mauritius

Agenices

UNDP

Date received by PM

10/10/2019

Review completed by PM

11/7/2019

Program Manager

Filippo Berardi

Focal Area

Climate Change

Project Type

FSP

PIF

Part I – Project Information

Focal area elements

1. Is the project/program aligned with the relevant GEF focal area elements in Table A, as defined by the GEF 7 Programming Directions?

Secretariat Comment at PIF/Work Program Inclusion

11/06/2019, FB

This item is cleared.

10/25/2019, FB:

Yes, the project is well aligned with CCM-1-2.

Agency Response

Indicative project/program description summary

2. Are the components in Table B and as described in the PIF sound, appropriate, and sufficiently clear to achieve the project/program objectives and the core indicators?

Secretariat Comment at PIF/Work Program Inclusion

11/06/2019, FB

This item is cleared.

10/25/2019, FB:

The components as presented need work before they can be considered well structured for a GEF project. The following comments need to be taken into account:

1. Please break down the GEF and co-Financing amounts by Project Output to allow for a better understanding of the expected indicative allocation of funds between key outputs. Further granularity (breakdown by activity) will be expected at CEO ER. OK
2. Component 2 is listed as "Investment". However, the outputs as presented they read as TA. Please breakdown the financing by output and assign the correct respective category (Investment or TA) to each of them. Also, please rephrase the output so that it is clear what is being financed is (i) capital subsidy which qualify as investment or (ii) economic and financial analyses which qualify as TA. OK
3. Component 3 and 4 are not properly numbered. OK

4. The project does not have any allocation for knowledge management activities. These need not to be confused with awareness raising of capacity building provided by the project to the beneficiaries, but are rather related to the compilation and dissemination of the learning from the project itself during and after completion. Please include a separate budget. Please also note the comments included in the knowledge management section of this review sheet. OK

5 The project does not set aside any earmarked budget for monitoring and evaluation requirements as per GEF policies. Please clarify where which budget will be used for these requirements. OK

6. More comments on the division of activities in the different components are provided below in the section on "alternative scenario" where the content of the project components is detailed. OK

Agency Response

07th Nov 2019:

UNDP: Thank you!

4 Nov. 2019:

1. Done – budget and co-finance broken down by components (and not by outputs), and will be further broken down by outputs (and not by activities) during submission for CEO ER
2. Done. Rephrased and activity shifted to component 3
3. Bullet corrected
4. Component 5 added on Knowledge Management and Monitoring and Evaluation (M&E)
5. Component 5 added on Knowledge Management and Monitoring and Evaluation (M&E)

6. Addressed accordingly

Co-financing

3. Are the indicative expected amounts, sources and types of co-financing adequately documented and consistent with the requirements of the Co-Financing Policy and Guidelines, with a description on how the breakdown of co-financing was identified and meets the definition of investment mobilized?

Secretariat Comment at PIF/Work Program Inclusion

11/07/2019, FB:

This comment is cleared.

11/07/2019, FB:

- please revise Table C to select either "grant/investment mobilized" OR "in-kind/recurrent expenditures".

C. Indicative 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(\$)
Government	Metro Express Ltd	Public Investment	Investment mobilized	13,300,000
Government	NTC	Grant	Investment mobilized	3,000,000
Government	Ministry of Finance and Economic Development	Grant	Recurrent expenditures	1,000,000
Donor Agency	Green Climate Fund	Grant	Investment mobilized	300,000
Government	MPILT	In-kind	Recurrent expenditures	200,000
Total Project Cost(\$)				17,800,000

Describe how any "Investment Mobilized" was identified

1) The total investment in the Mauritius island Metro Express project from Curepipe to Port Louis is estimated at USD 548 M in Mauritius. Of this sum, around USD 100 M will be spent during project implementation (2021 to 2025) and will concern the feeder bus routes. As a reasonable estimate, USD 13,300,000 M have been used as co-financing to the project. This co-financing will be ascribed to Component 2 entirely. 2) The

11/06/2019, FB

- On the UN-India project (comment #2): the clarification provided is noted. However, the UN-India initiative is mentioned in several occasions throughout the PIF (Ctrl+F search returned 5 results) and it would appear that the project was indeed implemented, and that the GEF project would build on its results. If this is not the case and the India project is not longer to proceed, the sections where it is mentions will need to be amended.

- other comments are cleared.

10/25/2019, FB: please address the following comments:

1. the co-financing to be provided by NTC is listed as in-kind, but marked as investment mobilized. Typically, in-kind resources will be recurrent expenditures. What is NTC providing in practice as co-financing? if they are provided capital for buses, or equipment to be purchases, this should be considered as Grant or Investment, and most probably not "in-kind". Please clarify. OK
2. Please consider including the financing from the UN-India Development Partnership Fund in the table of co-financing, considering the strong links between the two sources of funding/project designs which are detailed later in the PIF.
3. With regards to the last sentence of the "Describe how investment mobilized was identified" section, please consider mentioning that the "Discussions [that] are on going on the use of GCF Readiness resources to provide USD 300k for fesibility studies under the project, *which could result in a larger scaling up of the GEF project with GCF resources, during or after the lifetime of the GEF project.*" Please consider adding some similar text to outline the longer term scale-up potential of the Gov't of Mauritius-GEF-GCF ongoing discussions, which are not limited to the GCF Readiness stage. OK

Agency Response

07th Nov 2019:

UNDP: Remaining references to UN-India Partnership Fund have been removed

4 Nov. 2019:

1. 1.- NTC is providing funds for the purchase of electric buses as well as contributing in kind to the feasibility studies by providing their technical expertise to the assessments which will be carried out. Type of cofinancing changed to Grants.

2. 2. Unfortunately, although initially we were given to understand that there was likelihood that the UN-India proposal would go ahead, we were subsequently informed that there are now administrative hurdles to the project and so, the possibility of it materializing has become very low. Should the UN-India proposal or other avenue materialize, such co-financing will be included at CEO ER stage.
3. 3. The sentence has been added, and clarifications on GEF/GCF synergies provided.

GEF Resource Availability

4. Is the proposed GEF financing in Table D (including the Agency fee) in line with GEF policies and guidelines? Are they within the resources available from (mark all that apply):

Secretariat Comment at PIF/Work Program Inclusion

11/06/2019, FB

This item is cleared.

10/25/2019, FB:

Yes, the proposed amount is in line with GEF policies and STAR resources are available.

CCM allocation is USD 1 million, however the country is fully flexible.

Agency Response

07th Nov 2019:

UNDP: Thank you!

The STAR allocation?

Secretariat Comment at PIF/Work Program Inclusion

11/06/2019, FB

This item is cleared.

10/25/2019, FB:

Yes, the proposed amount is in line with GEF policies and STAR resources are available.

CCM allocation is USD 1 million, however the country is fully flexible.

Agency Response

07th Nov 2019:

UNDP: Thank you!

4 Nov. 2019

Ok.

The focal area allocation?

Secretariat Comment at PIF/Work Program Inclusion

11/06/2019, FB

This item is cleared.

10/25/2019, FB:

Yes, the proposed amount is in line with GEF policies and STAR resources are available.

CCM allocation is USD 1 million, however the country is fully flexible.

Agency Response

07th Nov 2019:

UNDP: Thank you!

4 Nov. 2019

Agreed.

The LDCF under the principle of equitable access

Secretariat Comment at PIF/Work Program Inclusion

n/a

Agency Response

The SCCF (Adaptation or Technology Transfer)?

Secretariat Comment at PIF/Work Program Inclusion

n/a

Agency Response

Focal area set-aside?

Secretariat Comment at PIF/Work Program Inclusion

n/a

Agency Response

Impact Program Incentive?

Secretariat Comment at PIF/Work Program Inclusion

n/a

Agency Response

Project Preparation Grant

5. Is PPG requested in Table E within the allowable cap? Has an exception (e.g. for regional projects) been sufficiently substantiated? (not applicable to PFD)

Secretariat Comment at PIF/Work Program Inclusion

11/06/2019, FB

This item is cleared.

10/25/2019, FB:

Yes, the proposed amount is within the allowable cap.

Agency Response

07th Nov 2019:

UNDP: Thank you!

4 Nov. 2019

Agreed.

Core indicators

6. Are the identified core indicators in Table F calculated using the methodology included in the correspondent Guidelines? (GEF/C.54/11/Rev.01)

Secretariat Comment at PIF/Work Program Inclusion

11/06/2019, FB

This item is cleared.

10/25/2019, FB:

Yes, the relevant core indicators are included. However, please include indication of how the numbers of beneficiaries (indicator #11) were calculated. OK

Also, please note comments in the GEB / GHG calculation section, below in this review sheet, re: indirect emission reductions. OK

Agency Response

07th Nov 2019:

UNDP: Thank you!

4 Nov. 2019

The number of beneficiaries is based on calculations performed during the preparation of a previous proposal on the same theme. The figures were provided by the National Transport Authority for the routes concerned.

Project/Program taxonomy

7. Is the project/ program properly tagged with the appropriate keywords as requested in Table G?

Secretariat Comment at PIF/Work Program Inclusion

11/06/2019, FB

This item is cleared.

10/25/2019, FB: please add the following keywords:

- Sustainable Urban Transport
- Technology Transfer
- Renewable energy
- Financing

Agency Response

07th Nov 2019:

UNDP: Thank you!

4 Nov. 2019

Project taxonomy table has been updated

Part II – Project Justification

1. Has the project/program described the global environmental / adaptation problems, including the root causes and barriers that need to be addressed?

Secretariat Comment at PIF/Work Program Inclusion

11/06/2019, FB

This item is cleared.

10/25/2019, FB:

The problems related to road transport have been partially described, the following suggestions should be taken into consideration:

1. Please consider adding a section on local air pollution in Mauritius related to transport. Improvement of local air quality is one major co-benefit of e-mobility, as well as decongestion of local traffic. OK
2. At the end of the section describing the problem, or at the beginning of the section on the baseline scenario, please add a section detailing the current status of the renewable energy production in the country and the future plans (including in the NDC) to lower the carbon intensity of the electric grid. This is important to set the stage for electric mobility in the country. It is mentioned that the grid emission factor is currently very high. It is also mentioned elsewhere in the PIF that the e-buses

are likely to require a mix of electricity from the solar charging stations and from the grid. It is important to outline any effort to green the grid, as this will support further decarbonization efforts enabled by the adoption of a fleet of e-buses and other e-vehicles. OK

Agency Response

07th Nov 2019:

UNDP: Thank you!

4 Nov. 2019

1. 1. Done – section on air pollution included, page 16
 2. 2. Done – section on Renewable Energy as portion of the national power generation mix, including stated targets, included
- 2. Is the baseline scenario or any associated baseline projects appropriately described?**

Secretariat Comment at PIF/Work Program Inclusion

11/06/2019, FB

This item is cleared.

However, regarding comment 5 (re: UN-India project), please see previous comment in box 3, Part I (co-financing).

10/25/2019, FB: please consider the following comments:

1. Section on the LRT: it mentions that Phase 1 between Port Louis and Rose Hill is expected to be completed by September 2019. Please update this data. OK

2. The integration of the e-buses fleet with MetroExpress is a strong design element of this section. GEFSEC are happy to note this. The same goes for the proposed focus on feeder routes for the first e-buses, which makes good sense. OK

3. Barriers section:

a. The two barriers listed as "Lack of techno-commercial and market knowledge" and "Limited local capacity" include many elements that look repetitive or overlapping. Please consolidate the two barriers in one, or further differentiate them. OK

b. Barrier on "Lack of awareness on long-term benefits of e-mobility: Please concisely list what are the long term benefits which are referred to, as this section does not list them. Alternatively, refer to a section where they are listed already. OK

4. Please add a section after the barriers to discuss the "Mauritius Approach to Coordination of Sources of Climate Finance for Low to Zero Carbon Transportation". This section should quickly present the Gov't of Mauritius coordinated approach to use funds from the UN-India fund, the GEF and the GCF, and mention the interactions between the Government and the Secretariats of GEF and GCF to design this operation in a coordinated engagement fashion over the last year. This new section can be consolidated with the first paragraph of the Proposed Alternative Scenario" Section below. OK

5. Considering the many references to the UN-India Fund project, it would be worth including a paragraph where the scope, objectives, activities and funding are quickly presented, so that the reader knows what this is about before reading the description of the components which make frequent reference to it. Also, please consider including the UN-India Fund project as cofinancing in table D.

Agency Response

07th Nov 2019:

UNDP: Thank you! Remaining references to UN-India Fund have been removed.

4 Nov. 2019

1. Done - Phase 1 is now set to be completed by Feb 2020
2. Thank you!

3. 3. Done - (a) two barriers merged into one and (b): added on pages 19 and 20.
4. Done – section added. On PPG phase a more deeper engagement of government stakeholders will define more precisely these operations and the terms of coordination with other Multilateral funds.
5. 4. UN-India Fund proposal has been removed from the project owing to uncertainty as explained below

3. Does the proposed alternative scenario describe the expected outcomes and components of the project/program?

Secretariat Comment at PIF/Work Program Inclusion

11/07/2019, FB

This item is cleared.

All comments were adequately addressed.

11/06/2019, FB

1. Comment 1: please see previous comments on references to UN-India project. OK
2. Comment 6: please note that the comment referred to exploring the potential role of the Electric Utility, as well as the NTA. It is just a suggestion for further consideration and not meant to be prescriptive in nature. OK Also, please note that the link added is truncated, and would be best included in a footnote: OK

high population density urban and rural locations in Mauritius. Both self-ownership of electric buses by operators and bus leasing models will be explored, with electric buses being leased from either domestic leasing companies (2 of Mauritius' largest commercial banks have their asset leasing subsidiaries) or directly from international electric bus manufacturers/leasing companies. Furthermore, the potential role of the National Transport Authority will be explored, as potential owner who would lease the buses to operators. There are encouraging results in this area from a recent study which explores the innovative concept of Pay As You Save (PAYS) for electric buses (https://www.climatefinancelab.org/wp-content/uploads/2018/02/PAYS-for-Clean-Transport_Instrument-Analysis.pdf)

3. Comment 9: Please revise key outputs (i) to (iv) to be in line with the ones presented in Table B. Right now Table B has 3 outputs, where the description of component 3 has 4 outputs (outputs i and ii are merged into a single one in Table B). OK

Also, please mention that the capacity building activities are all related to the same output (output 3 in Table B). You can just include the following text where indicated by the red V below "...under output 3 of component 3...": OK

The following capacity building activities are proposed under GEF project for an array of stakeholders relevant to this project:

- (v) Conducting detailed capacity gap analyses to inform development and implementation of a targeted, multi-level electric mobility training and capacity building programme to improve capacities of various stakeholders including MPILT, NTA, TMRSU, bus operators, transport planners, leasing companies, services providers, commuters and financial institutions, and others.
- (vi) Design and delivery of training modules on electric bus technologies with a focus on bus operators and their technicians to electric buses, and also develop strong knowledge, skill and capacity base in Mauritius on electric bus technology
- (vii) Training/capacity building of finance institutions/leasing companies on electric bus technology, business and operational models

4. The sentence below is missing the words "and the":

Monitoring and Evaluation:

Monitoring and evaluation (M&E) part of this component will implement the relevant activities expected under the UNDP GEF Monitoring and Evaluation Policy. Key activities will include:

5. All other comments are cleared.

10/25/2019, FB: please consider the comments below:

1. First paragraph of the alternative scenario section: there is an inconsistency since it is said that the GEF project will scale up the UN India one, but this latter one is yet to be approved. Please clarify the relation between the two projects and the relative timelines. This can also be done in the section created as per comment #6 in the box above (baseline scenario). OK

3) Proposed Alternative Scenario with a Brief Description of Expected Outcomes and Components of the Project;

Proposed UNDP-GEF Project

This proposed GEF project will address investment barriers including risk aversion and lack of capacity by clarifying policies, regulations and procedures, demonstrating the financial viability of electric bus investments, supporting access to finance, reducing risk aversion by financial institutions, and overall, creating an environment for mobilizing resources from bus operators, government, and banks/financial institutions. The proposed GEF project will scale-up technical assistance, capacity building and electric bus investment activities initiated on a relatively small-scale by another proposed project funded by the UN-India Development Partnership Fund,[1] (currently under discussion, yet to be approved) while also initiating new activities. The GEF project will contribute to meeting the objectives of the government's transport sector goals and National Transport Consensus wherein electric bus transport can play an important role in the development of smart, future-ready, low-carbon bus transport options in the country, thereby making them more attractive and affordable to commuters, who would otherwise use fossil fuel based personal transport or public transport options.

2) Please consider rewording the highlighted text below along the following lines, to make it clearer: "...initially through the execution of a GCF Readiness activity in parallel with, and as co-financing to, the GEF project, to explore the potential for further GCF financing to scale up the GEF project activities." OK

Based on results achieved, a similar, larger follow-on program could be initiated, with Green Climate Fund (GCF) being one of the potential sources of funding. Discussions are ongoing between the Government of Mauritius, the GCF and the GEF regarding the potential avenues for the scale-up project, initially through a Readiness activity. As the scope of studies required to move into e-mobility is fairly comprehensive, a complementary project has also been submitted to the India-UN Development Partnership Fund so as to provide further catalytic effect to the investments being made in the transport sector. The GEF project will deliver its outcomes and outputs through the following four components:

3) With respect to the text highlighted below, it should be revised to "could potentially lead to access GCF funds for scaling up low-carbon transport in Mauritius". This amendment is needed as the GCF concept note development is already listed as an activity/output under component 1 (activity viii), so it should not be presented as a possibility, but rather as a planned activity (albeit subject to confirmation/approval). OK

The key outputs of this component would be:

- (i) Designing and developing a long-term comprehensive 'Sustainable Low-carbon Transport Planning' document that provides with policy and regulatory framework for electric bus transport.
- (ii) Developing a comprehensive policy, regulatory and guidelines framework to enable e-bus deployment in Mauritius for public transport
- (iii) Feasibility studies and analysis that could potentially lead to the preparation of a GCF concept note to scale up low-carbon transport in Mauritius

4) Component 1, output (iii) should include reference to import/customs tariffs regulations, as these are mentioned as a barrier in the problem description, but not included in any activity under the alternative scenario. OK

5) Component 1, output (viii): please consider revising as follow: "Preparation of a GCF concept note to scale up low-carbon transport in Mauritius based on experience gained, NEW REGULATORY AND POLICY ENVIRONMENT ESTABLISHED, feasibility studies conducted [etc etc ...]" OK

6) Component 2 mentions that will explore self-ownership and leasing models, with buses being possibly owned and leased-out by domestic banks. This section should also explore the potential role of the Utility in this scheme, as potential owner who would lease the buses to operators. Please refer to encouraging results in this area from this recent study which explores the innovative concept of Pay As You Save (PAYS) for electric buses: https://www.climatefinancelab.org/wp-content/uploads/2018/02/PAYS-for-Clean-Transport_Instrument-Analysis.pdf OK

7) Information included in the last 2 paragraphs of the description of Component 2 should be included in the incremental cost reasoning section, as it is very relevant. GEF resources should only be used to cover part of the differential cost of the e-buses: i.e. not the whole 200k, but only the difference between the e-bus and the diesel bus (which would be more like 100k in capital costs, which could be recovered overtime as TCO). OK

8) Component 3: the text in yellow is repeated:

Component 3: Technical Feasibility and Capacity Building

This component is intended to address the technical and knowledge barriers and barriers related to lack of capacity and skills to plan, manage, operate, finance electric mobility based public transport system in Mauritius. Proposed outputs and activities that will be carried out under this component include:

The key outputs of this component would be:

(i) Identification of capacity gaps and training/capacity building activities that increase capacity of local institutions and stakeholders on electric mobility technology, business models and financing

9) Component 3, Output (ii): the name of the output is not in line with the content of the activities listed below. We would suggest grouping activities under output (ii) of component 3 as follow:

a) Activities (i) to (iv) are "feasibility studies or assessments", not related to capacity building in line with "improved knowledge of local stakeholders...".

b) Activities (v) and from (vii) to (ix) are related to "capacity buildings" of stakeholders and should be grouped separately.

c) Activity (vi) would be better placed in component 1 as it related to policy and regulations. OK

d) the following two paragraphs appear to be misplaced, please consider re-positioning them. Also, they refer to ownership/leasing options, which were already assessed under component 2: OK

(vi) Reduce the risk of hazardous waste from used batteries entering local ecosystems by supporting the government to setup policy and regulatory framework for safe recycling and disposal of battery components in the country.

An additional feasibility assessment under this component will explore bus leasing versus self-ownership options, and design suitable financial incentives. In addition, bus operators that have the concessions to operate buses on regular longer routes and last-mile feeder routes to Metro Express stations, with support from NTA, would have to conduct a transparent auction-based tendering system with participation from e-bus manufacturing companies, who would make offers to bus companies, and the bus operators, with support from NTA, would select the best offers. This project will support the NTA and bus operators in this procurement process, by providing technical, financial and bid implementation support for documentation, managing procedures and its implementation. If bus leasing option is selected, similar auctions need to be conducted for leasing companies and bus operators would sign long-term contracts with these leasing companies. The technical assistance from the project would be tailored accordingly.

A study tour to a city in a developing country where electric bus fleet with solar fast charging technology has been successfully deployed, will be organized as a South-South cooperation activity under the proposed program planned under UN-India Development Partnership Fund, wherein relevant policymakers, bus operators, bankers would be invited to be a part of this tour to understand the key factors for successful deployment of modern electric mobility system. In continuation to the previous activity, the following capacity building activities are proposed under GEF project for a wider array of stakeholders relevant to this project:

(vii) Design and delivery of training modules to each stakeholders on planning, developing and implementing policy/regulatory framework, management, operations, maintenance, partnerships, and financing/leasing of electric bus transport infrastructure.

Agency Response

07th Nov 2019:

UNDP:

1. All remaining references to UN-India Fund program have been removed
2. Included a sentence that mentions potential role of national utility (CEB) as possible owner and operator of bus charging stations
3. Component 3 description of outputs revised to be inline with outputs mentioned in Table B; also "...under output 3 of component 3..." added to clarify capacity building activities sentence
4. "...and the...." added
5. Thank you!

4 Nov. 2019

1. 1. It is now clarified that the UN-India proposal has been submitted. However, we have been informed by the mission in New York that there are administrative hurdles and the normal approval time is 2 years, which is longer than GEF. At this stage we have been advised not to rely on the approval.
2. 2. Done
3. 3. Done
4. 4. Done
5. 5. Done
6. 6. Done
7. 7. Done page 23 and 26.
8. 8. Done – repeated text removed
9. 9. Component 2 has been edited and clarified. Component 3 has been streamlined as well

4. Is the project/program aligned with focal area and/or Impact Program strategies?

Secretariat Comment at PIF/Work Program Inclusion

11/06/2019, FB

This item is cleared.

10/25/2019, FB:

Yes, the project is aligned with the CCM-1-2 funding window as per the GEF7 programming directions.

Agency Response

07th Nov 2019:

UNDP: Thank you!

4 Nov. 2019

Agreed.

5. Is the incremental / additional cost reasoning properly described as per the Guidelines provided in GEF/C.31/12?

Secretariat Comment at PIF/Work Program Inclusion

11/07/2019, FB

This item is cleared.

The last comment was adequately addressed through the inclusion of output 5 under component 5.

11/06/2019, FB

-- This section mentions that the project will be "supported" by the GEF-UNEP Global e-mobility Program. However, this project does not set aside any resource to participate to the activities and working groups of the Global Program. Please confirm if/that a small share of the resources will be set aside. This can be further explained at the time of CEO ER, and will be noted in the review sheet as follow action.

In addition, the proposed project is supported by the UN Environment's global electric mobility project and this programmatic approach seeks to bundle demand in the region and thus reduce the incremental costs.

-- all other comments are cleared.

10/25/2019, FB:

1) please add the incremental cost reasoning narrative related to the portion of the capital cost gap of e-buses vs diesel which can be covered by the GEF, as mentioned above in the review sheet. OK

2) Please note that the GEF7 Global e-Mobility Program is implemented by UNEP as Lead Agency, and not UNDP, please amend accordingly: OK

De-risking of electric mobility technology is a part of incremental costs of barrier removal that is being targeted by this proposed project: to attract finance for upscaling (e.g. from GCF and other development banks) the technology needs to be proven locally, and expertise to handle specific requirements need to be gained, which can only be done through grants and local demonstrations.

In addition, the proposed project is supported by the UNDP's global electric mobility project and this programmatic approach seeks to bundle demand in the region and thus reduce the incremental costs.

A. Lack of tools for policy implementation, procedures and planning for electric bus transport in Mauritius, and lack of policy and regulatory framework.

3) Please include a Theory of Change diagram, linking the described problems/barriers to the solutions proposed (outputs and outcomes in the alternative scenario) and the expected impacts. All the text highlighted below can be converted in a diagram for easier reference. OK

A. Lack of tools for policy implementation, procedures and planning for electric bus transport in Mauritius, and lack of policy and regulatory framework.

- This will be addressed by Component 1 activities that will focus on developing a comprehensive policy and regulatory framework for electric public (bus) transport in Mauritius.

- Due to the support from global project to this proposed project, generic tools that are produced at the global level will be disseminated through regional support and investment platforms and adapted to the needs in Mauritius – thus return on investment for development of tools and methodologies is maximized

B. Limited knowledge, capacity, awareness and skills of all project stakeholders on electric mobility-based public transport in Mauritius

- This will be addressed by Component 2 and Component 4 activities that will focus on developing knowledge, skills and capacity building for electric public (bus) transport in Mauritius and also awareness raising in continuation to the efforts and activities performed under the the proposed program planned under UN-India Development Partnership Fund.

C. No investments in electric public bus transport and associated charging infrastructure in Mauritius, and lack of finance and leasing models

- This will be addressed by Component 3 activities that will deploy 30 electric buses for either regular long routes or short-loop, last mile connectivity from MetroExpress stations to neighboring, densely populated urban areas. Learnings from the the proposed program planned under UN-India Development Partnership Fund for procurement of buses and setting up of charging infrastructure will be used to inform the activities proposed under GEF project.

- Investment risk for demand side will be addressed through bundling demand for e-vehicles for demonstration in the region due to the proposed cooperation of this project with the global project, which could lead to lower vehicle costs

- Technology risk for supply side will be addressed through adequate training of vehicle operators and exchange between this proposed project numerous country-specific projects facilitated by the global e-mobility project

Agency Response

07th Nov 2019:

UNDP: Additional output and activities added to Component 5 and Component 5 budget increased by \$50,000 for cooperation with UNEP Global E-Mobility program; Table B and Component description on Page 25-26 updated accordingly.

4 Nov. 2019

1.- Done.

2.- Done.

3. Done page 26

6. Are the project's/program's indicative targeted contributions to global environmental benefits (measured through core indicators) reasonable and achievable? Or for adaptation benefits?

Secretariat Comment at PIF/Work Program Inclusion

11/07/2019, FB

All comments cleared.

11/06/2019, FB

-all comments are addressed. However, please note that the last three paragraphs (see snapshot below) are repeated twice. Please amend.

This proposed GEF project proposes to facilitate the switch of 30 long route or feeder/last-mile diesel buses into electric semi-low floor models. An average diesel bus is estimated to emit about 1 kg of CO₂e per km travelled (conservative estimate after accounting for a grid emission factor of 1.017 tCO₂/MWh for Mauritius). It is important to note that UNEP estimates that each electric bus reduces ~1.7 kg of CO₂ emissions per km of operation, when compared to a diesel bus of similar specifications. However, we have estimated CO₂ emission reductions of this proposed project using a more conservative 1 kg CO₂ per km of e-bus operation due to: (i) grid emission factor of Mauritius currently being high (1.017 tCO₂/MWh) and an assumption that the 30 buses to be deployed under this proposed project are likely to be charged by a combination of solar energy and grid electricity; (ii) some or all of the 30 buses to be deployed under this proposed project could be smaller mini e-buses (for last mile connectivity from Metro Express stations), who are likely to achieve lesser CO₂ emission reduction when compared to full-sized e-buses.

Assuming a combination of solar powered and grid electricity powered charging is used for charging the 30 feeder e-buses to be used in Mauritius, which, when deployed, are estimated to operate for about 100 km per day, each e-bus is estimated to reduce atleast 36.5 tons of CO₂e per annum. So 30 buses would achieve direct GHG benefits of ~10,950 tCO₂e by 2030. Indirect GHG benefits are calculated based on a conservative assumption that after the completion of this project's implementation, it would be scaled-up to 100 additional e-buses for public transport in Mauritius over 5 years between 2026 and 2030. At the same conservative assumptions of 1 kg of CO₂e per km of e-bus operation and average of 100 km per day of e-bus operation for the additional 100 buses between 2026 and 2030, indirect GHG emission reductions from this project are estimated to be 18,250 tCO₂e by 2030.

More detailed analysis of CO₂ emission reduction from this proposed project's activities will be conducted during project preparatory phase, and analysis will be included in the detailed Project Document to be submitted for CEO ER.

10/25/2019, FB: please address the following comments and suggestions for improvement:

1. The key theory of change of the project is that electric buses are less carbon intensive than diesel ones. However, a key criticism can be that the difference would be minimal if they were to run on highly carbon intensive electricity from the national grid. To address this potential criticism in the document, please add a section at the beginning of section on GHG/GEAs, which will:

(a) recognize that when powered with grid electricity, e-buses still produce GHG emissions related to the electricity generation process

(b) mention that in most countries, emissions savings are expected when introducing e-buses even in case of carbon intensive electricity grids that are used to recharge them. This is because of higher efficiency of electric drive technologies, versus ICEs. Reference to this can be found here, for the US market: [https://blog.ucsusa.org/jimmy-odea/electric-vs-diesel-vs-natural-gas-which-bus-is-best-for-the-climate#targetText=Electric%20buses%20are%20better%20for,buses%20everywhere%20in%20the%20country&targetText=Charged%20with%20the%20national%20electricity,\(4.8%20miles%20per%20gallon\)](https://blog.ucsusa.org/jimmy-odea/electric-vs-diesel-vs-natural-gas-which-bus-is-best-for-the-climate#targetText=Electric%20buses%20are%20better%20for,buses%20everywhere%20in%20the%20country&targetText=Charged%20with%20the%20national%20electricity,(4.8%20miles%20per%20gallon)). Also to be mentioned that the introduction of e-buses makes the transport system "future-ready" as it enables emission reductions to be generated automatically in the transport sector as the national electricity grid gets cleaner overtime. This is to say that even in case of carbon intensive grids, timely and early introduction e-buses still make sense.

(c) Using the grid emission factor for Mauritius, please assess if any net GHG benefits would be achievable by introducing e-buses in Mauritius but powering them with grid electricity at the current grid emission factor.

(d) Please mention any planned effort by the GoM to increase the rate of renewable energy connected to the grid, thus reducing the current grid emission factor. It should be made clear to the reader that as the grid gets cleaner, the benefits of buses are increased. This goes to show that the introduction of e-buses still makes sense in countries with currently high grid emission factors: first because in most cases this will already produce net emission savings because of the higher efficiency, and second because grid emission factors are always expected to decrease as consequence of government policies and falling prices of clean technologies.

(e) Finally, mention that to further accelerate the emission savings that can be achievable and avoid as much as possible emissions linked to electricity production, the project will look to develop direct integration of renewable energy into recharging stations for the e-buses with clean minigrids for battery recharge, making the buses truly net zero-emission. [Otherwise, the solar charging stations listed in component 2 need to be linked to the problem described and analyzed].

2) The estimation of GHG emission reductions proposed in this section assumes 100% renewable energy will always be used for the e-buses. Is this a fair assumption? Also, note that the PIF mentions elsewhere that a mix of new solar energy and electricity from the grid will be used. Please re-do the assessment of the emission reductions in light of the assumed mix of energy used to charge the buses.

3) Discuss indirect emission reductions and how they were estimated. This should consider the total size of the buses market in the country, consider how much of the total market could be influenced by the new policy/regulatory set up financed with the GEF project and a causality factor (attribution factor) should be applied. Please refer to the GEF guidelines on how to calculate emission reductions in transportation

projects: https://www.thegef.org/sites/default/files/publications/GEF_CalculatingGHGbenefits_webCD_1.pdf

Agency Response

07th Nov 2019:

UNDP: Noted, and repeated paragraphs have been removed. Thank you!

4 Nov. 2019

1. 1. Done, theory of change diagram added, more details and explanation of GHG emission reduction estimates have been added

2. 2. Done, with updates. The initial CO2 emission reduction estimate had already accounted for Mauritius grid emission factor and hence, had included a conservative estimate of CO2 emission reduction. More detailed calculations will be effected during CEO ER

3. 3. Done, with updates. The initial CO2 emission reduction estimate had already accounted for Mauritius grid emission factor and hence, had included a conservative estimate of CO2 emission reduction. More detailed calculations will be effected during CEO ER

7. Is there potential for innovation, sustainability and scaling up in this project?

Secretariat Comment at PIF/Work Program Inclusion

11/07/2019, FB :

This item is cleared.

11/07/2019, FB : Please remove the blank bullet point OK

Innovativeness, Sustainability and potential for Scale-up

Innovativeness: The project focuses on electric public bus transport for last-mile connectivity from MetroExpress stations using leasing models, which is essentially a deployment of a modern, smart, low-carbon technology innovation with an innovative business model for Mauritius. Moreover, the project is innovative in that it adopts a blended approach towards further supporting the deployment of electric mobility technology, through both support for technical assistance and access to viability gap financing. The financial incentive package component (component 2) will provide viability gap funding for deployment of 30 electric mobility technology-based buses for bus operators (both public and private sector bus operators). The project is further innovative in its use of public-private partnership model introduction and commercialization of electric mobility technology in Mauritius, wherein public investments in policy and financial de-risking for electric mobility would enable public and private sector bus operators to switch to electric mobility in their fleets. Innovative nature of this proposed project's deliverables are summarized below:

- e-mobility solutions (vehicles and charging)
-
- business models and financing schemes (bus leasing models, viability gap funding)
- renewable integration (solar charging stations)
- battery re-use, recycling and safe disposal
- financial mechanisms (subsidy as viability gap funding, potential for lease finance for commercialization and scale-up)

11/06/2019, FB

This item is cleared.

10/25/2019, FB:

1) The innovation potential from this project is significant, both in terms of technology and in terms of policy and financial/business models. However, please consider the following comment:

a) the section mentions "shared mobility solutions" however, these are never discuss in the project so please either remove this or include it in the project's scope. OK

2) Sustainability of the project will depend on several factors, including the government commitment introduce adequate supporting regulatory environment and the private sector ability to finance and introduce this new technology. Please consider the following comment: OK

a) Please consider revising the text in yellow below along the following lines: "Efforts to mobilize funds from the GEF are incorporated upfront in this project's design through coordinated engagement and ongoing dialogue between Government of Mauritius, GEF and GCF Secretariats. Additional DFIs are also being targeted to ensure the results of the GEF project will be sustained and scaled up overtime."

Sustainability: The project blends market-based principles such as bus leasing with subsidies and incentives to create a sustainable business and operational model for the project's activities to sustain over a medium-to-long-term on their own without the need for further policy/regulatory/financial interventions. The project not only provides demonstration of electric vehicle technology but a range of policy de-risking measures to create a sustainable market for e-mobility in Mauritius. Policy/regulatory interventions instruments, building up of adequate local knowledge and capacity, viability gap finance and business models such as bus leasing will stimulate increased participation of bus operators/investors in electric mobility in Mauritius. Demand for electric mobility will be created through an improved sense of ownership among commuters through provision of comfortable, affordable, safe and zero emission e-mobility transport solutions, and through awareness raising campaigns. The market oriented approach of this proposed project, which aims to blend technical assistance with viability-based financial support would ensure an increase in private sector participation in electric mobility in Mauritius. Efforts will be made to mobilise funds from GCF and other development banks for bringing additional investments into e-mobility in Mauritius.

3) when talking about environmental sustainability, a reference could be added to the positive outcomes in terms of local air quality and reduction of particulate matter pollutants. OK

Agency Response

07th Nov 2019:

UNDP: Thank you!

4 Nov. 2019

1. 1. References to shared mobility have been removed, since that would be beyond the scope of this proposed project

2. 2. Done

3. 3. Done

Project/Program Map and Coordinates

Is there a preliminary geo-reference to the project's/program's intended location?

Secretariat Comment at PIF/Work Program Inclusion

11/06/2019, FB

This item is cleared.

—

10/25/2019, FB:

Yes, a project map is provided.

Agency Response

07th Nov 2019:

UNDP: Thank you!

4 Nov. 2019

Ok.

Stakeholders

Does the PIF/PFD include indicative information on Stakeholders engagement to date? If not, is the justification provided appropriate? Does the PIF/PFD include information about the proposed means of future engagement?

Secretariat Comment at PIF/Work Program Inclusion

11/06/2019, FB

This item is cleared.

10/25/2019, FB:

Please complete this section with a description of the stakeholders consulted or engaged in the project design to date.

Include information on the plans for further engagement during the preparation of the full proposal for CEO endorsement.

Agency Response

07th Nov 2019:

UNDP: Thank you!

4 Nov. 2019

Done.

Gender Equality and Women's Empowerment

Is the articulation of gender context and indicative information on the importance and need to promote gender equality and the empowerment of women, adequate?

Secretariat Comment at PIF/Work Program Inclusion

11/06/2019, FB

This item is cleared.

10/25/2019, FB:

Please mention that/if a detailed gender gap analysis and gender action plan will be developed for this project, to be presented before CEO endorsement request. Also outline which specific indicators would be used to track gender progresses, such as for instance gender-based targets for training and capacity building activities, employment opportunities in the operation of the new bus fleet, etc.

Agency Response

07th Nov 2019:

UNDP: Thank you!

4 Nov. 2019

Done.

Private Sector Engagement

Is the case made for private sector engagement consistent with the proposed approach?

Secretariat Comment at PIF/Work Program Inclusion

11/06/2019, FB

This item is cleared.

10/25/2019, FB:

Please concisely outline the modalities of the private sector consultations and engagement that will be planned for the further development of the project and provide a list of the key partners that will be engaged, with their respective role as a starting point of the private sector stakeholders mapping exercise.

Agency Response

07th Nov 2019:

UNDP: Thank you!

4 Nov. 2019

Done.

Risks

Does the project/program consider potential major risks, including the consequences of climate change, that might prevent the project objectives from being achieved or may be resulting from project/program implementation, and propose measures that address these risks to be further developed during the project design?

Secretariat Comment at PIF/Work Program Inclusion

11/06/2019, FB

This item is cleared.

10/25/2019, FB:

Project risks are identified and some mitigation actions are detailed.

Agency Response

07th Nov 2019:

UNDP: Thank you!

4 Nov. 2019

Agreed.

Coordination

Is the institutional arrangement for project/program coordination including management, monitoring and evaluation outlined? Is there a description of possible coordination with relevant GEF-financed projects/programs and other bilateral/multilateral initiatives in the project/program area?

Secretariat Comment at PIF/Work Program Inclusion

11/07/2019, FB

This item is cleared. However, GEF SEC notes the following:

As the agency knows, the implementation and execution roles on GEF projects are meant to be separate per policy and guideline. The GEFSEC will analyze any requests for dual role playing by an agency at the time of CEO endorsement and only approve those cases that it deems warranted on an “exceptional” basis. We strongly encourage the agency to look at third party options as a preferred way forward. We also strongly encourage the agency to discuss any and all options for execution that do not include the government with the GEFSEC early in the PPG phase. The technical clearance of this PIF in no way endorses any alternative execution arrangement.

11/06/2019, FB

With regards to comment #2 below, as the agency knows, the implementation and execution roles on GEF projects are meant to be separate per policy and guideline and should only be considered on an “exceptional” basis. We strongly encourage the agency to look at third party options as a preferred way forward and, as such, we would advise against the inclusion of the following paragraph in the PIF:

Although UNDP won't have any direct implementation role, support services maybe requested during project implementation. The Government of Mauritius may request support services for specific projects, according to its policies and convenience. Based on a preliminary analysis this may include, but not be limited to, costs related to financial transaction management, recruitment of project staff, and procurement of goods. These supports will be provided only upon Government request. At PPG stage, further analyses will be performed, for example including HACT assessments, to determine which entity is the best actor to provide these support services and what are the exact associated cost.

10/25/2019, FB:

1) Please add a brief explanation of the implementation and execution arrangements: UNDP will be the implementing agency, with responsibilities related to XX, XX, XX, and MPILT will be the Executing Entity, with responsibilities related to XX, XX, XX.

2) Please specify that UNDP will not have any direct implementation roles.

Agency Response

07th Nov 2019:

UNDP: We note the GEF Sec's comment, and we will align with GEF policy, but wish to keep the current wording in to look further into this at PPG stage.

4 Nov. 2019

We have inserted new text describing the implementing arrangements. Although UNDP will not directly implement the project, it is possible that the government may request support services. New text has also been inserted to clarify this. The specific needs for support services and the actor who is best placed to provide these support services will be determined prior to CEO endorsement.

Consistency with National Priorities

Has the project/program cited alignment with any of the recipient country's national strategies and plans or reports and assessments under relevant conventions?

Secretariat Comment at PIF/Work Program Inclusion

11/06/2019, FB

This item is cleared.

10/25/2019, FB:

Please expand this section with a couple of paragraphs explaining the rationale of the answer "YES".

Why is the project considered aligned? Please refer to the NDC if relevant.

Agency Response

07th Nov 2019:

UNDP: Thank you!

4 Nov. 2019

Explanation added.

Knowledge Management

Is the proposed “knowledge management (KM) approach” in line with GEF requirements to foster learning and sharing from relevant projects/programs, initiatives and evaluations; and contribute to the project’s/program’s overall impact and sustainability?

Secretariat Comment at PIF/Work Program Inclusion

11/07/2019, FB

This item is cleared.

11/06/2019, FB

This item is cleared.

However, to allow for the collaboration with the GEF-UNEP Global Program, as mentioned in this section, and in line with the comment above the Agency should consider setting aside some resources to make this possible. This recommendation will be included in the review sheet for consideration and verification once the CEO ER is submitted.

10/25/2019, FB:

- 1) Please note that the Lead Agency for the GEF7 Global e-Mobility Program is UNEP and not UNDP. Please revise the text accordingly.
- 2) Beside the capacity building and awareness raising activities of components 2 and 4, please list here the projects' knowledge management approach". There are seven elements that are recommended in a knowledge management approach as best practices:
 - 1) Overview of existing lessons and best practice that inform project concept;
 - 2) Plans to learn from relevant projects, programs, initiatives & evaluations;
 - 3) Proposed processes to capture, assess and document info, lessons, best practice & expertise generated during implementation;
 - 4) Proposed tools and methods for knowledge exchange, learning & collaboration;
 - 5) Proposed knowledge outputs to be produced and shared with stakeholders;
 - 6) Discussion on how knowledge and learning will contribute to overall project/program impact and sustainability and
 - 7) Plans for strategic communications.

We urge the agency to consider listing these elements in the PIF and to include an overview on how existing lessons and best practices from neighboring countries with similar circumstances/markets have informed the PIF development or will inform the CEO ER development. The KM approach/plan will then need to be further elaborated in the development of the project before CEO ER.

Agency Response

07th Nov 2019:

UNDP: Additional output and activities added to Component 5 and Component 5 budget increased by \$50,000 for cooperation with UNEP Global E-Mobility program; Table B and Component description on Page 25-26 updated accordingly.

4 Nov. 2019

Knowledge management component (Component 5) has been added to include all these elements and recommended activities

Part III – Country Endorsements

Has the project/program been endorsed by the country's GEF Operational Focal Point and has the name and position been checked against the GEF data base?

Secretariat Comment at PIF/Work Program Inclusion

11/06/2019, FB

This item is cleared.

10/25/2019, FB:

Yes, the project is endorsement by the current country's OFP.

Agency Response

07th Nov 2019:

UNDP: Thank you!

4 Nov. 2019

Agreed.

Termsheet, reflow table and agency capacity in NGI Projects

Does the project provide sufficient detail in Annex A (indicative termsheet) to take a decision on the following selection criteria: co-financing ratios, financial terms and conditions, and financial additionality? If not, please provide comments. Does the project provide a detailed reflow table in Annex B to assess the project capacity of generating reflows? If not, please provide comments. After reading the questionnaire in Annex C, is the Partner Agency eligible to administer concessional finance? If not, please provide comments.

Secretariat Comment at PIF/Work Program Inclusion

n/a

Agency Response

GEFSEC DECISION

RECOMMENDATION

Is the PIF/PFD recommended for technical clearance? Is the PPG (if requested) being recommended for clearance?

Secretariat Comment at PIF/Work Program Inclusion

11/07/2019, FB:

The PIF is recommended for technical clearance.

11/06/2019, FB:

Not yet at this stage. Please address the comments provided and proceed with the resubmission of the project via the portal.

10/25/2019, FB:

Not yet at this stage. Please address the comments provided and proceed with the resubmission of the project via the portal.

ADDITIONAL COMMENTS

Additional recommendations to be considered by Agency at the time of CEO endorsement/approval.

Secretariat Comment at PIF/Work Program Inclusion

With regards to the section on Coordination, as the agency knows, the implementation and execution roles on GEF projects are meant to be separate per policy and guideline. The GEFSEC will analyze any requests for dual role playing by an agency at the time of CEO endorsement and only approve those cases that it deems warranted on an “exceptional” basis. We strongly encourage the agency to look at third party options as a preferred way forward. We also strongly encourage the agency to discuss any and all options for execution that do not include the government with the GEFSEC early in the PPG phase. The technical clearance of this PIF in no way endorses any alternative execution arrangement.

Review Dates

	PIF Review	Agency Response
First Review		
Additional Review (as necessary)		
Additional Review (as necessary)		
Additional Review (as necessary)		

PIF Review

Agency Response

Additional Review (as necessary)

