

Supporting Sierra Leone with the Shift to Electric Mobility

Review CEO Endorsement and Make a recommendation

Basic project information

GEF ID

10273

Countries

Sierra Leone

Project Name

Supporting Sierra Leone with the Shift to Electric Mobility

Agencies

UNEP

Date received by PM

12/4/2020

Review completed by PM

Program Manager

Satoshi Yoshida

Focal Area

Climate Change

Project Type

MSP

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

Yes.

Agency Response

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

April 13, 2021: We note the increasing co-financing on PMCs to \$100,000 or 6.4 percent of the total co-financing while having a constraint of available in-kind co-financing and parallel co-financing. The total amount of PMCs is \$138,500 that can manage the project implementation.

Feb 3, 2021: Co-financing on PMC is not proportionality compared with that on the main components. Please address this and see comments in alternative scenario including the benefit to separate Components 1 and 3.

Agency Response

08/04/2021

The co-financing on PMC has now been increased to US\$ 100,000. Given the limited amount of in-kind co-finance on the project (i.e. US\$ 291,600 in total) and that it is also contributing to the 4 substantive components, 100,000 is the maximum that can be

dedicated to PMC. The rest of the co-finance contributions (US\$ 60,000 and US\$ 1,300,000) are investments mobilized, respectively targeting components 2 and 3 only.

Note: for ease of reference, all edits have been highlighted in yellow in the updated PDF version of the Sierra Leone e-mobility project CEO Endorsement Document uploaded on the ?Documents? section of the GEF portal.

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

Secretariat Comment at CEO Endorsement Request

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

April 13, 2021: We note the decrease of co-financing of Ministry of Transport and Aviation. In terms of the difference between 2 percent of \$62.6M (which is \$1.252M) and \$1.3M, it is noted that 2 percent is not exact number as described "about 2 percent" and the Ministry of Energy committed to \$1.3M of co-financing from the two projects as Public Investment. Comment cleared.

Feb 3, 2021: As the amount of co-financing decreased, explanations on how the project reflected in its design and achieve the objectives of the project were described in changes in project design. Please address the below points.

1. Co-financing from Ministry of Transport and Aviation: please elaborate the linkage between IRUMP and this project and which component of IRUMP will support the project objectives (the same applies to the coordination section).
2. Co-financing from Ministry of Energy: please explain why units of e-vehicles estimated at 2030, 8000 units, are linked to the renewable power projects listed in the co-financing letter. (i.e. as opposed to the end of project cycle, 2025 or the end of accounting of CO2 emissions reduction of this project, 2036). 2 % of \$62.6 M in total project financing is not \$130,000. Please address. Please further explain how 8000 units described here is linked to the calculation of GEBs.
3. Please check if the types of co-financing on investment mobilized by the both ministries are correct: it seems that the co-financing is through either a grant from the World Bank or the Abu Dhabi fund (its type is unknown).

Agency Response

08/04/2021

1. Co-financing from the Ministry of Transport and Aviation:

After having submitted the proposal to the GEF Sec for review, we have received an updated co-finance letter (enclosed in the CEO Endorsement document, replacing the old one) from Sierra Leone's Ministry of Transport and Aviation. They have decided to reduce their contribution from US\$ 150,000 to US\$ 50,000, consisting of the in-kind co-finance portion only. This was because the Ministry of Transport and Aviation intends to pursue additional funding for the IRUMP project through the GEF, which is not possible if the IRUMP project provides co-financing to a GEF project (i.e. since a given co-financing contribution cannot be accounted for twice on 2 different GEF projects). The GEF was informed of this change by the UNEP Portfolio Manager through emails sent in December 2020.

Nonetheless, strategic linkages will remain between the IRUMP and the Sierra Leone project as both parties understand collaboration between the two projects, especially on capacity building activities, can lead to synergies. As explained in the section on Coordination, the IRUMP component entitled *'modernization and professionalization of transport services'* will support the capacity building work to be undertaken as part of Output 1.3 of the GEF project.

2. Co-financing from Ministry of Energy:

For the calculation of the GEBs, UNEP's e-mobility calculator for 2&3 wheeler has been used based on national data (vehicle stock and sales, GDP, population, technology shares, fuel prices, electricity carbon footprint) and adapted parameters (annual mileage, fuel consumption, technical lifetime etc., <https://www.unep.org/resources/toolkits-manuals-and-guides/emob-calculator>). Projections of the Sierra Leone 2&3 wheeler market until the year 2050 have been developed, with a market penetration scenario for electric 2&3 wheelers used in various other similar projects, and shown in below table (the percentage shares indicate the share of electric 2&3 wheelers on new 2&3 wheeler registrations).

| | 2020 | 2025 | 2030 | 2040 |
|------------------------|------|------|------|------|
| Sales share BEV | 0% | 1% | 30% | 75% |

The top down scenario is the basis for the calculation of GHG savings, as described in section 6 and Annex M of the CEO Endorsement document. The e-mobility scenario foresees a total stock of 13,300 electric 2&3 wheelers in the Sierra Leone in the year 2030. As described under section 6 on Global Environmental Benefits, a level 3 causality factor of 60% is used throughout the project to link the top-down analysis to the GEBs. The same level 3 causality factor is used to determine the fleet of electric 2&3 wheelers, which can be associated to the Sierra Leone GEF E-Mobility project in 2030 (8,000 units). As described in detail in the co-financing letter from Ministry of Energy, the power demand stemming from the use of these electric 2&3 wheelers (by 2030) is estimated to account for about 2% of the annual power generation produced by the renewable power projects identified suitable for co-finance by Ministry of Energy (total capacity 56 MW, total investment 62.6 million USD, see co-finance letter). The co-finance in form of investment mobilized is therefore set to 2% of the total investment in renewable power projects implemented by the Ministry of Energy, amounting to USD 1,300,000 (and not USD 130,000 as pointed out in your comment). The year 2030 has been chosen because it is halfway between end of the project cycle (2025) and the end of the CO2 emission accounting year (2036). At this point in time, results from policy interventions will be measurable, while not being too far in the future. Additional explanatory language has been added to Section C, Investment Mobilized.

3. As explained in our response to comment 1 above, the Ministry of Transport and Aviation has now decided to remove the 'investment mobilized' portion of its co-finance commitment. The co-finance table C, the co-finance budget (Annex I-2) and the Annex O have been updated accordingly. As for the Ministry of Energy, we can confirm that the US\$ 1,300,000 public investment co-financing is indeed investment mobilized.

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

April 13, 2021: Comments cleared.

Feb 3, 2021: Yes. However, the budget of 'Travel to attend Africa Support & Investment Platform events' under Comp 1 is more than \$40,000 while details are not provided. Please consider reallocation of budget to strengthen the demonstration part or provide clear benefits of this travel.

Agency Response

08/04/2021

The budget for 'Travel to attend Africa Support & Investment Platform events' has been slightly reduced to US\$36,800, reallocating part of it to the demonstrations part (i.e. price differential for electric 3-wheelers) and part of it to cover the costs of the project's inception workshop and steering committee meetings (answering to one of your comments on Monitoring & Evaluation further down).

The rest of the travel budget is critical to ensure the Sierra Leone project enjoys the variety of benefits offered by the Africa Support and Investment Platform of the Global Electric Mobility Programme: capacity building through training and peer-to-peer learning as part the communities of practice and market exposure and networking opportunities through marketplace events. Reference to the respective events organized by the Africa Support and Investment Platform to deliver trainings, build a community of practice among all E-Mobility projects in the region, organize for market place events to facilitate match-making between upcoming e-mobility projects, EV and EV supply equipment, Original Equipment Manufacturers (OEMs) and financiers are listed in deliverables 1.3.1 to 1.3.9.

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 Yes.

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

April 13, 2021: Comments cleared.

Feb 3, 2021:

Indicator 6: Please see the comments on GEBs.

Indicator 11: Please provide who will be beneficiaries and a supporting explanation on the difference between male and female beneficiaries.

Agency Response

08/04/2021

Indicator 6: refer to our responses in the comment section on GEBs.

Indicator 11: the direct beneficiaries is the combination of the following:

1. Participants in workshops and trainings over the duration of the project (estimated to a total of 90 people): with the 30% target for female representation, it is estimated that 27 women and 63 men will participate in meetings, trainings and events organized either as part of this project or through the Global Electric Mobility Programme (including the Africa Support and Investment Platform). The 30% ratio of women for participation in the Global Programme and Regional Support and Investment Platform events is the one applied to all child projects that are part of the Global e-mobility programme.

2. Users of the demonstration vehicles: the number of unique passengers being transported by the demonstration electric vehicles (15 e-keke units) throughout the project duration has been obtained based on assumptions on total lifecycle trips, average amount of passengers as well as assumptions trips per unique passenger we estimate the demonstration beneficiaries to amount to 450 women (40%) and 675 men (60%). This 40%/60% ratio is based on punctual data on mode choice by gender published in "Gender and Transport in Less Developed Countries: A Background Paper in Preparation for CSD-9", Paper commissioned by UNED Forum as input for the workshop "Gender Perspectives for Earth Summit 2002: Energy, Transport, Information for Decision-Making" Berlin, Germany, 10 - 12 January 2001.

Women: $27 + 450 = 477$

Men: $63 + 675 = 738$

Total = 1,215

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

April 13, 2021: Comments cleared.

Feb 3, 2021: Yes. However, financial barriers may include the lack of secondary market (resale value would be very low). Technical barriers may also include the barrier of providing maintenance and other relevant services to e-mobility users. Localization on some services may be required for the sustainability of the project.

Agency Response

08/04/2021

Financial barriers: Even used internal combustion engine (ICE) 2 & 3 wheelers in Africa utilized as taxis have a very low resale value as they are generally used until the end of life. So relatively speaking, this particular matter would not represent a financial barrier for e-kekes when compared to ICE 2 & 3 wheelers.

Technical barriers: Providing maintenance and spare parts is indeed a critical factor. Therefore, it is noteworthy to highlight that the project has also budgeted for the procurement of EV spare parts for the demonstration vehicles. In addition, the UNEP SMU's targeted technical support to the project will also be to ensure the vehicles to be procured for the demonstration are vehicles that require minimum maintenance. As there is currently not enough market interest or demand to bring electric 3-wheelers in Sierra Leone, UNEP is currently liaising with other countries in the region to achieve economies of scale that are big enough to generate manufacturers' interest.

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

Secretariat Comment at CEO Endorsement Request

April 13, 2021: Comments cleared.

Feb 3, 2021: The country's current plans and strategy related to transportation and carbon emissions reduction are not clearly described (if there is no plan please clarify so in the document). Please consider including relevant regional/international projects relating to the scope of this project, on top of country-specific baseline projects.

Agency Response

08/04/2021

A table summarising related ongoing projects in the energy sector and the transport sector has been added to the ?2) Baseline scenario and any associated baseline projects? section to provide a clear overview of the baseline investments. In addition, language on the Sierra Leone Integrated Transport Policy, Strategy and Investment Plan has been added to the section on root causes and barriers analysis. Additional information has been added on the IRUMP and the potential ways of collaboration under the baseline analysis.

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

April 13, 2021: Thank you for the clarifications and updating the documents. Comments cleared.

Feb 3, 2021: Please address the below points.

Overall: Please add the ToC in the document.

Component 1: Please add a table to clarify the composition and roles of the coordination body, including those from the private sector. Please clarify the scope of the strategy (type of vehicles, type of services (taxi, bus, and other public services or private) charging stations, promoting e-mobility industry, and financial and legislative requirements, safe disposal of batteries and recycling materials, etc.) and describe how the government and the private sector will implement the strategy from financial, legislative and enforceability perspectives in the long-term. Please describe linkages with Comp 3 and Comp 4 as well.

Component 2: Procurements ? importing assembled e-kekes or locally assembling e-kekes will determine the level of dissemination of such vehicles in the long-run. Please clarify how the project decide the requirements for procurement between two options. Please explain how the demonstration project will be scaled up with outcome 1 and 3. Unless similar financing incentives are provided with charging stations being available, the private sector entities will not take up e-kekes. Please also provide how deploying one charging station can ensure charging 15 e-kekes during and beyond the project timeline, and a scheme to operate the charging station (ownership and operator, payment etc.). Please provide rough specifications of expected e-kekes (including kWh, charging time, the number of passengers that carries) and a charging station (including KW) to the extent possible. Depending on such factors, 15 e-kekes with one charging station in 8-10 hours (in the night) would be challenging. Night-time charging would impact emissions from e-kekes as the emissions factor of the grid will be higher during the night unless there are utility-scale batteries connected to the grid to store solar-based power, which would impact the GEBs generated by this project.

Component 3: It seems these financial and regulatory schemes focuses on discouraging old and dirty vehicles while promoting cleaner vehicles. To promote e-vehicles specifically, it may require further incentives on e-vehicles including reduction of tariffs if imported. It also needs to include financial and other incentives on charging stations and to remove some relevant barriers for wider dissemination. This component may be closely linked with the strategy under Component 1 while the two components are separated.

Component 4: Output 4.1 is not clear on why integration of renewable power for e-vehicles is necessary for Sierra Leone as the project envisages to use power from the grid (the same question to the scope of the strategy under Comp1). Output 4.2 is important yet may not be enough to mitigate risks of waste of batteries and charging stations, which is linked to risks of the project below.

Agency Response

08/04/2021

The project's Theory of Change has been added at the end of the Proposed Alternative Scenario section.

Component 1:

A table outlining the composition and roles of the electric mobility coordination body has been added under the description of Output 1.1. Further descriptions on the scope of the national e-mobility strategy has been added and links to components 3 and 4 have been established. In particular, the development of a financial scheme to facilitate investment into electric 2&3 wheelers (output 3.2) has been highlighted as a perspective to show the ability of government, private sector and finance to implement the strategy in the medium to long-term.

Component 2:

Importation vs local assembly: So far there is neither 1.) importation of electric keke nor 2.) local assembly of electric keke in Sierra Leone, as such the project had no other option than to procure / import the demonstration vehicles. While the demonstration project will use imported, fully assembled or semi-knocked down e-keke, the investigation of the potential to locally assemble and / or manufacture electric 2&3 wheelers (including the option of retrofitting) has now been included in the national strategy (Output 1.2). As for the detailed technical specifications of the demonstrated e-keke, these will be developed as part of the project during the implementation phase.

Charging infrastructure: An e-keke with a 5 kWh battery can be fully charged at any socket over a duration of about 5h. So e-kekes can be charged overnight using grid power. Location for overnight charging are to be identified but several options exist, e.g. within the premises of one of the envisaged fleet operators (Taptap). Additional sites for e-keke charging could include local fuel retailers. In addition to overnight charging using grid electricity grant funding provided through the EC SOLUTIONSplus project will be used to evaluate the viability of hybrid or fully renewable charging systems to 1.) increase the carbon benefit of using electric kekes; 2.) evaluate the viability of off-grid charging. This has been further detailed in the paragraphs under Component 2 of the CEO Endorsement Document.

Emission reductions: Grid electricity is estimated to have a carbon footprint of about 450 gCO₂/kWh. E-mobility, even when using grid electricity, is immediately generating emission reductions compared to the use of ICE vehicles. Since Sierra Leone has plans to significantly green their grid (as outlined in the CEO Endorsement Document), the use of e-kekes will gradually benefit from lowering the carbon footprint of electricity. Gradually changing emission factors are used in the e-mobility calculator to estimate emission reductions accordingly. Even in the case of night-time charging, including significant amounts of electricity generation stemming from industrial scale diesel gensets, emission reductions are imminent compared to conventional ICE kekes. This is due to the fact that diesel gensets based on marine reciprocating engines have thermal efficiencies of around 40% compared to less than 15% for carburettor-based petrol engines used in conventional kekes. Even taking into account losses from power transmission and distribution as well as charging, significant emission reductions would occur under this worst case scenario.

Upscaling: The financial scheme developed under component 3 (output 3.2) is envisaged to lead to a business model whereby total cost of ownership (TCO) over the vehicle lifetime (e.g. 5 to 7 years) as well as daily income during the time of debt repayment will be preferential to the costs and income generated using a conventional keke. A TCO comparison for both conventional and electric keke is provided under section 7.5) Incremental cost reasoning? of the CEO Endorsement Document. It lines out that already today, payback time for a e-keke compared to a conventional keke is around 15 months, based on much lower fuel costs and lower cost for maintenance. The financial scheme (output 3.2) is envisaged to reduce financing cost for purchase of the e-keke through a combination of longer payback time and reduced interest rate in a way that the weekly or monthly savings on fuel costs and maintenance are higher than the weekly or monthly additional costs for financing the e-keke.

Component 3:

Reduction of import tariffs for EVs are already addressed under component 3: please refer to deliverable 3.1.2. Similarly, the financial scheme (output 3.2) will provide incentives for financing the introduction of electric 2&3 wheelers, especially in fleets. As for the comment on the need to incentivize the financing of charging stations, as explained in our previous responses no particular charging infrastructure is needed for the operation of electric 2&3 wheelers in fleets, since these vehicles can be charged directly on conventional power sockets.

Additional text has been added to the description of component 3 to better establish the link between component 1 and component 3. The separation into two components, of which component 1 is targeting the improvement of the institutional and administrative framework and of which component 3 is targeting the preparation for upscaling through improving the policy framework and the development of financing schemes, follows an approach which is used consistently among all child country projects part of the global e-mobility programme.

Component 4:

Renewable power integration (output 4.1): Even though part of the vehicles will use grid electricity for charging of e-kekes, it is general consensus that environmental benefits of e-mobility will be significantly increased when charging e-vehicles with renewable power. Therefore, the demonstration component 2 will also include the piloting of a hybrid charging system which will provide useful information on the viability of off-grid solar charging of electric 2&3 wheelers in Sierra Leone. Part of the study to integrate the use of renewable power for electric 2&3 wheeler charging (output 4.1) will be looking at the potential to use off-grid charging systems in rural areas of Sierra Leone with limited access to grid electricity. E-mobility based on light vehicles with small

batteries such as electric motorcycles and electric 3 wheelers are regarded a viable option to be combined with power generation based on mini and micro grids. Additional text has been added under component 4 to better explain the linkage between e-mobility, renewable power integration and energy access in rural areas of Sierra Leone.

Battery end-of-life (output 4.2): Acknowledging the limited funding of the project, this component is to ensure that the issue of battery end-of-life (EOL) is included in all discussions around e-mobility in Sierra Leone from day one onwards. With the support of the global programme, it will be evaluated whether additional funding can be mobilized to support the development of according regulation at the sub-regional level within ECOWAS, which Sierra Leone is a part of.

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

Secretariat Comment at CEO Endorsement Request

Feb 3, 2021: The alignment is clear without further elaboration.

Agency Response

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

Secretariat Comment at CEO Endorsement Request

April 13, 2021: Comments cleared.

Feb 3, 2021: Incremental reasoning is clear. Please elaborate how the co-financing will contribute to achieving the expected GEBs. UNEP's contribution on the charging station is clear from alternative scenario.

Agency Response

08/04/2021

Additional language on how the co-finance from Ministry of Energy will contribute to achieving the GHG mitigation targets and closing the incremental cost gap of sustainable electric mobility in Sierra Leone has been included in section ?5) Incremental/additional cost reasoning?.

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

April 13, 2021: Thank you for the clarifications. We note the similar approach on calculating secondary direct GHG emissions reduction across UNEP's child projects. Please provide reliable number at the terminal evaluation. Comments cleared.

Feb 3, 2021: Please address the below points.

1. The emission factor from the grid will be changed overtime as indicated in this section. However, 1) 2050 emissions factor is not in line with the country's target of decarbonization, and 2) how these emissions factors (different each year) are used to calculate emissions reduction from 2021-2036 is not clear.
2. Please provide the rationale to calculate (secondary) direct emissions reduction after the project period (after 2025) assuming that after the 6 years of lifetime, those vehicles will be replaced with e-mobility, instead of other types of mobility. It is also not clear why secondary emissions reduction is based on additional investments? if additional investments are envisaged after the project cycle, it would be counted as indirect emissions reductions. Given that 4 years project cycle and with extension of 11 years from the start of the project (until 2036), 209 tons for direct emissions reduction (4 years) and 116,212 tons for secondary direct emissions reduction (11 years) seem contradicting.
3. Total cumulative top-down emission reductions achieved by 2036 account for 646,2 ktCO₂ is not consistent with the numbers in the table.
4. Level III causality factor is not clear including why such factor is used for Sierra Leone.

Agency Response

08/04/2021

1. For the calculation of Global Environmental Benefits, the UNEP E-Mobility Calculator for 2&3 Wheelers has been used. The tool allows for the definition of varying carbon footprint of electricity used in transport for the projected time frame including historical data and covering the years 2000 to 2050. A conservative approach has been used for the calculation of GHG mitigation in Sierra Leone, starting with a specific CO₂ emission of 0.45 kgCO₂/kWh in 2020, evolving to 0.41 kgCO₂/kWh in 2030 (10% reduction), 0.36 kgCO₂/kWh in 2040 (20% reduction) and finally to 0.32 kgCO₂/kWh in 2050 (30% reduction).

2. The funds of the project are used to buy both electric kekes and charging infrastructure. For charging infrastructure, a technical lifetime of 15 years is assumed. The time frame for post-project secondary direct emission reduction calculations is determined by the technical lifetime of the assets funded by the project. The timeframe for secondary direct emission reductions is therefore set to 15 years, starting in 2021 and ending in 2036.

The direct emission reductions are stemming from the lifecycle emission reductions of the demonstrated vehicles, i.e. the 15 e-keke partly funded through the project.

Secondary direct and indirect emission reductions are based on the project funds being used for the development of 1.) e-mobility policy and 2.) financial schemes. They are derived using a top-down approach (covering the entire 2&3 wheeler market in Sierra Leone) and applying a conservative Level 3 causality factor of 60% to the cumulative emission reductions achieved over the time frame 2021 to 2036 (all described in Annex M of the CEO Endorsement Document). A split of 30 to 70 for secondary direct vs indirect emissions has been used in absence of clear guidance in the GEF manuals,

whether the implementation of policies is considered to be accounted as 'secondary direct' vs 'indirect' post project emission reductions, see cited examples from the mentioned GEF guidelines here below. Splitting the top-down emission reductions adjusted by the causality factor and using a ratio of 30:70 for the split into secondary direct emission reductions vs indirect emission reduction is considered a conservative approach towards the determination of secondary direct emission reductions, which determine the 'economic efficiency' of GEF project interventions.

Cited from: Manual for Calculating Greenhouse Gas Benefits of Global Environment Facility Transportation Projects, Prepared by the Institute for Transportation and Development Policy For the Scientific and Technical Advisory Panel of the Global Environment Facility,

?Page 12: Calculating Direct Secondary Impacts

*Another type of direct impact?referred to collectively as 'direct secondary impacts'?may also accrue from secondary effects of GEF and co-financer investments. **These include GHG impacts from supportive policy reforms, fuel standards, motorization rates, and land use changes that are catalyzed by GEF and co-financer investments.***

**Cited from: UPDATED RESULTS ARCHITECTURE FOR GEF-7, 54th GEF Council Meeting
June 24-26, 2018, Da Nang, Viet Nam, Agenda Item 13, UPDATED**

Page 26: 6. Greenhouse Gas Emissions Mitigated (metric tons of carbon dioxide equivalent)

?20.Using the methodologies of the GEF and its Scientific and Technical Advisory Panel, noted below, three values will be reported for the Core Indicator: (i) lifetime direct project GHG emissions mitigated, (ii) lifetime direct post-project emissions mitigated, and (iii) lifetime indirect GHG emissions mitigated.

? Lifetime direct project GHG emissions mitigated are attributable to investments during the project's supervised implementation period, totaled over the respective lifetime of the investments.

*? Lifetime direct post-project emissions mitigated are attributable to investments outside the project's supervised implementation period, **but supported by financial facilities or regulatory interventions by the GEF project**, totaled over the respective lifetime of the investments. Financial facilities such as partial credit guarantee facilities, risk mitigation facilities, or revolving funds will remain in operation after the project ends.*

? Lifetime indirect GHG emissions mitigated are those attributable to the long-term outcomes of GEF activities that remove barriers, such as capacity building, innovation, and catalytic action for replication.?

Page 27: 6.2. Emissions avoided

?Definition: This indicator captures the amount of GHG emissions expected to be avoided through the interventions of the GEF project in sectors other than the Agriculture, Forestry, and Other Land Use sector. These therefore may include GHG benefits from energy efficiency, renewable energy, transportation, and urban projects or project components. These benefits should be measured above a baseline value.

*Details: Calculating GHG emissions avoided from GEF projects has several steps, depending on project complexity and the components. Some project components contain investments as an output that lead to direct GHG emission reductions. Other components (e.g., revolving funds) typically lead to both direct and indirect GHG emission reductions. **A third group, such as regulatory and policy reform, might lead ? first and foremost if not exclusively ? to indirect GHG emission reductions.?***

3. The ?Total cumulative top-down emission reductions achieved by 2036 account for 646,2 ktCO₂? depict the potential top-down emission reductions, prior to the application of the causality factor of 60%. Once this causality factor is applied, the actual total emission reductions attributable to the project amount to 387,548 tCO₂. The language in section ?6) Global environmental benefits? has been improved to avoid this misunderstanding.

4. Application of a level 3 causality factor is based on subjective assessment of the project development team taking into account that the GEF funded demonstration project only covers 3 wheelers (while all other policy interventions under output 3.1 cover 2&3 wheelers and cars) and acknowledging that other projects such as the IRUMP are implemented in parallel in Sierra Leone (although not focussing on transport energy efficiency or electric mobility). As such, a conservative approach has been chosen when selecting the causality factor (The GEF contribution is substantial, but modest indirect emission reductions can be attributed to the baseline, GEF causality = 60 percent). This has been added in the section on ?6) Global environmental benefits?.

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

April 13, 2021: Comments cleared.

Feb 3, 2021:

Innovation: The co-financing as well as the GEBs calculation assume the power e-vehicles use comes from the grid. If the e-kekes in this project will be powered directly solar power, there will be contradictions in these. Please clarify.

Sustainability and scaling -up: Please elaborate sustainable financial schemes (public and private) that is linked with Component 3 that ensure the sustainability and scaling-up of the project. Please also include the role of knowledge management that increase the sustainability.

Agency Response

08/04/2021

Innovation:

GHG emission benefits stemming from the project are based on the use of grid electricity with changing emission factors as described above. Although part of the e-keke demo vehicles are envisaged to be charged using a solar-hybrid demo charging system, this will not significantly affect the GHG emission reduction calculations. Nonetheless, there is a great potential of integrating electric 2&3 wheelers in rural off grid systems (mini grids, micro grids) which will be explored through the study on the integration of e-mobility and renewable power generation in Sierra Leone. For the sake of simplicity, the GHG emission calculations do not take into account that possible interaction described in the Innovativeness section. The paragraph on Innovativeness has been further amended to provide more clarity.

Sustainability and scaling-up:

Additional text to clarify the role of the financial scheme developed under component 3 (Output 3.2) has been added and linkages to knowledge management and knowledge transfer established.

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

Feb 3, 2021: Yes. The detailed location on the operation will be determined after the project starts.

Agency Response

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

Yes.

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

April 13, 2021: Comments cleared.

Feb 3, 2021: Largely yes. Please consider including the private sector stakeholders other than a tax operator, e.g. potential e-mobility related services, potential charging station businesses, and potential reusing/recycling businesses, to increase the sustainability and scaling-up of the project.

Agency Response

08/04/2021

Additional categories of private sector stakeholders related to potential charging station operator(s) and potential waste management service provider(s) have been included to the Stakeholders Table, to make sure they are identified and engaged during the project's implementation phase.

Also, the section '4. Private Sector Engagement' section has been revised to elaborate on the types of private sector partners which the project plans to engage and how they could be involved in the project's intervention.

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

Yes.

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

April 13, 2021: Comment cleared.

Feb 3, 2021: Please see the comments on stakeholder engagement and revise accordingly.

Agency Response

08/04/2021

Please refer to the response above on Stakeholder engagement. The section on ?4. Private Sector Engagement? section has been revised to further elaborate on the types of private sector partners which the project plans to engage and how they will potentially contribute to the different project components / outputs.

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

April 13, 2021: Comments cleared.

Feb 3, 2021: Risks listed are comprehensive. However, please consider the below points.

1. Risks and measures related to a charging station should be incorporated.
2. Risks and measures on batteries disposal should be further elaborated other than output 4.2. Please include if there is a proper recycling/disposal facility in Sierra Leone that can mitigate risks. Please revise ESS sheet accordingly.

Agency Response

08/04/2021

1. A risk and mitigation measures related to charging infrastructure have been added to Table 4 on Risks.

2. Risks and mitigation measures on EV battery disposal has been further elaborated with an additional risk added to Table 4.

Due to their high capacity, the EV batteries to be deployed in the demonstration project will be still useful after the project's technical completion and hence can be re-deployed rather than recycled. As such the existence of a formal recycling/disposal facility is not particularly relevant in this context.

The ESS sheet already highlights this matter under Safeguard Standard 2, acknowledging that the project will generate battery waste and highlighting that under Component 4 the project intends to develop a scheme for re-use, and collection for recycling and sound disposal of used electric vehicle batteries. Given the ESERN checklist has been already approved by UNEP's Safeguards Unit, we would like to kindly request that we maintain the ESS sheet as it is.

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

April 13, 2021: Justifications are provided which are in line with the previous exchanges between GEFSEC and UNEP. Comments cleared.

Feb 3, 2021: While UNEP's Unit seems to conduct executing functions with a letter from the OFP, justifications are not provided. Please provide justifications and detailed activities under each component. Coordination with other initiatives can be elaborated more. Please include relevant regional activities if any.

Agency Response

08/04/2021

The justifications on the targeted technical support to be provided by UNEP's Sustainable Mobility Unit (SMU) have now been included in the 'Institutional arrangements' section. The detailed list of deliverables to be supported by the UNEP SMU can be found in the project Workplan (Annex L) as well as in the Terms of References of the 'International E-mobility Technical Support (UNEP SM Unit)' position, located in Annex H of the CEO Endorsement Document. Please also note that these justifications had been provided by email to the GEF in October 2020, in order to obtain the GEF's approval of the same before the 1st submission of the CEO Endorsement Document.

Updates have been made to the 'Coordination with other initiatives' sub section.

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

Yes.

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
April 13, 2021: Thanks you for the revisions. Comments cleared.

Feb 3, 2021:

1. How the project will learn from lessons learned of relevant projects and experiences including those in other countries should be elaborated.
2. Please also clarify the budget of knowledge management with timelines where applicable.
3. Please elaborate how the knowledge management deliverables and approaches will enhance the successful implementation of the project as well as the sustainability and scaling up after the project.

Agency Response

08/04/2021

1. This has been elaborated in the ?Knowledge management? section.
2. A table summarising the list of knowledge products (deliverables) generated as part of the project as well as their indicative timelines and budgets has been added.
3. The description on how knowledge and learning will contribute to project impact and sustainability has been added to the ?Knowledge management? section.

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
April 13, 2021: Comment cleared.

Feb 3, 2021: Yes. There are some activities without budgeting including an inception workshop and supervising. Please clarify if these will be conducted with the GEF financing.

Agency Response

08/04/2021

A total of US\$ 2,400 has been budgeted for the organization of the project's inception workshop (1 inception workshop, US\$ 800) and for the annual PSC meetings (4 PSC meetings, US\$ 400 each), reallocated from the budget for "Travel to attend Africa Support & Investment Platform events." This is reflected in the project budget (Annex I-1) and in the M&E Plan (Annex J)

It is the Chief Technical Advisor (CTA) who will be in charge of supervising the project.

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

Yes.

Agency Response

Annexes

Are all the required annexes attached and adequately responded to?

Secretariat Comment at CEO Endorsement Request

Yes.

Agency Response

Project Results Framework

Secretariat Comment at CEO Endorsement Request

April 13, 2021: Clarification provided. Comment cleared.

Feb 3, 2021: Output 2.2 (e.g. the number of e-kekes and charging station) and output 4.1 seem to miss relevant indicators. Please address.

Agency Response

08/04/2021

The purpose of the project Results Framework (Annex A) is to provide outcome-level indicators ? not output-level indicators. For indicators associated with the project outputs, kindly refer to the different deliverable statements mentioned in section ?3) Proposed alternative scenario? and the project Workplan (Annex L). These deliverables are a means by which the project will be able to measure the achievement of the outputs.

GEF Secretariat comments

Secretariat Comment at CEO Endorsement Request Yes.

Agency Response

Council comments

Secretariat Comment at CEO Endorsement Request Yes.

Agency Response

STAP comments

Secretariat Comment at CEO Endorsement Request Yes.

Agency Response

Convention Secretariat comments

Secretariat Comment at CEO Endorsement Request

Agency Response

Other Agencies comments

Secretariat Comment at CEO Endorsement Request

Agency Response

CSOs comments

Secretariat Comment at CEO Endorsement Request

Agency Response
Status of PPG utilization

Secretariat Comment at CEO Endorsement Request Yes.

Agency Response
Project maps and coordinates

Secretariat Comment at CEO Endorsement Request Yes.

Agency Response
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
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

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

Agency Response

GEFSEC DECISION

RECOMMENDATION

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

Secretariat Comment at CEO Endorsement Request

April 13, 2021: Previous comments addressed. PM recommends this project for technical clearance for the CEO approval.

Feb 3, 2021: Not at this stage. Please address the comments above.

Review Dates

| | Secretariat Comment at CEO Endorsement | Response to Secretariat comments |
|---|---|---|
| First Review | 2/3/2021 | |
| Additional Review (as necessary) | 4/13/2021 | |
| Additional Review (as necessary) | | |
| Additional Review (as necessary) | | |
| Additional Review (as necessary) | | |

CEO Recommendation

Brief reasoning for CEO Recommendations