

Accelerating the adoption and life-cycle solutions to electric mobility in Thailand

Review CEO Endorsement and Make a recommendation

Basic project information

GEF ID

10681

Countries

Thailand

Project Name

Accelerating the adoption and life-cycle solutions to electric mobility in Thailand

Agencies

UNIDO

Date received by PM

12/10/2021

Review completed by PM

5/16/2022

Program Manager

Ming Yang

Focal Area

Climate Change

Project Type

FSP

PIF
CEO Endorsement

Part I ? Project Information

Focal area elements

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

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

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

3/25/2022 MY:

Not completed yet. Please address the following comments from the GEF PPO Unit:

1. Table A ? Focal Area outcomes are missing. Please amend it.

2. Co-financing:

- Unable to locate the UNIDP (UNDP) co-financing letter.

- Thailand Greenhouse Gas Management Organization: the co-financing letter indicates \$310,606 in-kind contribution while the reported amount is \$1,661,818 in-kind. Please make these two figures consistent/identical.

3. The budget table included in Annex E in the GEF Portal doesn't give sufficient break-down by expenditure categories (i.e. staff costs, consultants, equipment, training/workshop/meetings, travel, operating costs, etc.). Instead, it categorizes all detailed activities under each component as contractual services but it does not charge

them to the three identified sources (project's components, M&E and PMC). Thus, it is not possible to assess the reasonability of the expenditures vis-à-vis the sources. We saw that the Agency explained the absence of the budget table as follows: "This is a summary of the budget. For the entire table with detailed information, please refer to the annex uploaded to the submission which cannot be introduced in this field." Please revise it by using the GEF template included in Guidelines (or using a similar format that shows categories and sources) and resubmit for GEF review. All budget figures in the tables must match in the Portal, the ProDoc, and the project documents. Please double check these figures before resubmission.

5/16/2022 MY:

Yes, all comments were addressed.

Agency Response

16-May-22

1. Table A ? Focal Area outcomes are missing. Please amend it.

Outcome has been added.

2. Co-financing:

- Unable to locate the UNDP co-financing letter.

The UNIDO (UNDP is not involved in the project) co-financing letter has now been been uploaded twice in Table C.

- Thailand Greenhouse Gas Management Organization: the co-financing letter indicates \$310,606 in-kind contribution while the reported amount is \$1,661,818 in-kind. Please make these two figures consistent/identical.

Revised Thailand Greenhouse Gas Management Organization co-financing letter for \$1,661,818 has been uploaded.

3. The budget table included in Annex E in the GEF Portal doesn't give sufficient break-down by expenditure categories (i.e. staff costs, consultants, equipment, training/workshop/meetings, travel, operating costs, etc.). Instead, it categorizes all detailed activities under each component as contractual services but it does not charge them to the three identified sources (project's components, M&E and PMC). Thus, it is not possible to assess the reasonability of the expenditures vis-à-vis the sources. We saw that the Agency explained the absence of the budget table as follows: "This is a summary of the budget. For the entire table with detailed

information, please refer to the annex uploaded to the submission which cannot be introduced in this field.? Please revise it by using the GEF template included in Guidelines (or using a similar format that shows categories and sources) and resubmit for GEF review . All budget figures in the tables must match in the Portal, the ProDoc, and the project documents. Please double check these figures before resubmission.

New indicative budget table has been uploaded under Annex E.

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

12/10/2021 MY:

Not yet.

1. In Component 1, please consider developing a national policy to address the issue of e-v battery reuse/recycle and disposal.

2. In Component 2, (1) please indicate the number of e-vehicles for public transport demonstration at output 2.2.1 and the number of charging systems in output 2.2.2; and (2) please consider necessary investment that will lead to e-v battery reuse /recycle and disposal.

3/18/2022 MY:

Yes, comments were addressed and issues were cleared.

Agency Response

1. In Component 1, please consider developing a national policy to address the issue of e-v batter reuse/recycle and disposal.

A policy to address the issue of EV battery reuse/recycling and disposal is under the scope of Output 1.1.4: Policy and regulatory framework for addressing life-cycle issues

for electric mobility and sustainable use of batteries enhanced, where reuse/recycle and disposal of EV batteries fall under life-cycle issues to be addressed.

Current baseline initiatives/activities in the country include a draft roadmap on the management of used EV batteries has been developed, including a goal to establish a recycling plant in 2028.

As of now, this Output 1.1.4 compliments this roadmap with the following activity:

1.1.4.1 Developing a standard for handling and management of used EV batteries / developing a comprehensive life-cycle regulation on EV batteries (production, use, disposal and reuse) / developing a guideline for low-carbon labeling of EV batteries.

Activities under this output may be amended later to complement existing baseline initiatives (e.g., the roadmap on the management of used EV batteries) and existing government policy work on this in order to address the issue of both reuse, recycle and disposal of EV batteries at the national level.

2. In Component 2, (1) please indicate the number of e-vehicles for public transport demonstration at output 2.2.1 and the number of charging systems in output 2.2.2; and (2) please consider necessary investment that will lead to e-v battery reuse /recycle and disposal.

(1) please indicate the number of e-vehicles for public transport demonstration at output 2.2.1 and the number of charging systems in output 2.2.2;

Under Output 2.2.1, 25 electric vehicles will be demonstrated (10 electric songthaews and 15 electric public mini buses).

Under Output 2.2.2, 10 charging stations will be installed and 1.3 MW of solar PV will be installed across new and existing charging stations.

The information was also introduced in Table B.

(2) please consider necessary investment that will lead to e-v battery reuse /recycle and disposal.

182,000 of the GEF grant has been budgeted for Output 2.2.4 which includes the demonstration of the use of second life batteries for stationary applications (Activity 2.2.4.1). NSTDA is providing additional investment in the form of co-financing and further co-financing is expected to be leveraged during implementation from private sector partners, including charging point operators.

Additional allocation from the GEF grant for demonstration of recycling and disposal would indeed require significant investment and the project will endeavor to align this

project's work with other relevant demonstrations and initiatives that arise out of the aforementioned draft roadmap on the management of used EV batteries that is presently in development.

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

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

N/A

Agency Response

Co-financing

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

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

Not completed yet.

1. The overall co-financing ratio is 5.94. Please mobilize more co-financing to make this ratio to 7.

2. The ratio of investment mobilized in the co-financing scheme is 3.84. Please mobilize more investment co-financing to make this ratio up to 5.

3/18/2022 MY:

Yes, comments were addressed and issues were cleared.

Agency Response

1. The overall co-financing ratio is 5.94. Please mobilize more co-financing to make this ratio to 7.

Additional co-financing commitments have been received from two partners, the Provincial Electricity Authority (PEA) and Rayong Municipality.

The Provincial Electricity Authority (PEA), a partner that is a charging point operator and will support demonstrations under the project, has provided a letter committing USD 500,000 in co-financing to the project.

Rayong Municipality is contributing supporting funds covering space for the project's technology demonstration at a value of USD 8,092,761, including property for the EV charging systems and solar PV installation and operation as part of the technology demonstration.

This additional co-financing changes the overall co-financing figure to 8.89.

2. The ratio of investment mobilized in the co-financing scheme is 3.84. Please mobilize more investment co-financing to make this ratio up to 5.

EECO and NSTDA have provided updated co-financing letters indicating that they will commit a combined 495,600 USD in grant funding. Additional investment mobilized is also anticipated to be secured during the project's implementation phase from other charging point operators in Rayong.

The additional co-financing changes the overall investment mobilized scheme to 4.01.
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
12/10/2021 MY:

Yes.

Agency Response
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
12/10/2021 MY:

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

12/10/2021 MY:

The changes /adjustments in core indicators 6.2 and 6.3 are realistic.

But please elaborate why the number for indicator 6.4 was reduced from 2 MW to 1.3 MW.

3/18/2022 MY:

Yes, comments were addressed and issues were cleared.

Agency Response

Based on further research and consultations during PPG, long term scalable impact was prioritized over short term installation of renewables. Specifically, the demonstration of EVs to replace songthaews as well as the usage of energy storage systems with charging infrastructure.

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

12/10/2021 MY:

Yes. It is presented on pages 20-27 of the CEO ER document.

Agency Response

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

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

Yes. It is presented on pages 27-57 of the CEO ER document.

Agency Response

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

12/10/2021 MY:

Yes. It is presented on pages 58- 88of the CEO ER document.

However, if possible, please add one more project component to deal with battery waste management.

3/18/2022 MY:

Yes, comments were addressed and issues were cleared.

Agency Response

The issue of battery waste management is under the scope of the Output 1.1.4, 'Policy and regulatory framework for addressing life-cycle issues for electric mobility and sustainable use of batteries enhanced?' and Output 2.2.4 'Demonstration of the integration of circular economy principles in the life cycle of electric vehicle batteries (e.g., the application of second life batteries)?.

A separate project component to deal with battery management was considered but instead these aspects of the project have been split under Component 1 and Component 2 for better coordination among project partners. The proposed structure improves institutional execution of the project with clear roles and responsibilities for partners. Output 1.4, which looks at policy and regulation, will be managed by TGO while the demonstration aspects fall under Output 2.4 and will be managed by NSTDA.

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

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

Yes. it is stated on page 88.

Agency Response

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

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

Yes. It is stated on pages 89-90.

Agency Response

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

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

Yes. It is elaborated on pages 90-91.

Agency Response

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

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

Yes. It is presented on pages 91-93.

Agency Response

Project Map and Coordinates

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

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

Yes. The map is shown on page 95.

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

12/10/2021 MY:

N/A

Agency Response

Stakeholders

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

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

Yes. It is stated on pages 98-108.

Agency Response

Gender Equality and Women's Empowerment

Has the gender analysis been completed? Did the gender analysis identify any gender differences, gaps or opportunities linked to project/program objectives and activities? If so,

does the project/program include gender-responsive activities, gender-sensitive indicators and expected results?

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

Yes. The gender assessment results are shown on pages 109-113.

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

12/10/2021 MY:

Yes. A number of private firms are engaged to co-finance the project. It is elaborated on pages 112-113.

Agency Response

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

12/10/2021 MY:

Yes. The project has elaborated on risks including climate change risks and COVI-19 risks /opportunities on pages 114-118.

Agency Response

Coordination

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

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

Not completed yet.

Please elaborate possible coordination with other bilateral or multilateral initiatives in e-vehicles in Thailand. For example, the US Trade and Development Agency has been working with SCG International Corporation Co., Ltd. (SCG International), a wholly owned subsidiary of leading Thai conglomerate SCG, to advance the company's ambitious decarbonization strategy. USTDA's assistance will provide a roadmap to guide the electrification of vehicle fleets and deployment of EV charging infrastructure across Thailand.

Other countries such as Japan, Germany and China may have also got similar initiatives in Thailand for the same purposes. Please elaborate the coordination with these relevant agencies and companies if applicable.

3/18/2022 MY:

Yes, comments were addressed and issues were cleared.

Agency Response

Thank you for providing this valuable information. We will indeed coordinate this project's interventions with other ongoing and forthcoming initiatives in Thailand.

Please note: China does not have bilateral cooperation initiatives in EVs with Thailand, but Chinese companies have recently invested in quite a few EV manufacturing plants in Thailand, as described in the CEO Endorsement Document including Great Wall Motor (GWM), and MG.

The GEF-7 project will collaborate with these Chinese EV manufacturing and distribution companies as well as other EV manufacturing and distribution companies in the management of EV battery waste and in the rescue of EVs, and will look for ways to coordinate and cooperate with these manufacturing companies especially in Rayong during the implementation phase.

The below text has been added under the Coordination section in the CEO Endorsement Document.

The U.S. Trade and Development Agency has awarded a technical assistance grant to SCG International Corporation Co., Ltd. (SCG International), a wholly owned subsidiary of leading Thai conglomerate SCG, to advance the company's ambitious decarbonization strategy. USTDA's assistance will provide a roadmap to guide the electrification of vehicle fleets and deployment of EV charging infrastructure across Thailand. SCG International has selected Kansas-based Black & Veatch Management Consulting to carry out the technical assistance.

The USTDA study will deliver detailed analysis and plans to accelerate EV adoption and the installation of charging stations and integrated renewable energy infrastructure at hundreds of sites for SCG's Cement and Building Materials Business in Thailand. The assistance will also design pilot projects at three identified sites for SCG International to test the viability of electrifying the company's substantial fleet of logistics and commuter vehicles and ready-mix concrete trucks.

The GEF-7 project will coordinate with SCG as a project partner to share and exchange information and experience around EVs between the two projects, including the development of carbon credit protocol for the use and operation of electric vehicles and charging stations, and will ensure that the two projects will be complementary and not overlapping, and will create further collaboration and advancement in the implementation of EVs and charging stations in Rayong.

The Japan International Cooperation Agency (JICA) project, "Smart Transport Strategy for Thailand 4.0", has the goal of developing a "leap-frog" strategy based on the concept of smart transport strategies with a dual focus on Quality of Life (QOL) and developing a low carbon society. The project will develop a methodology to evaluate policy packages for realizing smart transport strategies and develop a policy package for the Sukhumvit area using this methodology. The project is being implemented from 2018 to 2023 by Thammasat University, Kasetsart University, Chulalongkorn University, Asian Institute of Technology (AIT), and the National Electronics and Computer Technology Center (NECTEC). Opportunities to exchange knowledge will be developed during the project's implementation.

The Rajamangala University of Technology in Khon Kaen, the German Embassy Bangkok and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH have recently joined up to support the transitions from the current status quo of Thailand's energy and transport sectors to a smart, integrated, resilient and climate-proof future while simultaneously raising awareness about green energy and sustainable mobility solutions.

Khon Kaen Province has a strategy to develop as a smart city and is already planning to develop its main transportation system including through the construction of the Light Rail Transit system (LRT). Route 1 is the North-South Line, Ban Samran to Ban Tha Phra with 16 stations and costs a total of 15 billion baht. Also planned is a Feeder Transportation System including the Khon Kaen City Bus Project which has been in operation for many years. Currently, all 37 city buses are powered by internal

combustion engine (ICE) and operate on three routes. The green line runs from the third bus terminal to Khon Kaen airport, while another 2 lines, the red and the blue lines, run from the third bus station to the city of Khon Kaen around the clock. The Smart City Plan for a Smart Environment aims to reduce pollution from urban public transport. The plan is therefore to replace the old city buses on the Khon Kaen city bus routes, which are diesel-powered vehicles, with electric micro-buses. Another project is to set up a Tuk Tuk EV Food Delivery service, which will help drive Khon Kaen Province towards its goal of becoming the center for Electric Vehicles (EV).

Germany through GIZ will share experiences and support new ideas, new technologies and innovations in energy and transport transition in Germany that can be adapted to Khon Kaen and Thailand, as Thailand is the largest bilateral climate partner of Germany. Clean renewable energy and sustainable transport will be the focus of the Thai-German climate cooperation.

The project will coordinate with GIZ and Khon Kaen Province in exchanging experience and lessons learned in supporting the use and operation of electric vehicles in public transportation by private operators.

The GEF-7 project will also collaborate with local EV manufacturing and distribution companies as well as other EV manufacturing and distribution companies in the management of EV battery waste and in the rescue of EVs, and will look for ways to coordinate and cooperate with these manufacturing companies especially in Rayong during the implementation phase.

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
12/10/2021 MY:

Yes. It is described on pages 122.

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

12/10/2021 MY:

Yes. It is described on pages 123-124.

Agency Response

Environmental and Social Safeguard (ESS)

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

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

Yes. It is elaborated in Section 11. Environmental and Social Safeguard (ESS) Risks on pages 128-132.

Agency Response

Monitoring and Evaluation

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

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

Yes. It is described on pages 125-127.

Agency Response

Benefits

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

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

Not completed. In Section 10. Benefits on page 128, please use quantitative information (numbers) to show the Co-Benefits that will support the achievement of the GEBs.

3/18/2022 MY:

Yes, comments were addressed and issues were cleared.

Agency Response

The co-benefits section has been updated with the following text to provide additional quantitative information and for clarity:

These co-benefits are quantified and further described in more detail below:

1. Development of renewable energy and decarbonization of the grid and the electricity sector:

The demonstration component of project will contribute to the increased installed capacity of PV systems by 1.3 MW.

2. Improvement of the air quality or reduction of air pollutants:

As described in the ESMP, in addition to the benefit of GHG emission reduction, there will be co-benefits of reducing major air pollutants like NO_x, SO₂, PM_{2.5}, and other pollutants due to the pilot use of electric vehicles and the establishment of electric vehicles charging stations integrated with renewable energy systems within the Project.

The pilot use of electric vehicles will replace some existing public transport vehicles including songthaews which are diesel-run and are very old, with an average age of more than 20 years and with relatively high exhaust pipe emissions of air pollutants. Thus, electric songthaews which will replace diesel-run songthaews will lead to no exhaust-pipe emissions and will certainly and directly benefit passengers of these songthaews through improving air quality for those traveling on these songthaews.

In addition, the pilot use of electric vehicles will take place along selected key public transport routes in Rayong city, which pass major places and community areas in Rayong such as schools, technical colleges, markets, bus terminals, and government offices located in the central area of Rayong, and include traffic jams in rush-hour periods leading to higher concentrations of air pollutants. Thus, the pilot use of electric public transport electric vehicles replacing diesel-run vehicles will result in reduced concentrations of air pollutants especially PM_{2.5} and improve air quality along the operating routes, and thus will benefit local people along the routes and users of public transport vehicles including women and students.

The project's interventions, including the demonstration of electric songthaews and electric minibuses replacing diesel-run songthaews and minibuses, are expected to contribute to addressing pollutants in the transportation sector in the EEC and Thailand over the project period at the national level, as promoted by the Thai government. The estimated impact for PM 2.5, SO₂ and NO_x is as follows:

- PM2.5 by 33,985 tonnes (10,195 direct and 23,789 indirect);
- SO2 by 10,614 tonnes (432,587 direct and 7,430 indirect); and
- NOx by 1,441,958 tonnes (432,587 direct and 1,009,370 indirect).

3. The development of EV industry sector:

The interventions of the project (both the policy, demonstration, and capacity building and knowledge exchange) will altogether contribute to the development of EV industry sector and ecosystems for EV entrepreneurship, including

-Increased jobs in the EV industry sector (30 indirect jobs in R&D and Manufacturing, 27 indirect jobs as drivers of songthaews and minibuses, 6 direct jobs and 2 indirect jobs as technicians at service centers, and 1 direct job and 6 indirect jobs at charging stations). These increased jobs are a result of direct project intervention but as these business models are replicated and scaled up to other Thai cities, this number is expected to be greater.

- increased SMEs or start-ups in the EV ecosystems or value chain including
- 2 local manufacturer(s) to develop electric songthaew prototype.
- 5 potential entrepreneurs to develop maintenance service centers for electric songthaews and minibuses.
- 10 operators of songthaews and minibuses for public transport to adopt electric songthaews and minibuses, respectively
- 5-10 operators of EV charging stations to integrate PV systems with their chargers.
- 2 start-ups in analyzing and applying data to support planning and management of charging infrastructure, and GHG emissions reduction
- 2 start-ups in developing mobile applications to support planning and management of fleets of electric songthaews and minibuses and charging schedules

4. Passengers transitioned to electric public transport:

The project's interventions will also support transitioning 31,400 passengers of public transport from diesel fueled songthaews and mini-buses to electric songthaews and mini-buses with 50% estimated to be women.

5. Trainees and workshop participants

Trainees and workshop participants, including those that benefit from manuals and brochures has been calculated to be 1450 with 50% of women.

Annexes

Are all the required annexes attached and adequately responded to?

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

Yes. All Annexes are attached to the CEO ER document. But Annex E is difficult to read. Please consider a new presentation to make the Table readable.

Agency Response

Annex E has been updated for clarity. Please note that it has also been included as a separate attachment.

Project Results Framework

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

Yes. It is presented in Annex A.

Agency Response

GEF Secretariat comments

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

Not completed yet.

At the PIF stage, the GEF SEC made the following comments:

10/16/2020: Based on the PIF review comments above, please consider below comments during project design:

-Co-financing and private sector participation - As mentioned above, the materialization of the expected co-financing will be key to the success of the project, and we hope to potentially see additional co-financing to support wider scale up of public electric mobility and/or alternate investment opportunities considering the many areas of private sector engagement in the project.

-Impact of EEC development - Considering the focus of the project on the EEC, by CEO endorsement we would like to see an assessment of the potential impact on GHG emissions from the different relevant infrastructure development plans in the EEC and how the project will help inform these through its focus on national policy and institutional framework and GHG reduction plans in the transport sector to ensure a

sustainable low-carbon development of the region and thus support Thailand's decarbonization efforts.

-Coordination - By CEO endorsement we expect to see concrete plans for coordination with the Global E-mobility program, including through linkage to relevant working groups and the regional hub.

-Gender - By CEO endorsement, as a result of the gender analysis, we hope to see some concrete activities in which the gender dimension is incorporated in the project beyond project implementation arrangements to support the promotion of gender equality and empowerment of women.

-Climate risk - By CEO endorsement, we expect to see how climate change impact considerations have been incorporated in the design of the project. While the climate risk has for now been assessed as low, it is important to mainstream the risks that climate change may have on the project throughout the different outputs. For example, what will be the potential impact of electric mobility on the grid in a future of higher energy demand due to increased temperatures? Will renewable energy output (i.e. solar PV powered charging stations) be impacted by climate changes? How will resilience to climate change impacts be embedded to investments made by the project?, etc.

Please address the above comments and put the responses in the box below and in Annex B as well.

3/18/2022 MY:

Yes, comments were addressed and issues were cleared.

Agency Response

Please refer to the response in the PIF approval document where these comments were addressed and verify if received.

Council comments

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

Yes. They are addressed in Annex B.

Agency Response

STAP comments

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

Not completed.

The responses to STAP comments are missing in Annex B. Please provide them.

3/18/2022 MY:

Yes, comments were addressed and issues were cleared.

Agency Response

Annex B has been updated for STAP comments. The STAP rating for this project was ?Concur?.

Recommendation that this project captures lessons that can be used in future GEF projects is noted and reflected in Component 3: Capacity building, up-scaling and knowledge sharing.

Recommendation to include specific risk of climate change to the planned interventions along with appropriate mitigation measures has been included as part of the project?s Environmental and Social Management Plan.

Recommendation to review the suggested peer-reviewed article (Mohamed & Songthaveephol) was also helpful for the CEO Endorsement documents development and reinforces the need to support Thailand?s local automotive parts suppliers to promote EV. Article will continue to be relevant as the project beings to execute and deliver on Output 1.1.2 Policy and regulatory framework for EV Ecosystem development enhanced; and Output 2.1.1 Entrepreneurship support programme for electric mobility solutions developed.

Convention Secretariat comments

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

N/A

Agency Response

Other Agencies comments

Secretariat Comment at CEO Endorsement Request
12/10/2021 MY:

N/A

Agency Response
CSOs comments

Secretariat Comment at CEO Endorsement Request
12/10/2021 MY:

N/A

Agency Response
Status of PPG utilization

Secretariat Comment at CEO Endorsement Request
12/10/2021 MY:

Yes. It is presented in Annex C.

Agency Response
Project maps and coordinates

Secretariat Comment at CEO Endorsement Request
12/10/2021 MY:

Yes. It is presented in Annex D.

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
12/10/2021 MY:

N/A

Agency Response

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

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

N/A

Agency Response

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

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

N/A

Agency Response

GEFSEC DECISION

RECOMMENDATION

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

Secretariat Comment at CEO Endorsement Request

12/10/2021 MY:

Not at this time.

Please address the comments above.

3/18/2022 MY:

All technical comments were addressed and issues were cleared.

Please continue addressing policy related issues that are shown in Box 1 of this review sheet.

5/16/2022 MY:

Yes, all comments were addressed.

The PM recommends to proceed the project for the CEO to approve.

Review Dates

	Secretariat Comment at CEO Endorsement	Response to Secretariat comments
First Review	12/10/2021	
Additional Review (as necessary)	3/18/2022	
Additional Review (as necessary)	5/16/2022	
Additional Review (as necessary)		
Additional Review (as necessary)		

CEO Recommendation

Brief reasoning for CEO Recommendations

According to Thailand's Second National Communication, in 2013 total GHG emissions in Thailand were 319 MtCO₂e and 74% of the total GHG emissions came from the energy sector, where energy use in the transportation sector accounted for around 26%. In other words, energy use in the transportation sector accounted for 19% of the country's total GHG emissions. Within the transportation sector, road transport contributed to the majority of CO₂ emissions, accounting for 97% of the total transport emissions. As such, mitigating CO₂ emissions in road transport in Thailand plays an important role in achieving Thailand's long term GHG emission goal that was committed to the UNFCCC.

The objective of the project is to mitigate greenhouse gas emissions from the transport sector by addressing barriers to the adoption and scale-up of electric mobility in Thailand. The approaches to achieving the project objective include enhancing policy

and regulatory framework, demonstrating relevant technologies in Thailand's Eastern Economic Corridor, building institutional capacity, and sharing knowledge and experience. The project consists of three components: (1) improving policy and regulatory framework for electric mobility and sustainable use of batteries; (2) accelerating technology adoption of electric mobility and sustainable use of batteries; and (3) building capacity, up-scaling investment in e-mobility and sharing knowledge.

With \$2,91 million of GEF funding, this project will mobilize \$25.9 million co-financing, mitigate approximately 4.7 million tonnes of CO₂, and install 1.3 MW of solar PV power generation capacity for technology demonstration.

Risks and Impacts of COVID -19:

The project faces a variety of potential risks due to the COVID-19 pandemic. First, general trends in people's transportation preferences in response to COVID-19 could pose challenges to the project's objectives of increasing adoption rates of electric mobility and the project's implementation. The demonstration and awareness raising linked to the adoption of electric public transportation could be hindered due to less interest in public transportation. Reduced income from private sector and households could also impact financial decisions towards investing in new electric vehicles. To deal with this risk and reduce the impact, the project stakeholders will fully use the national green recovery packages to build back the market towards electric mobility. To date, Thailand has already released a set of COVID-19 green recovery measures including soft loans of THB 500 billion to SMEs through commercial banks and 6-month loan payment holidays, which will significantly reduce the risk and impact of COVID -19 on the GEF project.

Opportunities of COVID-19:

COVID-19 may incentivize rich people to invest more in private but cleaner transport. The GEF project by design engages with the private sector to support the development of electric mobility, low carbon charging infrastructure and sustainable use of batteries. New business opportunities, policies and regulations will be included in entrepreneur training material so that they are fully informed of the market and policy environment trends. With that, people will intend to invest more in e-mobility than in traditional fossil fuel powered vehicles.