Concept Note

Project/Programme Title:	Georgia E-mobility
Country(ies):	Georgia
National Designated Authority(ies) (NDA):	Ministry of Environmental Protection and Agriculture
Accredited Entity(ies) (AE):	TBC Bank
Date of first submission/ version number:	*[YYYY-MM-DD] [V.0]*
Date of current submission/ version number	*[YYYY-MM-DD] [V.0]*

GREEN CLIMATE FUND

Please submit the completed form to **fundingproposal@gcfund.org**, using the following name convention in the subject line and file name:
"CN-[Accredited Entity or Country]-YYYYMMDD"

Notes

- The maximum number of pages should **not exceed 12 pages**, excluding annexes. Proposals exceeding the prescribed length will not be assessed within the indicative service standard time of 30 days.
- As per the Information Disclosure Policy, the concept note, and additional documents provided to the Secretariat can be disclosed unless marked by the Accredited Entity(ies) (or NDAs) as confidential.
- The relevant National Designated Authority(ies) will be informed by the Secretariat of the concept note upon receipt.
- NDA can also submit the concept note directly with or without an identified accredited entity at this stage. In this case, they can leave blank the section related to the accredited entity. The Secretariat will inform the accredited entity(ies) nominated by the NDA, if any.
- Accredited Entities and/or NDAs are encouraged to submit a Concept Note before making a request for project preparation support from the Project Preparation Facility (PPF).
- Further information on GCF concept note preparation can be found on GCF website Funding Projects Fine Print.

A. Project/Programme Summary (max. 1 page)			
A.1. Project or programme	☐ Project ☒ Programme	**A.2. Public or private sector**	☐ Public sector ☒ Private sector
A.3. Is the CN submitted in response to an RFP?	Yes ☐ No ☒ If yes, specify the RFP: _____	**A.4. Confidentiality[1]**	☒ Confidential ☐ Not confidential
A.5. Indicate the result areas for the project/programme	Mitigation: Reduced emissions from: ☒ Energy access and power generation ☒ Low emission transport ☐ Buildings, cities and industries and appliances ☐ Forestry and land use Adaptation: Increased resilience of: ☐ Most vulnerable people and communities ☐ Health and well-being, and food and water security ☐ Infrastructure and built environment ☐ Ecosystem and ecosystem services		
A.6. Estimated mitigation impact (tCO2eq over lifespan)	325.5 Gg CO_2	**A.7. Estimated adaptation impact (number of direct beneficiaries and % of population)**	Around 2.2 mln (residents of urban areas) in terms of improved health benefits
A.8. Indicative total project cost (GCF + co-finance)	Amount: USD 130,269,700.00	**A.9. Indicative GCF funding requested**	Amount: USD 103,247 150.00
A.10. Mark the type of financial instrument requested for the GCF funding	☒ Grant ☐ Reimbursable grant ☐ Guarantees ☐ Equity ☐ Subordinated loan ☒ Senior Loan ☐ Other: specify_____		
A.11. Estimated duration of project/ programme:	a) disbursement period: **8 years** b) repayment period, if applicable: **18 years**	**A.12. Estimated project/ Programme lifespan**	**23 years**
A.13. Is funding from the Project Preparation Facility requested?[2]	Yes ☒ No ☐ Other support received ☐ If so, by who:	**A.14. ESS category[3]**	☐ A or I-1 ☒ B or I-2 ☐ C or I-3
A.15. Is the CN aligned with your accreditation standard?	Yes ☒ No ☐	**A.16. Has the CN been shared with the NDA?**	Yes ☒ No ☐
A.17. AMA signed (if submitted by AE)	Yes ☒ No ☐ If no, specify the status of AMA negotiations and expected date of signing:	**A.18. Is the CN included in the Entity Work Programme?**	Yes ☒ No ☐
A.19. Project/Programme rationale, objectives and approach of programme/project (max 100 words)	The program aims to reduce the GHG emissions from the largest GHG emissions source category in Georgia, transport, by facilitating the switching to electric vehicles (EV) from conventional fossil fuel-fired vehicles. JSC TBC Bank will act both as accredited entity, as well as implementing entity. With the concessional finance received from the GCF, TBC will develop the set of green banking products aimed at car buyers, care dealers, infrastructure developers and service providers. The aim of these products will be to reduce the gap in investments between electric vehicles and conventional vehicles and thus promote the EV market development.		

[1] Concept notes (or sections of) not marked as confidential may be published in accordance with the Information Disclosure Policy (Decision B.12/35) and the Review of the Initial Proposal Approval Process (Decision B.17/18).
[2] See here for access to project preparation support request template and guidelines
[3] Refer to the Fund's environmental and social safeguards (Decision B.07/02)

B. Project/Programme Information (max. 8 pages)

B.1. Context and baseline (max. 2 pages)

The primary goal of the program is to mitigate emissions from private passenger Light Duty Vehicles (LDVs) in Georgia, by facilitating the switching to electric cars from conventional fossil fuel-fired vehicles.

According to Georgia's latest National Inventory Report (NIR 2017)[4], Georgia's total Greenhouse Gas (GHG) Emissions without LULUCF accounted to 17,766 Gg CO_2 eq in 2017. The largest contributing category was transport sector with 4,145 Gg CO_2 eq (23.3% of total national emissions without LULUCF). During 2000-2017, the emissions in transport sector have grown 4.4-times, with average annual growth rate of 9.1%, the highest growth rate of any other sector in Georgia for the same period.

In the transport sector itself, 94.0% of emissions came from road transport. In road transport, the emissions are emitted from the combustion of gasoline (42.2%), diesel (37.8%), natural gas (18.3%) and LPG (0.2%). The analysis of transport stock and energy consumption carried out during preparation of Georgia's integrated Energy and Climate Action Plan (NECP)[5], and the Climate Strategy and Action Plan (CSAP)[6] showed that within the road transport, majority of the emissions come from fuel combustion in LDVs (56.4%). The LDV stock is growing fast in Georgia. According to the statistical yearbooks (Geostat 2000-2022)[7] the number of registered LDVs have increased 5.1-times from 2000 to 2021 (average annual growth of 8.1%). According to CSAP, most of the car fleet in the country is old and faulty private vehicles. This project will therefore address the highest and one of the fastest growing emission sources in the country.

In addition, with the aim to reduce emissions from power generation, needed to run electric vehicles, the project will support the installation of solar PVs as source for energy for charging infrastructure, therefore reducing emissions from electricity generation and improving access to clean energy sources.

In its Nationally Determined Contribution (NDC)[8] Georgia pledged to reduce national GHG emissions by 35% below 1990 levels unconditionally. It further pledged to reduce emissions by 50-57% below 1990 levels in case of international support. The NDC as well as CSAP set specific target for transport sector, as a largest contributing sector, indicating that Georgia plans to mitigate the GHG emissions from the transport sector by 15% from the reference level by 2030;. The two sectors with highest mitigation targets set in the NDC and CSAP are transport sector and energy generation and transmission sectors. Both sectors are targeted by this project.

Both CSAP and NECP define mitigation actions in transport sector. The main mitigation measures are: renewal of the vehicle fleet by removing old and low-efficiency vehicles, introduction of tax incentives for electric and hybrid transport, increase of taxes on fossil fuels, incentives for public transport, tax exemption, tax incentives for biofuels. The CSAP indicates that without intervention, the growth of transport sector emissions will reach 7,110 Gg CO2 eq, which means that it will maintain in highest share in GHG emissions.

Both GSAP and NECP define the importance of electric vehicles. The electricity in Georgia is relatively clean (with 70-80% coming from hydro and remaining from natural gas plants), thus making the electric vehicles very efficient in terms of mitigation. Together with ambitious transport target the NDC also sets target for energy generation and transmission, implying Georgia should take advantage of its abundant renewable resources and that electricity should remain clean and become cleaner.

In addition to the NDC targets, the government has set the target of 10% of renewable energy in transport sector in 2030 in its Law on production and use of Renewable Energy Sources[9] (article 3.6). Rigorous modelling exercises developed under NECP show that to achieve this target at least 10% of LDVs should be electric by 2030.

Georgia has already taken steps towards reducing emissions from LDVs. In particular, Georgia introduced tax breaks since 2018 to stimulate imports of electric and hybrid vehicles. In the case of the purchase of a hybrid vehicle, the excise tax was reduced by 50% (for vehicles older than 6 years) and 60% (for vehicles newer than 6 years). In case of purchasing electric vehicles, excise taxes have been completely abolished (100% reduction). On December 1, 2017, the Government of Georgia adopted a Resolution on Periodic Technical Inspection of Vehicles. The decree entered into force in 2018 and aims to establish a unified organizational-technical and normative basis for periodic technical inspections of vehicles, to ensure the safety of vehicles and to reduce traffic jams caused by their technical malfunction, minimize damage to the system, reduce human and environmental damage, through regular inspections and decommissioning of vehicles that are major contaminants. This has reduced the number of old and inefficient LDVs running on the road. The actions are also taken on municipal level. Georgia's municipalities provide free parking places for electric vehicles and invest in free charging infrastructure.

Despise all these efforts the uptake of electric vehicles have been very slow. According to the data collected for preparation of NECP, based on the number of LDVs that were found as roadworthy, and with the addition of the vehicles under 5 years of age, which do not undergo roadworthiness test, the total running stock of LDVs was estimated as around 855 000 in 2020. Among them 2031 were electric, which makes them 0.2% of the running stock.

[4] Available at https://unfccc.int/documents/271342
[5] Available in draft form at https://nea.gov.ge/Ge/Download/PublicFile/3134
[6] Available at https://www.matsne.gov.ge/ka/document/view/5147380?publication=0
[7] Available at https://www.geostat.ge/ka/single-categories/95/sakartvelos-statistikuri-tselitsdeuli
[8] Available at https://unfccc.int/sites/default/files/NDC/2022-06/NDC%20Georgia_ENG%20WEB-approved.pdf
[9] Available at https://matsne.gov.ge/ka/document/view/4737753?publication=1

This is the contrary to hybrid vehicles where shares have been increased much more rapidly, with 9.8% of running stock being hybrid by 2020, due to the fact that market of cheaper, second hand hybrid vehicles is more developed and they don't require new infrastructure, and thus are perceived as less risky.

The e-mobility sector in Georgia requires a significant amount of capital to accelerate the transition to EVs and avoid the multi decade technology lock-in of conventional vehicles. Population, private and banking sectors do not have the risk appetite to deploy the capital at the pace required given the real and perceived barriers outlined below. Georgia's banking sector's doesn't offer any specialized banking solutions related the EVs. Although there is a government support, the market requires additional intervention from concessional capital to help the market mature and create an enabling environment for large-scale private investments.

The barriers in more detail are described below:

1. **Affordability** – The up-front cost of purchasing electric vehicles in Georgia is high compared with their conventional counterparts. Even though the number of vehicles increases rapidly, they are in majority older, second-hand, cheaper cars. Coupled with the knowledge and infrastructure barriers below, the future car owner prefers to invest in the cheaper and "less" risky traditional technology, rather than new technology, even if it will result in future savings. Increasing the share of EV ownership requires financial incentives even in countries where population is richer than in Georgia, however their governments usually have the means to provide such incentives. For Georgia such financial burden is high and unaffordable. This is why this activity has been defined as conditional in Georgia's GSAP and will require significant financial support from international community to be completely implemented.
2. **Knowledge and awareness** – regarding e-vehicles is quite low. Georgia is a traditional country where all novelties are treated with caution. The myths for several years ago still circulate among the population. Current saving (i.e. cheaper fossil fuel car) is perceived as more valuable than future savings even higher (such as reduced fuel costs). This is also connected to the fact that these future savings are associated with risks. The people don't believe that savings will occur, or they think there will be some currently unknown technical problem, that will inevitably increase the cost of ownership. The barrier can be overcome only by successful practice and reported cases of car ownership costs and savings.
3. **Limited infrastructure** – the charging and service infrastructure is limited, wich relates to lower demand for EVs. This is also a component that makes purchasing electric vehicles "riskier". The riskiness is especially pronounced for long distance travel, when the charge of the battery may not be enough to cover the whole distance and there is uncertainty whether charging station will be available and what will be the waiting time.
4. **Banking and insurance risks** - Georgia's banking sector's doesn't offer any specialized banking solutions related the EV, due to several factors, such as risky collateral (as EVs themselves are used as collaterals), low EV resale value, Low Loan to Value (LTV) ratios. Additional collateral may also be required. Insurance companies also offer higher insurance rates for EVs, due to limited services sector and risky collateral. The above issues get more pronounced as the upfront capital cost of acquisition of EVs are significantly higher than their peer ICE vehicles and the residual value is uncertain.
5. **Access to concessional finance** - Another barrier is related to the access of Georgia's Banking sector to concessional international finance, that would enable them to introduce commercially attractive green banking products. The concessional finance seldom reaches the local financial institutions and even less the final users, because the finance flows through larger financial corporations which their associated costs. When it reaches the local financial institutions it is mostly in the form of technical assistance which is very difficult to transfer to the final user, especially the retail sector.

The project aims to remove the above listed barriers, by making the purchase of electric vehicle more affordable and "less risky" compared to its traditional counterparts. It also aims to reduce the barriers related to the knowledge, by collecting and actively disseminating information about costs and benefits of owning electric vehicles and technical and service issues associated with it. The project will also actively support the development of infrastructure for E-vehicles, that is also aimed to reduce the level of "risk" related to the owning of electric vehicles. In addition, this project will give the opportunity to TBC Bank, as one of major local financial corporations, to reduce the risks associated with financing EVs and investigate the means for applying concessional finance to develop more attractive financing product where the concessionally is taken down to the end user level.

Additional barrier, not specifically related to this project but general constrain of climate change activities in Georgia is lack of reliable MRV system to monitor and assess impacts of mitigation actions. This program also will tackle this barrier by piloting the monitoring and reporting mechanism.

B.2. Project/Programme description (max. 3 pages)

The project consists of two components, each having several sub-components.

Component 1: Enabling financial environment created for investment in electric vehicles and related infrastructure

Sub-component 1.1. Development of Green loan products for electric vehicle owners (retail)

The starting point will be the development of green banking product for electric vehicle owners. It will support purchasing of EVs, electric motorcycles and scooters. One of the main components for this product will be to ensure the concessionally of the credit line and remove the burden of up-front expensive investment from the car owners. The aim of the green line would be to push the future car owner to invest in electric vehicle rather than in fossil fuel equivalent. In addition, the activity will create demand for charging infrastructure and services sectors to promote their growth. The existence of concessional specialised product for electric vehicle owners will aim to persuade the private sector in long term feasibility in investing in electric vehicle infrastructure and related services.

TBC will investigate several alternative versions of ensuring this concessionally, among them the cash-back based on the regular reporting (see sub-activity 2.1), or the special leasing solutions on expensive parts of the vehicles (such as batteries).

Sub-component 1.2: Development of green loan product for EV dealers. The aim of this activity is to ensure that there are enough EVs on the market to meet growing demand. The activity will include regular meetings with dealers and supporting them financially in importing the EVs and saturating the market. TBC already cooperates in many dealers that work on EVs and this cooperation will be further deepened and enriched. TBC will also continue and specifically set separate special programs with these dealers to help the car owners and the dealers reach agreements quickly and effectively.

Sub-component 1.3: Development of Green loan products for EV charging infrastructure with subcomponent on solar PVs. Main barrier for infrastructure development is small demand and market for EVs. This barrier will be partially removed by activity 1, as the existence of green line for e-vehicles will already push the service sector to predict the demand and invest. However, TBC Bank will also establish special credit line for the development of charging stations. The line will include special packages with solar PVs included to reduce the costs of charging but also to reduce the GHG emissions associated with the charging and the use of electric vehicles.

Sub-component 1.4: Development of Green loan products for services for EVs, Similarly to sub-component 1.3, TBC will develop a credit line for development of service infrastructure for EVs, including maintenance services, utilisation services for batteries or software services (i.e. for management of charging stations).

The products will be marketed and advertised by TBC Bank.

Component 2: the framework for monitoring and accounting set up to increase the knowledge on electric vehicles and support Country's NDC monitoring and reporting, including the finances received and private finances leveraged

Sub-component 2.1. Development of reporting portal for recipients of green loan. The aim of this activity is to overcome the barriers related to the awareness and knowledge among the population on the technical challenges and costs and benefits of owning and using electric vehicle, as well as for development of associated businesses. Therefore, one of the special conditions of the green loan will be regular reporting on the use of electric vehicles and associated costs. To make such reporting possible TBC will develop specialised portal where information from all loan recipients will be collected and analysed. One of the challenges related to green investments is related to collecting the data form clients. Standardising the data collection process and automating it will make it easier and more accomplishable.

Sub-component 2.2. **Information campaign**. The information collected by the portal will be analysed bi-annually and published by TBC. It will be used to promote the use of electric vehicles and diminish myths that exist around them in the population. It will also enable to bank to quantify the real costs and benefits on owning the electric vehicle.

Sub-component 2.3. Feeding in the Country's NDC reporting. TBC Bank will set up the regular reporting process with the government on the mitigation impact of the project which it, in turn can use for NDC reporting.

Figure 1 shows the theory of change diagram for the project. The concessional finance that TBC receives from GCF will enable it to develop corresponding green loan products and bring that concessionally to the end user by promoting: 1) increasing of demand in e-vehicles; 2) increasing the service infrastructure and 3) increasing the knowledge related to EVs, thus removing the three main barriers for the penetration of electric vehicles. Grey squares represent activities of the project, pink squires are immediate outcomes of these activities and yellow ones represent enabling factors created by these outcomes. The green squares are ultimate long term goals of the project, which are emission reductions from transport sector, increase of health and wellbeing of population and supporting NDC implementation though monitoring framework.

TBC will create products for car owners, dealers and infrastructure and services. The first one will ensure that the demand on electric vehicles increases, the others will ensure that the market also increases and the infrastructure and services develop further. In parallel, TBC Bank will collect data from the owners and regularly analyse and publish this data, thus increasing the awareness and knowledge among the population and private sector on the costs and benefits of EV ownership. These together will lead to the increase of EVs on the roads and therefore reduction of GHG emissions and local pollutants that result in increased wellbeing and health benefits of population.

In addition, the project will try to establish successful example or reporting on mitigation program between private sector (TBC Bank) and the country for country's NDC reporting.

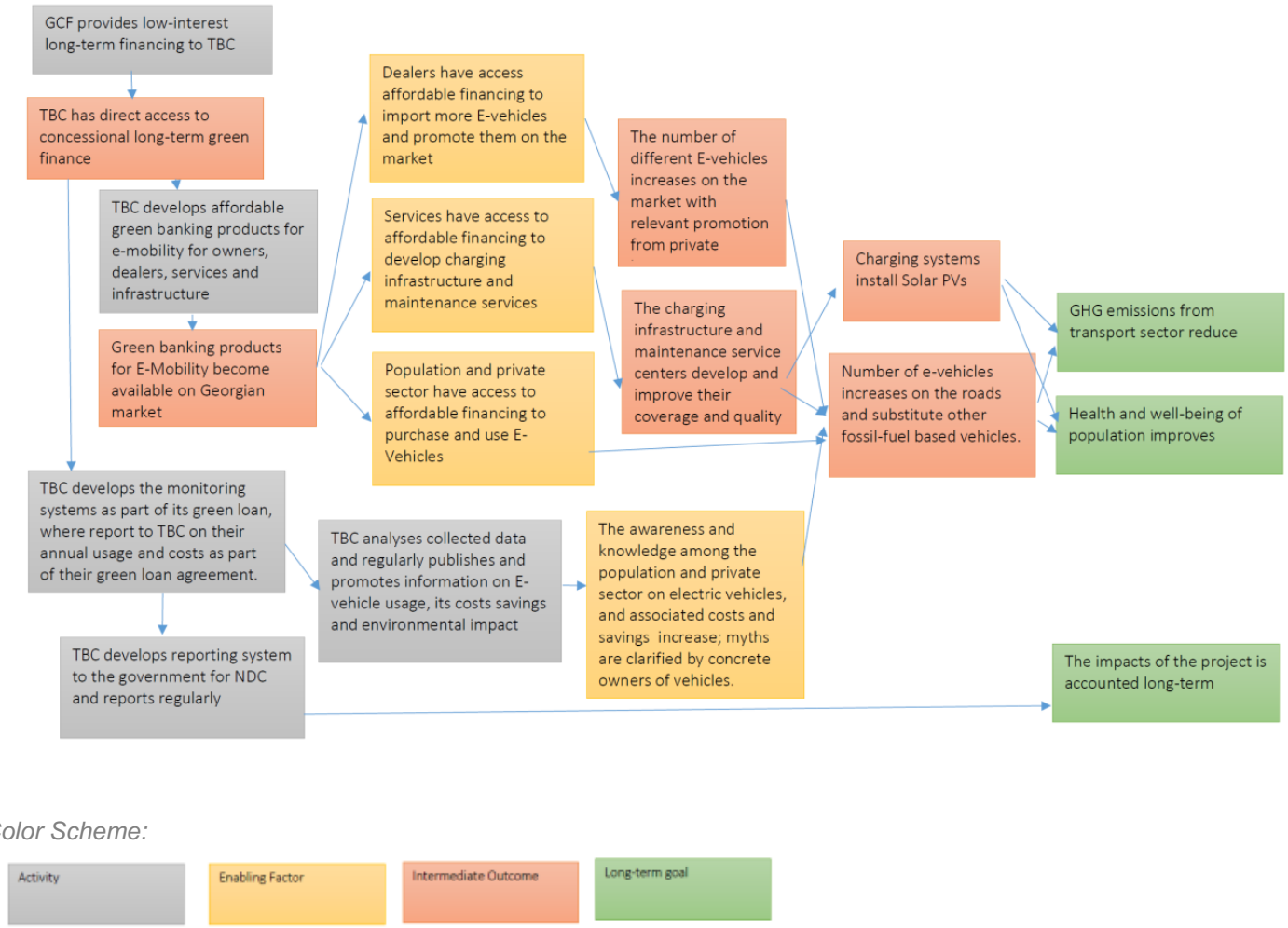

Figure 1. Theory of change

The activities are in accordance and strengthen national regulatory and legal framework. As described already in B1, The current policy framework in Georgia provides support for electric vehicles in terms of no excise tax, renewable target, free parking space etc. However only governmental and municipal efforts are not enough. This project will fill in the gap by increasing capacity and introducing efforts from financial institutions and private sector.

TBC Bank will act bot as Accredited Entity as well as Implementing Entity. As a leading financial institution and one of the largest companies in Georgia, TBC Bank has an important role in the implementation of Georgia's NDCs and SDGs. TBC Bank is the most important credit provider in the country and leading partner institution for all business segments (Retail, Corporate, micro, small and medium enterprises). TBC Banks's share in total credit extended by the banking sector stood at 39% as of YE 2021, amounting to 27.8% of Country's GDP.

in rural areas makes the bank particularly well positioned to serve all types of communities and target groups.

TBC Banks has a significant impact on the financial, economic and social development of Georgia. As a leading financial institution in Country, TBC strives to positively impact the environment and play important role in transitioning to a low-carbon economy. GCF's accreditation further strengthens TBC's commitment to run its business in a responsible and sustainable manner and use the unique opportunity of being a DAE (direct access accredited entity) to contribute towards the implementation of Georgia's climate ambitions. TBC was granted an accreditation at GCF's 29th Board meeting, thereby making it the first commercial Bank in the Eastern Europe region to receive this status. The accreditation enables TBC Bank to have a direct access to GCF funds and mobilize much needed capital to finance the green investments in Georgia

The two main operational risks related to the project are discussed below:

Selected Risk factor 1			
Description	**Risk Category**	**Level of Impact**	**Probability of risk occurring**

Lack of interest in loan program	Operational	High	Low
Mitigation Measure(s)			
Risk of low demand will be mitigated by the national policy and the information campaign that will be carried by TBC Bank under component 2.			

Selected Risk factor 2			
Description	**Risk Category**	**Level of Impact**	**Probability of risk occurring**
USD/GEL exchange rate fluctuation	Operational	Medium	High
Mitigation Measure(s)			
Small loans (less than 100,000 USD) are disbursed in GEL only and USD/GEL exchange rate fluctuates regularly. The risk will be mitigated by receiving transfers from GCF on annual basis and discussing with GCF if the loan can be issued in local currency.			

B.3. Expected project results aligned with the GCF investment criteria (max. 3 pages)

Impact potential:
Introduction of electric vehicles will have significant impact on Georgia's low-carbon development. According to Georgia's third Technology Needs Assessment, the introduction of electric vehicles will lead to reduction of emissions by 217 gg of CO2 in 2030 if the targets defined in the NECP are met (10% of LDV's running stock by 2030).
The direct impact of the project is measured by its paradigm shift target, which is achieving at least 1% of electric vehicles in total running stock (projected to be around 1mln by 2030), i.e. for 10000 EVs, is around 21.7 Gg of CO2Eq annually in 2030 and 325.5 Gg over the lifetime of these vehicles (15 years).
The estimation of emission reductions was performed using TIMES-Georgia model, that is being used to develop Georgia's NECP.
The project will also improve energy security of the country by reducing the dependence on imported oil products. According to TIMES-Georgia analysis, if 10% target of EVs is reached by 2030, that will save 2.7PJ in primary energy and reduce country's expenditures on imported fuels by 140 mln USD per annum, compared to the situation when the share of EVs remains less than 1% by 2030.
The positive impact is also expected on the health of population as the local air pollutants and noise will be reduced. In addition to significant mitigation potential, the project will contribute to improvement of population's health and well-being through reduced levels of local pollutants and noise. The World Health Association (WHO) associates extremely high temperatures with an increase in the levels of ozone and atmospheric air pollutants, which in turn causes an increase in incidence of cardiovascular and respiratory diseases. UNDP report on ambient air quality (UNDP 2021[10]) provides the data from the National Centre for Disease Control and Public Health (NCDC), according to which in 2017 the diseases of the cardiovascular system were the leading cause of mortality in Georgia. Specifically, cardiovascular diseases represented 17.2% of all diseases registered in Georgia, and the new cases made 9.4%. Within this group of diseases, high morbidity and mortality is evident in hypertensive (high blood pressure), ischemic and cerebrovascular diseases. Respiratory diseases were the second leading cause of mortality in 2005 and the 5th leading cause of death in 2017. However, several diseases within this group (chronic obstructive pulmonary syndrome, asthma) that may be associated with climate change still remain in the leading positions. The same report on ambient air quality names transport sector as major source of air pollution in Georgia, especially in urban areas, where most of the population lives. According to this report, transport sector was responsible for 54.3% of CO, 42.7% of NOx, 30.4%of NMVOC and 5.3 % of PM emissions. Implementation of this project will also result in the reduction of these local pollutants, and noise associated with conventional engines, and therefore will positively affect population's health and wellbeing.
The project is also expected to have positive impact on impowering the women because owning and maintaining EV is easier compared to the conventional counterparts.
The project will support the following Sustainable development goals: SDG 13: Climate Action, SDG 9: Industry, innovation and infrastructure, SDG 3: Good health and well-being.

Paradigm shift:
The reason for the current low share of EVs in transport stock is two-fold: on one hand, there is low demand for electric vehicles from population because they are more expensive and perceived as more risky than conventional fossil furled counterparts. The riskiness covers the fact that infrastructure is limited currently, and the knowledge is also limited. On

[10] Available at https://www.undp.org/georgia/publications/ambient-air-quality

the other hand, there is low knowledge and insufficient infrastructure because there is low demand on EVs. Private sector is not interested in investing as there is low demand in electric vehicles from population.
This project aims to tackle these barriers simultaneously by paradigm shift on how electric vehicles are perceived with the aim to demonstrate the long term financial savings, develop the infrastructure and increase the knowledge.
In addition, the project will aim to set the first successful green product line that is developed and owned by the local financial institution, as opposed to ones by large international organisations, which also will be the first of its kind.
The Paradigm shift target of the project is to facilitate introduction of at least 1% of EVs in total running stock (projected to be around 1 mln by 2030), so to facilitate the introduction of 10,000 EVs on the roads, among them 5,000 will be funded directly through TBC Bank's green loan in retail sector (Sub-component 1.1) and remaining 5,000 should be facilitated through other sub-components, by green corporate loans (Sub-components 1.2-1.4).

Needs of recipients: Georgia is a developing country with economy in transition and population of 3.7 million people. Its economic sectors and infrastructure are still developing and that also includes transport sector. LDVs are main means of passenger transportation both in the urban and rural areas. The public transport sector is best developed in the capital, Tbilisi and capital of Adjara AR, Batumi. Even in Tbilisi and Batumi, the public transport network is still developing, and usually is insufficient to meet increasing demand and also less attractive due to limited availability of bus lines. Metro is available in Tbilisi only and has limited number of stations, not reaching all parts of the city. The cycling networks are also very limited and walking infrastructure is mostly also reduced due to the unmindful constructions, the need of additional roads or parking spaces. As the municipalities are working towards improving public transport and cycling and walking infrastructure, LDVs remain the main means of transportation. This leads to increased congestion and noise. In terms of intercity transportation, rail network is available in Georgia but doesn't reach many of the regions. Road intercity transportation is unregulated and with low quality. Therefore, in terms of the need of population for transportation, EVs can serve as better alternatives to fossil fuelled vehicles in terms of providing the transportation in rural areas and for intercity travel (the distances in Georgia are usually less than 400km) and in urban places where public transport is less available or attractive. They can also reduce the noise and stress associated to the transport in urban areas.

Country ownership:
The project will support Georgia in meeting its NDC mitigation targets and RE target for transport sector, by mitigating emissions from the largest emission source category and one of the fastest growing sectors, which, in addition, requires significant financial support.
To meet the GHG reduction and renewable energy targets, over the next decade, Georgia will require to have at least 10% of its LDV running stock electric, which means that Georgia's EV transition will roughly require a cumulative capital investment of (USD 3.9 bln) in vehicles, charging infrastructure, and services. As the amount of investment required for Georgia's mobility transition is significant, mobilising the investments to finance service centres, charging stations and end consumers will require support from financial institutions for scaling up finance for EVs.
Electric vehicles are included as priority actions in all strategic documents of Georgia including GSAP, NECP, LTS and TNA. This project is also included in GCF's country programme.

Efficiency and effectiveness: The e-mobility sector in Georgia requires a significant amount of capital to accelerate the transition to EVs and avoid the multi decade technology lock-in of conventional vehicles. Population and private sector do not have the risk appetite to deploy the capital at the pace required given the real and perceived investment risks outlined in this proposal. Although there is strong government support, the market requires additional intervention from concessional capital to help the market mature and create an enabling environment for large-scale private investments.

B.4. Engagement among the NDA, AE, and/or other relevant stakeholders in the country (max ½ page)

The concept note has been developed as output of the project "Updating of Georgia's technology needs assessment through development of a technology road maps for prioritized technologies", which has been funded by GCF and implemented by UNEP and Sustainable Development Centre Remissia.
Through the project the Georgia's 3rd Technology needs Assessment has been developed which identified 12 key technologies for Georgia to which are crucial for Georgia to implement its climate change commitments and effectively tackle climate mitigation and adaptation. Electric vehicles were identified as one of these 12 priority technologies and further, TAP investigated the different types of barriers that the technology faces. The concept note was developed to overcome the key barriers from these - financial and technological.

The CN was developed in close partnership between TBC Bank, and Sustainable Development Centre Remissia (implementing partner for the TNA project), with significant inputs from ISET-PI and the technology coordination group,

working under the high level climate change council, chaired by NDA and consisting from other relevant ministries overseed the process.

The Concept was further discussed with the representatives of the private sector and other stakeholders on the workshop that was held on 14 June 2023. Their input further shaped this Concept Note.

The final version of the CN was presented on 20 July 2023 at the joined TNA workshop which included representatives of other entities implementing CNs, NDA, GCF, etc.

C. Indicative Financing/Cost Information (max. 3 pages)

C.1. Financing by components (max ½ page)

Component/Output	Indicative cost (USD)	GCF financing		Co-financing		
		Amount (USD)	Financial Instrument	Amount (USD)	Financial Instrument	Name of Institutions
Component 1	126 199 500	100 370 250	Loan	25 829 250	Own	TBC Bank
Component 2	**1 000 000**	500 000	Grant	500 000	Own	TBC Bank
Indicative total cost (USD)	**127 199 500**	**100 870 250**		**26 329 250**		

The project will be implemented solely by TBC Bank.

C.2. Justification of GCF funding request (max. 1 page)

To illustrate why the program requires concessional financing, the financial cost benefit analysis (CBA) was conducted from the point of view of car buyer. It was conducted in the forms of discounted cash flow (DCF) which refers to a valuation method that estimates the present value of an investment using its discounted expected future cash flows. DCF analysis attempts to determine the value of an investment today, based on projections of how much money that investment will generate in the future. There were three scenarios considered in the analysis:

1. Scenario with no loan
2. Commercial loan covering 50% of project needs.
3. Concessional loan

which illustrated the following

- NPV of the project is negative in case when there is a commercial loan without concession, signalling that it is not profitable from financial point of view for private sector to invest in this initiative using commercial loan. NPV is positive in the absence of commercial loan as alternative cost of funds is low for consumers. NPV is also positive when concessional loan is available.
- IRR of 9.2% is lower than WACC of 11.79% corresponding to the case when commercial loan without concessions is used to fund the project. The fact that IRR is lower than WACC implies that in the absence of any support (concessional loan), it is advised not to proceed with the project from a purely private and financial perspective. If IRR of the project is lower than the cost of the loan (and of WACC) it does not make sense to fund it through commercial loans.
- From financial perspective, with concessional loan and in the absence of loan the project is profitable as IRR of 9.2% is higher than WACC of 8.73% (no loan case) and WACC of 6.86% (concessional loan).
- From social perspective as IRR of 9.2% is higher than social discount rate of 8.73% in all three cases. This implies that the project would be beneficial for the society (even before including the monetary value of the positive externalities), but would not be started by a private investor with a costly commercial loan.
- The payback period is 11.1 years in all scenarios which means that it will take 11.1 years for the positive cash flows generated by the project to cover the original investment. Payback period is shorter (9.6 years) in the scenario with concessional loan. A shorter payback period is generally preferred as it indicates a faster return on investment and lower risk. However, the acceptability of a 10-year payback period can depend on the nature of

the project, industry norms, and the bank's risk appetite. In general, commercial banks prefer projects with shorter payback periods, typically within 3 to 5 years. Longer payback periods may be viewed as riskier since they involve a higher level of uncertainty over an extended period. Banks often consider the economic and business environment, industry standards, projected cash flows, collateral, and other risk factors when assessing project viability. Overall, while a 10-year payback period may not align with the preferences of commercial banks in general, it could still be considered acceptable depending on the project's characteristics, potential profitability, and risk assessment.

- A DSCR greater than one means there is enough cash flow to cover debt payments. In both scenarios with loans DSCR is more than 1. It is 1.71 in the scenario with commercial loan without concession and DSCR is 2.62 in the scenario with concessional loan.

As for the component with the grant, the level of requested grant is low and it will be solely used for data collection, analysis and information campaigns. The grant is requested to lower the burden of information campaigns on the cost of the car.

C.3. Sustainability and replicability of the project (exit strategy) (max. 1 page)

The project will facilitate the development of financial products in the EV sector, which will include different types of loans and leases for participants along the complete value chain. As knowledge and capacity develops and these products are scaled-up, there will be increased capacity from existing financial institutions to understand the key risks in EV financing, assess the performance of the financial products and develop relationships with key market players. All this will support potential replication of the financing products and development of newer products as the market heads towards maturity.
Increased investment in the sector is expected to instil greater confidence in the market, increase competition and drive down upfront and operating costs, thereby encouraging a cycle of further investment and market maturation. Increased capacity of local Financial institutions will support higher investment from the private sector in infrastructure and developing new business models that propel long-term presence in the sector.
Lastly, the project will ensure continuous engagement with the central and local government to drive further policy improvements; help address challenges affecting the accelerated growth of the EV sector; encourage innovation and competitiveness; and help drive long term sustainability of the sector.

D. Supporting documents submitted (OPTIONAL)

- ☐ Map indicating the location of the project/programme
- ☐ Diagram of the theory of change
- ☒ Economic and financial model with key assumptions and potential stressed scenarios
- ☐ Pre-feasibility study
- ☐ Evaluation report of previous project
- ☐ Results of environmental and social risk screening

Self-awareness check boxes

Are you aware that the full Funding Proposal and Annexes will require these documents? Yes ☒ No ☐

- Feasibility Study
- Environmental and social impact assessment or environmental and social management framework
- Stakeholder consultations at national and project level implementation including with indigenous people if relevant
- Gender assessment and action plan
- Operations and maintenance plan if relevant
- Loan or grant operation manual as appropriate
- Co-financing commitment letters

Are you aware that a funding proposal from an accredited entity without a signed AMA will be reviewed but not sent to the Board for consideration? Yes ☒ No ☐