CTCN Technical Assistance

Request Submission Form

Guidelines:

- This Request Submission Form should be completed by the organisation requesting technical assistance from the Climate Technology Centre & Network (CTCN) in collaboration with the National Designated Entity (NDE) of the country in question
- The Form must be signed by the NDE. Please see updated contact list of NDEs here: http://unfccc.int/ttclear/support/national-designated-entity.html
- The Form can be submitted as a Word file containing a digital signature or as a signed and scanned PDF file in combination with an un-signed Word file
- For requests submitted by multiple countries, all the NDEs of the respective countries shall sign identical Forms before official submission to the CTCN
- NDEs have the opportunity to submit CTCN requests in collaboration with National Designated Authorities (NDAs) for the Green Climate Fund (GCF) if targeting the GCF Readiness Programme.

Requesting country or countries:	Papua New Guinea
Request title:	Developing a national policy for deploying and scaling up E-mobility and supporting sustainable infrastructure in Papua New Guinea
NDE	Mr. Ruel Yamuna, Managing Director, Climate Change and Development Authority, Papua New Guinea
Request Applicant:	Climate Change and Development Authority PNG Climate Change & Development Authority P.O.Box 4017. Boroko, NCD. Papua New Guinea **Phone:** (675) 7411 2493 **Email:** infor@ccda.gov.pg **Website:** http://www.occd.gov.pg Contact Person: Alfred Rungol General Manager and NDC National Focal Point Phone: (675) 754 99951 Email: kaferinrin@gmail.com

Climate objective:

☐ Adaptation to climate change

☒ Mitigation of climate change

☐ Combination of adaptation and mitigation of climate change

Geographical scope:

☐ Community level

☐ Sub-national

☒ National

☐ Multi-country

If the request is at a sub-national or multi-country level, please describe specific geographical areas (provinces, states, countries, regions, etc.).

Problem statement related to climate change (up to one page):

Papua New Guinea's economic development will require considerable growth in the coverage and quality of its state transport network. The total road network is 30 000 kilometres, of which 8460 km are state roads. Only 28% of the 8460 km of state roads were in a good condition as noted in 2010. A comprehensive program of rehabilitating existing roads and constructing new roads would expand the state road network to 25 000 km by 2035.

It is expected that with expansion of state road network and urbanization, the use of land transport will increase substantially resulting in increased number of vehicles on road. The number of vehicles is expected to increase from approximately 155,000 in 2005 to more than 600,000 in 2030. It is also estimated that the demand for transportation fuel which is fossil fuel based in PNG could increase by a factor of three or four, resulting in emissions increasing from 1.6–2.4 to 3.3–4.5 Mt CO2e by 2030. [1]

Besides, GHG emissions from the land transport sector will result into congestions on road and adverse impact on the health due to tail pipe emissions. Moreover, the land transport infrastructure will be vulnerable to the rising sea levels and coastal flooding, increased rainfall intensity, frequency and inland flooding.

The rapid development of electric and hybrid vehicle technology at a global level offers an opportunity to PNG to deploy electric vehicles. With the target of increasing the share of renewable energy as the source of electricity under NDC of PNG, deployment of electric vehicles is promising. The deployment of electric vehicles would result into substantial drop in oil consumption and offer a reduction of 22% in emissions in 2035.[2]

Past and on-going efforts to address the problem (up to half a page):

This section should answer the question "what has been done or is currently being done to address the problem?" Please describe past and on-going processes, projects or initiatives implemented in the country or region to tackle the climate problem as described above.

The National Transport Strategy (NTS) of PNG includes provisions for climate change mitigation and adaptation along with cross-cutting issues like gender equity and women's advancement; prevention of disease transmission such as HIV/AIDS; consideration of those with disabilities; environmental protection.

The NTS notes the climate compatible development targets for PNG established by relevant authority

[1] Climate-compatible development for Papua New Guinea- https://www.unredd.net/index.php?option=com_docman&task=doc_download&gid=7734&Itemid=53

[2] APEC Energy Demand and Supply Outlook – 5th Edition for PNG https://aperc.or.jp/publications/reports/outlook/5th/volume2/EDSO5_V2_Papua_New_Guinea.pdf

and the sector will be encouraged to progress climate change mitigation and adaptation, including the targets in monitoring the NTS.

The enhanced NDC of PNG has mentioned that PNG will continue to review appropriate options and approaches to reducing emissions from the transport subsector. Furthermore, the NDC mentions that transport related infrastructure and assets to be built and/or rehabilitated will be in accordance to climate resilient codes and standards under adaptation targets.

Specific technology[3] barriers (up to one page):

This section should answer the questions "what are the technology barriers that hinder national efforts described above" and "how will the CTCN technical assistance complement these efforts?" Building upon the problem statement and taking into consideration the existing efforts described above, please describe the specific technology barriers encountered by the requesting applicant to identify, assess or deploy climate technology(ies) in an effort to address the problem statement. The described barriers should be within the scope of the requested CTCN technical assistance (described in the section below).

1. High upfront cost of up-taking Electric vehicles
2. Lack of awareness across the EV value chain
3. Lack of supporting policy
4. Lack of supporting infrastructure like charging station and RE share in the grid etc.

Sectors:

Please indicate the main sectors related to the request:

☐ Coastal zones	☐ Early Warning and Environmental Assessment	☐ Human Health	☐ Infrastructure and Urban planning
☐ Marine and Fisheries	☐ Water	☐ Agriculture	☐ Carbon fixation
☐ Energy Efficiency	☐ Forestry	☐ Industry	☐ Renewable energy
☐ Transport	☐ Waste management		

Please add other relevant sectors:

Cross-sectoral enablers and approaches:

Please indicate the main cross-sectoral enablers and approaches

☐ Communication	☐ Economics and financial decision-	☐ Governance and	☐ Community based

[3] *"**any equipment, techniques, practical knowledge and skills** needed for reducing greenhouse gas emissions and adapting to climate change" (Special Report on Technology Transfer, IPCC, 2000)*

and awareness	making	planning
☐ Disaster risk reduction	☐ Ecosystems and biodiversity	☐ Gender

Technical assistance requested (up to one page):

Within a clearly defined scope, the description of technical assistance should be structured into the following:

Overall objective

The overall objective of the TA is to conduct market analysis to introduce and promote low carbon transport, complemented with policy, implementation roadmap, feasibility study and capacity building on electric vehicles.

Anticipated groups of activities to be performed by the technical assistance

The anticipated group of activities and sub activities are as following:

I. **Assessment of the options available and barriers to the market adoption of electric mobility in PNG as an approach to low carbon land transport and draft the national policy on EV (Electric Vehicles) for land transport.**
   a. Conduct the market analysis, collect data on formal and informal modes of land transport.
   b. Map out stakeholders in EV value chain ranging from automobile manufacturers, part suppliers and the consumers.
   c. Draft the policy objectives, quantitative targets on the number of EVs, charging infrastructure and designated roles and responsibilities.
   d. Identify barriers and suggest viable instruments (incentives on cars, buses, trucks, manufacturerss, charging infrastructure and battery swapping stations)
      i. Analyze the total additional load on the grid due to introduction of EVs and barriers to its augmentation through the use of RE based systems.
      ii. Estimate the life of the battery systems and projected generation of discarded batteries at the end of each year for a time span of 10 years. Assess the barriers to the environmental sound management and disposal of such wastes generated from EV value chain.

II. **Under the scope of proposed policy, recommend on the implementation roadmap for deployment and upscaling of the EV and supporting sustainable infrastructure with an integrated approach to climate change mitigation and adaptation based on local context**
   a. Consolidate and review transport plans and policies to recommend/develop the action plans relevant to EV implementation. The implementation framework will be categorized under short, mid and long term action plans
   b. Recommend suitable business models and investment plans to implement the actionsbased on blended approach of integrating international experiences and local context gathered based on market assessment.
   c. Review the institutional arrangements and capacity gaps to implement the roadmap.
   d. Engage relevant stakeholders to consult with an aim to validate and revised the draft implementation roadmap for the EV.

III. Conduct detailed feasibility study on selected action plans to develop business case on procuring and deploying electric vehicles and sustinable supporting infastructure

a. Conduct detailed technical and financial feasibility analysis of selected action plan(s) with scalable business model. The feasibility will be carried out for the EV as well as the supporting sustainable infrastructure (charging stations, climate proof bus stops etc.).

b. Develop input to the GCF concept note with technical specifications to support the tendering and procurement of the electric vehicles and charging infrastructure.

IV. Facilitate capacity building and awareness of relevant stakeholders from government and EV value chain focusing on the gender gaps

a. Relevant materials to be designed to facilitate capacity building and training of the relevant Government staff on the various aspects of EVs including basics of EV technologies, supporting policies and approach to piloting/ financing EV projects like procurement.

b. Conduct an assessment on the level of awareness and readiness among the relevant stakeholders to adopt EVs.

c. develop brief factsheets on the basics of EV including three/ four wheelers, buses, trucks and charging infrastructures -as applicable for PNG and its impact will be developed for public awareness.

d. Experience from business case will be archived in form of reference manual for the relevant stakeholders.

1. Anticipated products to be delivered by the technical assistance.

i. Report on market assessment and gap analysis and policies on EV in PNG

ii. Report on implementation roadmap with business models and investment plans

iii. Feasibility study, tender specification documents and report on business case

iv. EV factsheets, training materials and workshop reports.

*Please note that the CTCN facilitates technical assistance and is not a project financing mechanism.

Expected timeframe:

The duration of CTCN technical assistance is 12 months.

Anticipated gender and other co-benefits from the technical assistance:

Transportation networks are one of the most important elements of a country's infrastructure, and they are key to reducing poverty and promoting equality. In low-income countries, gender differences in mobility needs are very pronounced, requiring gender sensitive policy responses.

In many countries, women are highly under-represented in decision-making with majority of the transport sector being managed and operated by men. A disruptive market change to cleaner and more efficient transport technologies (Electric Vehicles) presents an opportunity to address this unequal distribution by increasing women's participation in the transport sector and provide socio-economic opportunities in new businesses and business models as drivers, charging solution providers, fleet operators etc. This transition will also contribute to reducing the negative public health implications from vehicles for women and children, which are more vulnerable to the impact of air

pollution than men.

For more information you can find guidelines on the CTCN's website here:
https://www.ctc-n.org/technologies/ctcn-gender-mainstreaming-tool-response-plan-development

Further reading on gender can be found on the CTCN website here:
https://www.ctc-n.org/technology-sectors/gender

Key stakeholders:

Please list the stakeholders who will be involved in the implementation of the requested CTCN technical assistance and describe their role during the implementation (for example, government agencies and ministries, academic institutions and universities, private sector, community organizations, civil society, etc.).

Stakeholders	Role to support the implementation of the technical assistance
Climate Change and Development Authority, Papua New Guinea (National Designated Entity)	Overall supervision and approval of the outcomes of the technical assistance
Request Applicant	Mr. Ruel Yamuna, Managing Director, Climate Change and Development Authority, Papua New Guinea
Department of Transport (DoT) under Minister of Transport of PNG	Alignment of the objective of the transport sector with the electric vehicle
Department of Petroleum & Energy (DPE) of PNG	Consulted on the policy objectives and implementation roadmap on the deployment of electric vehicle. Potential up taker of the policy on electric vehicle being the nodal agency on energy efficiency

Alignment with national priorities (up to 2000 characters including spaces):

Please describe how the technical assistance is consistent with national climate priorities such as: Nationally Determined Contribution, national development plans, poverty reduction plans, technology needs assessments, Low Emission Development Strategies, Nationally Appropriate Mitigation Actions, Technology Action Plans, National Adaptation Plans, sectorial strategies and plans, etc.

Reference document (please include date of document)	**Extract** (please include chapter, page number, etc.).
Nationally Determined Contribution (NDC)	Direct alignment and contribution to NDC implementation is required for all CTCN technical assistances. Please include a direct reference to the INDC/NDC document (chapter, page number, etc.).
National Transport Strategy (Medium Term Transport Plan II 2019-2022)	The NTS notes the climate compatible development targets for PNG established by relevant authority and the sector will be encouraged to progress climate change mitigation and adaptation, including the targets on transport sector under NTS.
National Energy Policy 2017-2027	The National Energy Policy of PNG mentions '*The rapid development of electric and hybrid vehicles as well as trains are*

	now on the market and could be an option the Government can consider now and in the future.'
NCCDMP	Under this, PNG aims to reduce its emissions to 50 percent by 2030 - and to be carbon neutral by 2050,

Development of the request (up to 2000 characters including spaces):

The request was originated and developed in consultation with Climate Change Development Authority of PNG. While developing the request its alignment with the priorities of national plans and NDC was assessed.

Background documents and other information relevant for the request:

Following documents were referred and are relevant for the request:

1. PNG's Enhanced Nationally Determined Contribution
2. Various documents under National Transport Strategy of PNG
3. APEC Energy demand and supply outlook (Chapter on PNG)- 5th and 7th edition

OPTIONAL: Linkages to Green Climate Fund Readiness and Preparatory Support

The CTCN is collaborating with the GCF in order to facilitate access to environmentally sound technologies that address climate change and its effects, including through the provision of readiness and preparatory support delivered directly to countries through their GCF NDA. These actions are in line with the guidance of the GCF Board (Decision B.14/02) and the UNFCCC, particularly paragraphs 4 and 7 of 14/CP.22 that addresses Linkages between the Technology and the Financial Mechanisms[4].

The CTCN is therefore implementing some of its technical assistance using GCF readiness funds accessed via the country's NDA. Any application for GCF support, including the amount of support provided, is subject to the terms and conditions of the GCF and should be developed in conjunction with the NDA.

Please indicate whether this request has been identified as preliminarily eligible by the NDA to be considered for readiness support from the GCF.

☐ Initial engagement: The GCF NDA of the requesting country has been engaged in the design of this request and the NDA will be involved in the further process leading to an official agreement for accessing GCF readiness support.

☒ Advanced engagement (preferred): The GCF NDA of the requesting country has been directly involved in the design of this request and is a co-signer of this request, the signature indicating provisional agreement to use readiness national funds to support the implementation of the technical assistance.

NDA name: Mr. Ruel Yamuna, Managing Director, Climate Change and Development Authority, Papua New Guinea

[4] Please see: https://unfccc.int/files/meetings/marrakech_nov_2016/application/pdf/auv_cop22_i8b_tm_fm.pdf

Date: 1st June, 2021

Signature: 

Monitoring and impact of the assistance:

By signing this request, I affirm that processes are in place in the country to monitor and evaluate the technical assistance provided by the CTCN. I understand that these processes will be explicitly identified in the CTCN Response Plan and that they will be used in the country to monitor the implementation of the technical assistance following standard CTCN procedures.
I understand that, after the completion of the requested assistance, I shall support CTCN efforts to measure the success and effects of the support provided, including its short, medium and long-term impacts in the country.

Signature:

NDE name: Mr. Ruel Yamuna, Managing Director, Climate Change and Development Authority, Papua New Guinea

Date: 08th June 2021

Signature: 

THE COMPLETED FORM SHALL BE SENT TO THE CTCN@UNEP.ORG

The CTCN is available to answer all questions and provide guidance on the application process.