

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 submit 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:	Cambodia
Request title:	Development of low-emission mobility policies and financing proposal for Cambodia
NDE:	Mr. Sum Thy, Ministry of Environment Phone: +855 23 218370, Emails: uceap@online.com.kh
Request Applicant:	

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):

This section should answer the question "what is the problem?" Please summarise the problem related to climate change and/or the negative impacts of climate change in the country that the request aims to address.

Cambodia's reliance on road transport has increased throughout the country's economic development. Cambodia mainly relies on the fossil fuel vehicles as most vehicles are second hand and imported from USA, Europe, Japan and China. Power generation in Cambodia is dominated by hydro power and coal with very small share of renewable energy (100 MW from solar energy).

Transport sector is expected to account for an increasingly larger share of greenhouse gas (GHG) emissions in Cambodia. With the rise in the number of vehicles on the road and the fuel composition of Cambodia's energy mix, there have been concerns raised about the emissions and air quality degradation in urban areas in the country. As of 2016, the number of registered vehicles in Cambodia was more than 3.2 million vehicles including 2.7 million motorbikes. This figure represents a 14% increase from the previous year¹. On the other hand, Phnom Penh's air pollution has been an emerging issue.

The Government of Cambodia recognizes that the high level of dependence on imported fossil fuel poses a number of challenges in their transition to a sustainable development pathway and reducing GHG emissions and air pollution in the country. In its Intended Nationally Determined Contribution (INDC) submitted to United Nations Framework Convention on Climate Change (UNFCCC) in 2016, Cambodia expressed their intention to promote hybrid cars, electric vehicles and bicycles in its endeavor to transitioning to a low-emission pathway.

This technical assistance is proposed to help accelerate the transformation to cleaner and efficient mobility in Cambodia and to contribute significantly to Cambodia's efforts in achieving its NDC goals.

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.

Although Cambodia is responsible for a small amount of global emissions – less than 0.1% – , the Royal Government of Cambodia has made commitment to addressing its greenhouse gas (GHG) emissions. Cambodia is a signatory to the UNFCCC and has recently ratified the Paris Agreement. In 2017, the Kingdom of Cambodia submitted its Intended Nationally Determined Contribution (INDC) that proposed a 27% reduction in emissions below BAU by 2030. In the transport sector, it intends to reduce 390 Gg CO₂eq (3%) in the year 2030 compared to the baseline by 1) promoting mass public transport; 2) improving operation and maintenance of vehicles through motor vehicle inspection and eco-driving; and 3) promoting hybrid and electric vehicles and bikes.

GHG Inventory Working Group was established

Cambodia submitted Second National Communication (SNC) and it is available on both National Climate Change website and the UNFCCC website

¹ The Phnom Penh Post (8 March 2016). "3.2M cars, motorbikes registered"
<https://www.phnompenhpost.com/business/32m-cars-motorbikes-registered>

Cambodia DNA approved one PoA Project in March 2016.

This Technical Assistance will be undertaken in tandem with another project which UN Environment is leading. UN Environment is conducting a targeted data collection for establishing vehicle fleet fuel economy baseline for Cambodia to help inform policy development for cleaner and efficient fuels and vehicles in the country.

The vehicle inventory will include the characteristics of the vehicle fleet and the average fuel economy of light-duty vehicles and two-wheelers that have entered Cambodia from 2005. The baseline, which will be updated approximately every 2 years, will guide the future efforts by the government of Cambodia to reduce greenhouse gas emissions from vehicle fleets.

Besides the above project, this Technical Assistance will ensure synergies with below ongoing projects:

Sustainable Urban Mobility for All Initiative (SUMAI): This is a three-year project co-funded by UNDP and Grab, a Singapore-based company offering ride-hailing services, aims at improving availability and quality of transport data in Phnom Penh to inform policies and investment decisions in support of sustainable and smart urban transport solutions. The project is co-financed between UNDP and Grab in support of the Government's efforts in enhancing the safety and sustainability of transport in Phnom Penh City. This project would focus its interventions to support improving efficiency of existing urban traffic and transport systems through generation of traffic and air quality data in Phnom Penh; reducing urban transport GHG emission through promotion of clean vehicles and fuel measures; and stimulating innovations in smart transport solutions to accelerate progress on safety and mobility for all.

Specific technology² 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).

Several barriers have been identified which would potentially hinder the uptake of low-emission mobility in Cambodia. These barriers can be categorized as following: 1.) Lack of information; 2.) Policy and

² "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)



planning barrier 3.) Institutional capacity barrier; 4.) Investment and market barrier; 5.) Economic barriers; 6.) Technical barriers; 7.) Lack of EV charging infrastructure;

1. **Lack of information** – Consumers, policy makers and vehicle manufacturers are not fully aware of the environmental and economic benefits related to cleaner fuels and vehicles. In many middle and low-income countries, introducing low-emission transport is still perceived as an expensive policy measure which are not adapted to local conditions. On the contrary, long-term benefits of using low-emission vehicles from reduced energy use, CO₂ and air pollutant emissions are often overshadowed.
2. **Policy and planning barrier** – Many low and middle-income countries have no dedicated fiscal or regulatory policies to incentivize the uptake of cleaner fuels and vehicles. On the opposite, counterproductive policy measures are in place where many countries still subsidize petroleum fuels or have disadvantageous fiscal policies in place, which complicate for example the import of cleaner and more efficient vehicles, including electric vehicles.
3. **Institutional capacity barrier** – Decision makers in government lack the capacity to develop national electric mobility projects. The development of policies to foster the uptake of low-emission mobility most often includes stakeholders from various ministries and requires thorough analysis and understanding of the national transport sector. There is a whole suite of options to incentivise low-emission vehicles and a tailored set of interventions needs to be developed based on the national preconditions. Decision makers need technical support during all stages of low-emission transport policy development.
4. **Investment and market barrier** – Large scale investment in electric mobility is hindered by the chicken and egg situation between market uptake of electric vehicles and charging infrastructure development. All sources of financing electric mobility projects need to be untapped. This includes the set-up of new business models which involves cross border actions between all stakeholders to spread the needed investment as well as the economic risk.
5. **Economic barriers** – Higher prices of cleaner fuels and vehicles still constitute the most important hurdle. For example, electric vehicles are still about 50% to 90% more expensive than their comparable conventional counterparts. Although much, if not all, of this price difference is balanced by lower fuel and maintenance cost over the vehicle life time, the higher upfront investment constitutes a main barrier for many potential consumers.

Sectors:

Please indicate the main sectors related to the request:

- | | | | |
|---|---|---------------------------------------|--|
| <input type="checkbox"/> Coastal zones | <input type="checkbox"/> Early Warning and Environmental Assessment | <input type="checkbox"/> Human Health | <input type="checkbox"/> Infrastructure and Urban planning |
| <input type="checkbox"/> Marine and Fisheries | <input type="checkbox"/> Water | <input type="checkbox"/> Agriculture | <input type="checkbox"/> Carbon fixation |
| <input checked="" type="checkbox"/> Energy Efficiency | <input type="checkbox"/> Forestry | <input type="checkbox"/> Industry | <input type="checkbox"/> Renewable energy |
| <input checked="" type="checkbox"/> Transport | <input type="checkbox"/> Waste management | | |

Please add other relevant sectors:

Cross-sectoral enablers and approaches:

Please indicate the main cross-sectoral enablers and approaches

- | | | | |
|--|---|---|--|
| <input type="checkbox"/> Communication and awareness | <input checked="" type="checkbox"/> Economics and financial decision-making | <input checked="" type="checkbox"/> Governance and planning | <input type="checkbox"/> Community based |
| <input type="checkbox"/> Disaster risk reduction | <input type="checkbox"/> Ecosystems and biodiversity | <input type="checkbox"/> Gender | |

Technical assistance requested (up to one page):

Founded on the problem statement, past/on-going efforts and technology barriers, please describe the requested technical assistance. The technical assistance should clearly contribute to mitigation or adaptation to climate change as described in the problem statement and contribute to overcome the specific technology barriers.

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

- Overall objective Baseline setting

Cambodia's reliance on road transport has increased throughout the country's economic development. Cambodia mainly relies on the fossil fuel vehicles as most vehicles are second hand and imported from



USA, Europe, Japan and China. Power generation in Cambodia is dominated by hydro power and coal with very small share of renewable energy (100 MW from solar energy).

Transport sector is expected to account for an increasingly larger share of greenhouse gas (GHG) emissions in Cambodia. With the rise in the number of vehicles on the road and the fuel composition of Cambodia's energy mix, there have been concerns raised about the emissions and air quality degradation in urban areas in the country. Phnom Penh's air pollution has been an emerging issue.

The Government of Cambodia recognizes that the high level of dependence on imported fossil fuel poses a number of challenges in their transition to a sustainable development pathway and reducing GHG emissions and air pollution in the country. In its Intended Nationally Determined Contribution (INDC), Cambodia shared their intention to promote hybrid cars, electric vehicles and bicycles among its mitigation actions.

However, in order to successfully transition to a low-emission pathway, Cambodia has to address a number of barriers including: 1) Lack of information; 2) Policy and planning barrier 3) Institutional capacity barrier; 4) Investment and market barrier; and 5) Economic barriers.

- *Anticipated groups of activities and deliverables to be performed by the technical assistance*

The objective of this Technical Assistance is 1) to provide Cambodia a policy action plan for low-emission vehicle policy options to reduce emissions and energy use from the road transport sector in Cambodia, and 2) to assist Cambodia in developing strategies, action plans, and proposals to access global funds to develop a comprehensive low-emissions transport project.

To meet this objective, UN Environment, in partnership with Clean Air Asia, with other relevant national government agencies, will implement the following activities:

1. Development of roadmap to implementing clean and efficient vehicle policies
 - The objective of this component is to develop a strategy and action plan for low-emission vehicle policies for Cambodia.
 - This activity will be implemented in tandem with the ongoing work of UN Environment within Global Fuel Economy Initiative (GFEI) on fuel economy baseline development and fuel economy trend analysis for Cambodia
 - Output 1 of this activity is an overview of the transport situation in Cambodia including key policies and challenges. The overview also includes the characterization of the vehicle fleet in Cambodia including the fuel economy baseline. Depending on the availability of data and resources, an assessment of the environmental impact of transport in Cambodia and the potential impact of low-emission mobility policies, will be undertaken.
 - Output 2 will be a strategy and policy action plan for clean and more efficient mobility in Cambodia. It will include recommendations and suggested policies for implementation to improve the fleet's fuel economy and efficiency.
2. Assistance to develop a low-emissions mobility project proposal for Cambodia

- Drawing up on the findings and consultations from the above activities, assistance to the Cambodian partner will be delivered to develop a low-emissions mobility project proposal that can be submitted to development banks and global environment funds (e.g. Green Climate Fund, Global Environment Facility) with a focus on introducing electric mobility in Cambodia.

UN Environment, with support from Clean Air Asia, will work with Cambodia's relevant ministries and other key stakeholders. It is expected that the following stakeholders will be consulted: distributors, ministry of energy, customs authorities, transport department, etc. suggested that the project team meet with the following government agencies prior to planning an inter-agency workshop: Ministry of Environment, Ministry of Economy and Finance, Ministry of Mines and Energy, Ministry of Public Works and Transport and Institute of Standards of Cambodia.

Expected timeframe:

Please indicate the expected duration period for the requested technical assistance. Please note CTCN technical assistance is limited to a maximum duration of 12 months.

9 months

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

Please describe the activities with gender linkages as well as the anticipated **gender and other co-benefits** (e.g. biodiversity, economic, social, cultural, etc.) that are likely to be generated as a result of the technical assistance.

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>

The transport sector serves the whole population of Cambodia. The project will serve the vulnerable population of Cambodia including women, the elderly and children which will enjoy the impact on health and safety from the improved transport system.

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
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<i>National Designated Entity</i>	
UN Environment	Provide technical support and project management support
Ministry of Economy and Finance (Department of Customs and Tax)	Implement and advise on fuel economy and energy efficiency fiscal measures and instruments
Ministry of Public Works and Transport (General Department of Land Transport)	Implement and advise on vehicle registration policies
Ministry of Mines and Energy (General Department of Petroleum; General Department of Energy)	Implement Energy efficiency
Institute of Standards of Cambodia	Prepare national standards for and certify the conformity and safety of products including 2- and 3-wheelers and light-duty vehicles.
Ministry of Environment	Implement and advise on regulatory policies on road transport vehicles

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)	<p><i>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.).</i></p> <p>According to Cambodia's NDC to the UNFCCC (2017), Cambodia has proposed a 27% reduction in emissions below BAU by 2030, as well as a LULUCF contribution of 4.7 tCO₂e/ha/year.</p> <p>"Cambodia wishes to propose a GHG mitigation contribution for the period 2020 - 2030, conditional upon the availability of support from the international community, in particular in accordance with Article 4.3 of the UNFCCC. Significantly, despite Cambodia's status as an LDC, Cambodia is implementing actions in accordance with our sustainable development needs that also address climate change:</p> <p>(i) Energy industries, manufacturing industries, transport, and other sectors: Cambodia intends to undertake actions as listed in Table 1, the impact of which is expected to be a maximum reduction of 3,100 Gg CO₂eq compared to baseline emissions of 11,600 Gg CO₂eq by 2030." [Section 3.1, page 5]</p>

	<p>Cambodia's NDC identified transportation as one of the main sectors in both adaptation and mitigation area to reduce GHG emissions:</p> <ul style="list-style-type: none"> • Repairing and rehabilitating existing road infrastructure and ensuring effective operation and maintenance, taking into account climate change impacts [Section 2.2, page 5] • Improving operation and maintenance of vehicles through motor vehicle inspection and eco-driving, and the increased use of hybrid cars, electric vehicles and bicycles. [Section 3.1, Table 1, page 6] • Promoting mass public transport [Section 3.1, Table 1, page 6]
Technology Needs Assessment	
National Adaptation Plans	<p>Cambodia supported the initial delivery of the INDC, submitted in 2016, mainly through the implementation of the Cambodia Climate Change Strategic Plan (CCCSP) (2014–2023) which includes:</p> <ul style="list-style-type: none"> - Promote climate resilience through improving food, water and energy security - Promote low-carbon planning and technologies to support sustainable development - Improve capacities, knowledge and awareness for climate change responses - Strengthen institutions and coordination frameworks for national climate change responses - Strengthen collaboration and active participation in regional and global climate change processes
Nationally Appropriate Mitigation Actions	<p>Implementation of Climate Change Action Plan for Transport Sector (2014-2018) - Motor vehicle inspection, public transport and improving efficiency of vehicles</p> <p>Implementation of Climate Change Action Plan for Manufacturing Industry and Energy Sectors (2014-2018) - Efficient cookstoves, biodigesters, water filters</p>
National Strategic Plan on Green Growth 2013-2030	<p>"...it is important to carry out some activities, such as... sharing of green transports by using buses, electrically-run trains, renewable energy-run vehicles, and electrically-run bicycles and motorcycles for travelling in towns. In addition, there shall be a regular analysis of gas emission from vehicles</p> <p>[https://policy.asiapacificenergy.org/sites/default/files/National-Strategy-Plan-on-Green-Growth-2013-2030-Cambodia.pdf] Section 4.6, page 16 ; Annex on key projects for implementation for short-term and medium-term, page 39]</p>
Rectangular Strategy - Phase IV	<p>"The Royal Government faces a number of challenges such as the master plan for land use and development direction strategy have not been studied or completed for most cities and provinces...master plan for urban physical infrastructure development in not comprehensive; urban</p>

	<p>transport and traffic are not in good order resulting in unnecessary social and economic costs.</p> <p>"The Royal Government will give priority to:</p> <p>Formulating an infrastructure master plan for main cities and urban area to support the development of roads, railways and waterways as well as electricity networks."</p> <p>[http://iric.gov.kh/wp-content/uploads/2018/09/Rectangular-Strategy-Phase-IV_ENGVersion.pdf page 41]</p>
Add others here as relevant	<p>Cambodia only allows importation of vehicles that were produced from year 2000. Imported vehicles come from USA, Europe, Japan and China. They also import used hybrid vehicles. There are electric bicycles in Cambodia; however, they are not required to be registered so the government does not have data.</p>

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

Please describe how the request was developed at the national level and the process used by the NDE to approve the request before submitting it (who initiated the process, who were the stakeholders involved and what were their roles?) and describe any consultations or other meetings that took place to develop and select this request, etc.

Background documents and other information relevant for the request:

- Please list all relevant documents that will help the CTCN analyse the context of the request and national priorities. Please note that all documents listed/provided should be mentioned in this request in the relevant section(s), and that their linkages with the request should be clearly indicated. For each document, please provide web-links (if available) or attach to the submission form. Please add any other relevant information as required.
- Please indicate if this request has been developed with the support of the CTCN Request Incubator.

According to National Policy, Strategy and Action Plan on Energy Efficiency in Cambodia³, the transport sector was left out for the time being because requirements on reliable data on fuel consumption by various means of transport could not be met in the framework of that particular project. It was also suggested that a study on its own on this sector be undertaken.

OPTIONAL: Linkages to Green Climate Fund Readiness and Preparatory Support

³http://www.euei-pdf.org/sites/default/files/field_publication_file/EUEI_PDF_Cambodia_Energy_Efficiency_May2013_EN.pdf



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 Mechanisms⁴. 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:

Date:

Signature:

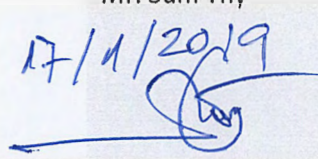
Monitoring and impact of the assistance:

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.

Signature:

NDE name: Mr. Sum Thy

Date: 17/11/2019

Signature: 

⁴ Please see:

https://unfccc.int/files/meetings/marrakech_nov_2016/application/pdf/auv_cop22_i8b_tm_fm.pdf



<p>CTCN Technical Assistance Request Submission Form</p>
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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.

9