CTCN
UN Climate Technology Centre & Network
UNFCCC Technology Mechanism

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 the 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:	Sri Lanka
Request title:	Please reflect the objective of the technical assistance in the title (maximum 200 characters). **Comprehensive technological characterization and capacity development to support the integration of electric buses into the public transport system in Sri Lanka**
NDE	Please add name of organisation, name of individual, position, email and address. Ministry of Environment K. N. Kumudini Vidyalankara Director, Climate Change Secretariat No. 416/C/1, -Sobadam Piyasa- Robert Gunawardhana Mawatha, Battaramulla, Sri Lanka kumudiniimex@gmail.com
Request Applicant:	Please add name of organisation, contact person, position, email and address of the organisation requesting assistance from the CTCN. Air Resource Management and National Ozone Unit Ministry of Environment A W M Rifa Wadood Director (Air Resource Management and National Ozone Unit) No. 416/C/1, -Sobadam Piyasa- Robert Gunawardhana Mawatha, Battaramulla,Sri Lanka rifagee@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):

Sri Lanka has historically pursued 'low-carbon' development and has one of the lowest per capita carbon emissions rates for a lower middle-income country. This could be attributed to the economic model utilized by the country, where less reliance on energy-intensive industries and greater use of renewable energy is promoted. However, over the past decade, progress is increasingly threatened by a variety of fundamental systemic issues in policies, institutions and structures that have undermined the low-carbon growth trajectory and lowered environmental sustainability. This is evident in many sectors such as energy, industry, transport, and agriculture, as well as natural resource management. Further, the country is highly vulnerable to climate change impacts that affect the economy, society, and the environment. Accordingly, the importance of low-carbon development in the context of sustainability has re-emerged in the global, regional and national political and policy spheres, as reflected in policies, strategies and plans, as well as commitments to international conventions including the 2030 Agenda for Sustainable Development (and SDGs) and the Paris Agreement on Climate Change (and NDCs).

In the above context, one key sector experiencing serious issues globally is transport. While the continual increase in mobility through passenger transport is contributing to socio-economic development, the deterioration of transport sector performances is reflected in several indicators related to it. Over the last two decades, the active vehicle fleet has increased by over 5 folds, while the passenger-km has increased only by 2.5 folds. The growth in vehicle fleet is mainly due to personal vehicles (2Ws, 3Ws and cars) with the 6.3-fold increase, while the main public transport mode of buses (which contributes to about 50% of the passenger mobility) has increased only by 1.9 folds in the said period. The deterioration of public transport services has also led to more traffic congestion, air pollution, fuel losses and GHG emission. This trend is expected to continue in the coming years with the average travel speed expected to drop from 17 km/hr to 12 km/hr by 2030. It has been estimated that during the last two decades, the total air emission (PM, CO, HC, NOx, and SOx) has increased by approximately 3 folds, while GHG emissions by 2 folded. Road vehicles in major metropolitan cities are estimated to account for 70% of CO, 50% of HC, 35% of NOx, 30% of PM and 10% of SOx of the total pollution load of the cities. These high levels of pollutants are major causes of respiratory, cardiovascular and other air pollution-related illnesses. Sri Lanka is not an exemption from it.

The transport sector is one of the biggest contributors to the energy demand growth in Sri Lanka, which is entirely catered by imported petroleum oil. Fuel consumed by the transport sector contributes to 70% of the total demand for petroleum, thus demonstrating its impact on the costs of fossil fuel imports and related foreign exchange risks. In fact, the present socio-economic crisis has emerged post-COVID-19 pandemic as a direct consequence of critically low foreign exchange reserves. Further, over the past decade, the transport sector's GHG emissions have increased at a faster rate than any other energy sector. Alongside this, the transport sector has become a key contributor to total GHG emissions in Sri Lanka, with about 10 Gt CO_{2e} per annum, out of total emission of about 24 Gt CO_{2e} per annum. This share has grown at a faster rate than the growth of total emissions. NDCs predict GHG emissions of the transport sector to be around 16 Gt CO_{2e} per annum by 2030, in the business-as-usual

case. However, the transport sector's resilience to climate change has not been analysed adequately.

Thus, improving the energy and environmental performances of the transport sector is a high priority of the Government of Sri Lanka (GoSL) to address the above challenges, with particular emphasis on the promotion of efficient public transport systems. Although progressive policy interventions have been proposed in the transport and other related sectors, there are gaps in several areas for the introduction of sustainable mitigation and adaptation actions. For instance, though the need for a sustainable transport system has been highlighted in the Draft National Transport Policy under "Energy Efficiency & Environmental Protection" it is yet to be approved by the GoSL. The absence of a policy framework has hindered the formulation of strategies and actions for systematic integration of sustainable transport concepts into the national transport system, despite ambitious NDCs set out in the country's resubmission in 2021. Other challenges for progression in the sector are related to information management, appraisal methodologies/tools, competencies of actors, technology transfer & adoption, social inclusions & just transition, stakeholder engagement and sustainable financing.

Past and ongoing efforts to address the problem (up to half a page):

The need for a comprehensive solution for the challenges in the transport sector is highlighted in national development policies (e.g. transport, energy) and related strategic action plans, signifying the national priority for the improvement of public transport and promotion of EVs to reduce the transport sector emissions and dependency on fossil fuel. The mitigation of GHG emissions in the transport sector is also a high priority for Climate Action in achieving the NDCs and the country's pledge of Net Zero Carbon Emissions by 2050. The updated NDCs are instituted for the development of an environmentally sustainable transport system, based on the 'avoid, shift and improve' concept. In particular, the promotion of public passenger transport and the adoption of electric vehicles (EVs) are among the transport NDCs proposed.

Accordingly, the GoSL has initiated a number of programmes to promote electric buses (E-Buses) as a more efficient and environmentally sound mode of public transport. In the Urban Transport Master Plan published in August 2014 by the Ministry of Transport (MoT), assisted by JICA, the promotion of public transport is given as an essential policy, while the adoption of EVs and establishment of environment management scheme are among the specific projects identified. Further, in March 2016, UNDP in coordination with GoSL presented a proposal for NAMA on Sustainable Transport through E-Bus Rapid Transit Systems comprising 100 units to promote GHG reductions. This project also focuses on capacity-building and outreach programmes. Subsequently, Megapolis Transport Master Plan published in November 2016 has proposed to establish 50 electric charging centres for E-Buses and other EVs.

In line with the above, in January 2018, the Cabinet of Ministers approved a proposal to purchase 50 E-Buses for Sri Lanka Transport Board (SLTB). Subsequently, in August 2018, MoT called bid proposal for supply & delivery of 15 E-Buses for SLTB. Alongside this, MoT has approved a proposal to introduce 1,000 luxury E-Buses to the SLTB by a Hungarian investor in a Private Public Partnership. More recently, with the assistance of GGGI, MoT has conducted a study on the feasibility of greening the public transport services through introducing E-uses and smart transport systems on suggested 7 bus routes.

In spite of all the above plans, E-buses are yet to be introduced into the public transport system.

Specific technology[1] barriers (up to one page):

Although several policy interventions and specific projects have been initiated by GoSL, the introduction of E-Buses has not materialized. This signifies the presence of barriers impeding the

[1] *"**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)*

accelerated adoption of EVs, particularly E-Busses in Sri Lanka. These include the lack of policy coherence and regulatory barriers, absence of a long-term strategy, plan, and institutional coordination mechanism, limited consideration of local manufacture, value addition, battery management, lack of technically sound and financially viable business models, the lack of capacities to adopt modern EV ecosystems and the restrained investment environment. Another issue is the failure to integrate EVs into urban planning and address EWCD (elderly, women, children, and differently-abled) concerns within an integrated urban development landscape, in consideration of the local circumstances. Although these gaps and barriers have non-technical attributes, any technological intervention should consider all the aspects in order to provide a sustainable and efficient E-Bus system as an integral part of the overall transport system in the country. Accordingly, the main technological challenges for the adoption of E-Buses could be identified as:

- Limited Information on Technologies and Performance Characteristics

As Sri Lanka is still in the early stage of the development process, one key challenge is the lack of reliable and up-to-date information on technological & design parameters and operational characteristics of E-Buses and related components (batteries and charging infrastructure). Technologies related to E-Buses and components are developed elsewhere, and characterization under local circumstances is yet to be performed comprehensively. Lack of information on the performance characteristics of E-Buses, integrated with ICT and renewable energy (Solar PV) systems, could lead to difficulty in modelling the grid integration. Available information is limited to generic settings or in different situations, and there is a lack of country-specific data on the operational characteristics and other performances (environment, health, society and economy) for making informed decisions.

- Lack of Competencies (Knowledge and Skills)

Limited exposure of the transport sector actors (both strategic and operational levels) to new and evolving concepts of electric mobility (including E-Buses) has become a key barrier to sound planning, design, development and operation of E-Bus programmes. In general, proposals are developed based on a rudimentary understanding of the technology (such as the typical ranges, average investments, and basic infrastructure needs), and lack additional knowledge on the environmental, health, social and economic benefits and shortcomings of adopting the technology. The lack of competencies (knowledge and skills) of the local actors has hindered effective technology transfer and adoption. This situation has led to insufficient competencies at all levels to support the development process across all stages, from establishing an initial discourse, acquiring e-buses in pilots, to scaling up.

- Dearth of Methodical Tools for Programme Appraisals

The transport sector also lacks comprehensive methodical tools (framework, protocol) to guide the planning, design and implementation of programmes as well as for the appraisal of programme/project proposals and monitoring of their progress, outputs, outcomes and impacts. Such frameworks and protocols need to incorporate sustainability criteria and indicator frameworks covering technical, environmental, economic and social aspects with due consideration of local circumstances and priorities.

- Absence of an Information Management Platform

In addition to the lack of methodical tools highlighted above, another related area with deficiency is the data sharing and information management platform for the transport sector to measure, track and assess the benefits/impacts of sector interventions such as E-Bus programmes. This hinders the creation of data and information for the appraisals and greater awareness among the policymakers and other stakeholders to continuously engage with further development and scaling up of E-Bus programmes. Such a platform could also support the National Monitoring, Reporting and Verification (MRV) system in reporting on NDC implementation.

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 and awareness	☐ Economics and financial decision-making	☐ Governance and planning	☐ Community-based
☐ Disaster risk reduction	☐ **Ecosystems and biodiversity**	☐ Gender	

Technical assistance requested (up to one page):

Overall Objective: To address climate change mitigation and adaptation challenges in the transport sector through the introduction of E-Buses to the public transport system in Sri Lanka by effective technology transfer and adoption.

Following are the activities and sub-activities are proposed to achieve the above overall objective.

Activity 1: Perform a comprehensive characterization of technologies

1.1 Establish up-to-date technology readiness and commercialization levels of technologies related to E-Buses and system components (batteries, charging infrastructure, integrated ICT and Solar PV).

1.2 Identify technical specifications including grid integration aspects and other performance parameters, including operational, social, environmental, and economic, covering both climate change mitigation and adaptation. End life usage, recycling or waste management aspects of the batteries used in the fleet of e-buses are also to be included in this study.

1.3 Characterize the technologies in the national/local context, particularly in integrating into the public transport system assisted by planning tools, based on a sustainability assessment of technology (SAT) methodology, including emphasis on EWCD (elderly, women, children, and differently-abled) aspects.

1.4 Prepare a compendium of technologies of E-Buses and system components, and planning tools for system integration, in order to synthesise and communicate the outputs of the above sub-activities.

Activity 2: Develop an education strategy and training package for competency building

2.1 Identify functions and related competency requirements of all actors (strategic & operational) in all sectors involved with development and operation of E-Bus integrated public transport system.
2.2 Prepare a training strategy and roadmap for competency (knowledge and awareness) building, including methods of introduction to present education/training programmes (particularly technical/vocational, tertiary/university and continuous professional development - CPD)
2.3 Formulate an inclusive training package with a set of subject modules, curricula, learning objectives (LOs), programme outcomes (POs), syllabi and teaching/learning materials.
2.4 Develop a resource pack for the training of trainers (ToT) programme covering all levels and sectors.
2.5 Conduct ToT programmes (Minimum 03) covering technical/vocational, tertiary/university and CPD levels

Activity 3: Formulate a comprehensive framework and a protocol for appraisals of E-Bus projects

3.1 Based on outputs of 1.2, establish an all-inclusive set of parameters for appraisal of E-Bus projects.
3.2 Identify appropriate thresholds for the appraisal parameters, in respect of the outputs of 1.3.
3.3 Formulate a comprehensive appraisal framework with a set of criteria and indicators for a rigorous, transparent and consistent procedure for the appraisal of E-Bus projects.
3.4 Develop a standardized protocol for the development and implementation of E-Bus projects and programmes to ensure rationality and consistency.

Activity 4: Operationalize an information management platform for E-Bus fleet

4.1 Study the transport data management systems in place including the National MRV system in view of developing and integrating an information management platform for an E-Bus fleet.
4.2 Design a comprehensive information management platform with a data sharing network and measure, track, assess and report the benefits/ impacts of an E-Bus system.
4.3 Develop training materials including, an IT system user manual, operational manual and guidebooks for the information management platform.

Key Products/Deliverables

- Compendiumum of technologies and planning tools of E-Buses and components with localized performance characteristics.
- Training strategy, plan and roadmap with a training package and resource pat for ToT.
- A comprehensive appraisal framework and standardized protocol for E-Buse projects.
- Information management platform with data sharing network integrated to National MRV system.

Expected timeframe:

12 months.

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

In general, transport is not considered as a gender-neutral sector. Women and men have different mobility needs and patterns. According to the World Bank, Women typically walk longer distances than men and make frequent, shorter trips with more stops to combine multiple tasks. Men, by contrast, tend to follow more direct and linear patterns. Females engage in more non-work-related travel than males and are more likely to be accompanied by children or elderly relatives. Most women in the world find it harder to travel than men. As a result, they have fewer opportunities, and when they do travel, they face more mobility barriers than men in accessing and using transport. Failure to include women's needs and voices in transport design, planning, and operations is seen as a missed opportunity to build

back better and accelerate action towards gender equality and the Sustainable Development Goals (SDGs). Sri Lanka is not an exemption from it.

Therefore, the activities involved in this technical assistance are expected to be gender inclusive and have concerns with EWCD (elderly, women, children, and differently-abled), promoting environmental values and conservation of biodiversity. Performing a comprehensive characterization of technologies will help place women and differently-abled equitably in the technology sector and give them equal opportunities. The characterizing of the technologies will also focus on catering for the different needs of EWCD. It will also have concerns on the urban biodiversity as the noise created by the ICE vehicle fleet is proven to be a greater disturbance to the urban wildlife. Minimizing the accidents that happen in urban wildlife corridors due to irresponsible driving of personal vehicles is also a concern.

The second activity deals with the development of an education strategy and training package for competency building. This will also have EWCD and environment values, especially with regard to transport practices. More effort is expected to be made in engaging women and people with disabilities in technical/vocational, tertiary/university education and continuous professional development in E-bus integration in the public transport system. EWCD, biodiversity and environmental values is expected to play a significant role in the developed comprehensive framework and a protocol for appraisals of E-Bus projects.

The information management platform for E-Bus fleet is expected to have a section for EWCD, biodiversity and environmental values and other co-benefits. Key performance indicators for them are expected to be developed to track, assess and report the benefits providing transparent access to information for the stakeholders to make decisions including the decisions related to policy and investments.

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
National Designated Entity	Resource Mobilisation
Request Applicant	Policy level guidance
Ministry of Transport	Provision of transport data and information, sector policies, regulations and development plans; Participation in the capacity building programmes
Department of Motor Traffic	Provision of transport data and information; Participation in the capacity building programmes
SLTB	Provision of bus fleet data and information, sector regulations; Participation in the capacity building/ToT programmes
Universities/Tertiary education	Provision of information on education/training programme at UG/PG

institutes	levels, sharing of case studies/projects; Participation in the capacity building/ToT programmes
Technical / Vocational education institutes	Provision of information on education/training programme at technical levels; Participation in the capacity building/ToT programmes
Sri Lanka Sustainable Energy Authority (SLSEA)	Provision of information on solar energy, fuel consumption/energy efficiency in the transport sector, energy policy and strategies; Participation in the capacity building/ToT programmes
Ceylon Electricity Board (CEB)	Provision of information on electricity grid, Solar PV integration, Charging infrastructure; Participation in the capacity building/ToT programmes
Public Utilities Commission of Sri Lanka (PUCSL)	Regulations on electricity tariff for EV charging; Participation in the awareness programmes
Urban Development Authority (UDA)	Provision of information on urban development plans, urban transport plans; Provision of locations for charging centres and other infrastructure; Participation in the awareness programmes
Private sector bus operators	Provision of bus fleet data and information; Participation in the awareness programmes
Private sector electricity charging networks	Provision of information on charging infrastructure; Participation in the awareness programmes
Vehicle repair facilities	Participation in the capacity building programmes; Participation in the awareness programmes.
CSOs/NGOs/CBOs	Provision of information as users and on social inclusion, just transition and EWCD (elderly, women, children, and differently abled) concerns; Participation in the awareness programmes to enable informed decision making at community and individual level

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

The national policy framework Vistas of Prosperity and Splendour (2020) emphasizes efficient & environment friendly transport networks. Draft National Policy and Strategy on Sustainable Development (2020), proposes the use of alternate fuels & technologies for meeting 10% of transport energy demand. Specific strategies include promoting EVs, with special emphasis on using Solar PV electricity for battery charging. The National Environment Action Plan (NEAP) 2022 - 2030 proposes a set of actions to promote electric mobility: Choose more efficient technologies to travel, including EVs, Promote local value addition/ manufacture of EVs and related components, Promote the use of solar PV for e-mobility.

In the draft National Transport Policy (endorsed by the Cabinet of Ministers in 2009), the need for a sustainable transport system is highlighted with the key focus areas on reducing environment and climate impacts as the use of energy efficient and less polluting vehicles and RE for transport. National Energy Policy and Strategies of Sri Lanka (2019) stresses promoting efficient use of energy in all sectors, including transport. It also specifies a set of strategies for transport, such as (i) At least 20% of all new light vehicle registrations shall be EVs in 2022, (ii) Public funded electric charging facilities shall be

established, and (iii) Encourage gradual diversification of transport energy from present oil dominance to electricity together with the integration of REs. In the updated NDCs, the transport sector is included under mitigation with a target of 10% reduction of GHG by 2030. The transport NDCs highlight promotion of public transport and the adoption of EVs. Through the NDC document, GoSL has pledged to Net Zero Carbon Emissions by 2050, while decarbonizing grid electricity with 70% RE contribution by 2030. The NAMA proposed in the transport sector is on Sustainable Transport through E-Bus Rapid Transit Systems comprising of 100 units to promote GHG reductions.

Reference document (please include date of document)	**Extract** (please include chapter, page number, etc.).
Nationally Determined Contribution (NDC) (September 2021)	The transport sector is one of the six mitigation sectors covered in the updated NDCs. There are 13 transport NDCs, implementation of which is expected to result in GHG emissions reduction against BAU scenario by 4.0% (1.0% unconditionally and 3.0% conditionally) equivalent to a total of 5,348 Gg CO2eq during the period of 2021-2030. The related NDCs are NDC2 - Promote public passenger transport; NDC6 - Introduce taxes and other instruments to promote public transport; and NDC9 - Promote electric mobility and hybrid vehicles; NDC10 - Improve vehicle fleet efficiency. Section 4.4.2, pp 12-14.
Technology Needs Assessment and Technology Action Plans for Climate Change Mitigation (2014)	The report on TNC covers the transport sector (Chapter 5: Transport Sector, pp 45-66). Ten technologies/actions are initially identified through stakeholder consultations for priority consideration, one of which is "Improved public transportation, especially in Colombo area through introduction of a Bus Rapid Transit (BRT) system".
National Adaptation Plan for Climate Change Impacts in Sri Lanka 2016 - 2025	Industry, energy and transportation are considered together in the NAP. The prioritized actions include establish an early warning and hazard communication system for commuters and managers the facilities, and Conduct research studies on climate change impacts on the sector. (Section 7.5, Table 14, pp 91-95).
Nationally Appropriate Mitigation Actions (NAMA)	NAMA Design Document for Transport Sector of Sri Lanka (Draft, September 2015) presents the NAMA Intervention – Promotion and adoption of E-Buses on the Galle Road Bus Rapid Transit (Section 4, pp 34-43). The full study report was published by UNDP in March 2016, titled NAMA on Sustainable Transport through E-Bus Rapid Transit Systems. The NAMA consists of a single intervention that involves the introduction and operation of 100 E-Buses in place of what would have otherwise been 100 articulated, diesel fuelled conventional buses. The activities of the NAMA are divided into two distinct phases: Pilot Phase (Phase 1), which will introduce 10 E-Buses, owned by the GoSL and operated by private operators; Full Scale Operations (Phase 2), which will mark the start of the full scale operation where the remaining 90 E-Buses will be introduced. All the E-Buses will be owned and operated privately. The total cost of the NAMA is estimated to be around US$104 million. The NAMA also includes capacity development programme, which focuses on capacity building of actors and outreach programmes to create interest within the private sector, along with promotional campaigns to generate awareness and interest in the adoption and utilization of EVs.
The national policy	This National Policy Framework of the government constitutes of 10 key

framework Vistas of Prosperity and Splendour (2020)	policies aimed at achieving the fourfold outcome of a productive citizenry, a contented family, a disciplined and just society and a prosperous nation. One key policy is New Approach in National Spatial System, in which developing transport network for an efficient and environmentally friendly public transport system is identified as a strategy, and within that an activity on re-fleet the current bus stock and introduce environmentally friendly (Green Transport) busses to ply within the city limits of the New Colombo is identified (Chapter 7, pp. 45-55).
Draft National Policy and Strategy on Sustainable Development (August 2020)	This is the overarching national policy and strategy developed to drive Sri Lanka towards a sustainably developed country. Key policy elements presented include guiding principles, policy goals, policy targets & strategies, and policy implementation. There are number of strategies proposed under SDGs related to the scope of present project proposal, including: Promote rational use of energy across all the end-use energy sectors (including transport); Promote electric vehicles, with special emphasis on using Solar PV based electricity for battery charging (Section 6.7.2, pp. 31-32); Modernise the bus fleet as a safe, affordable, accessible and energy efficient, environmentally sustainable transport (E3ST) mode and introduce luxury buses especially to serve in long distance and city limits (Section 6.11.2, pp. 42).
National Transport Policy Draft (2018)	The key elements of this policy draft are rationale, objectives, policy principles, policy goals and policy directives, and implementation (strategies, responsibility, monitoring and evaluation). The need for a sustainable transport system is highlighted in the policy principle on "Energy Efficiency & Environmental Protection". Further, the following policy directives could be identified as very relevant to the scope of this project proposal: Improve quality and reliability of public transport services and give priority to the use of public transport; Incorporate climate and disaster resilience in to development of transport systems and related infrastructure; Promote the use of energy efficient and less polluting vehicles; Promote RE for transport; Ensure the transport needs of all, including children, women, sick, differently able and elderly are adequately addressed; and Facilitate capacity building for skills development to achieve efficient transport service delivery
National Energy Policy and Strategies of Sri Lanka (2019)	The main objective of this policy document is to ensure convenient and affordable energy services are available for equitable development of Sri Lanka using clean, safe, sustainable, reliable and economically feasible energy supply. The policy is thus founded on ten pillars, rooted in the broad areas impacting the society, economy and the environment, in an effort to counter balance the forces through enhanced equity, security and sustainability, respectively. Among the 10 pillars, following are related to the scope of this project: Improving Energy Efficiency and Conservation; Caring for the Environment; and Enhancing the Share of RE (Section 2, pp. 5A). Some of the relevant interventions proposed are: ▪ Transport energy use will be reduced by undertaking 'avoid, shift and improve' strategies with a strong focus on high quality public transport and intelligent traffic management solutions (Section 3.4, pp. 9A); ▪ Gradual diversification of transport energy in both rail and road

	transport from present oil dominance to electricity will be encouraged. Further, appropriate time of use tariffs will be offered to attract additional demand from EV charging, and enhance the integration of indigenous sources such as solar and wind (Section 3.5, pp. 10A).
National Policy on Sustainable Consumption & Production (SCP) for Sri Lanka (October 2019)	The main elements of this policy documents include Policy Principles, Policy Statements and Policy Goals, and the interventions are presented under 10 thrust themes, and 3 cross-cutting enabling policies. Transport is one thrust theme. The related policy goals are Energy efficiency promoted in transport modes; and Modal share of Public Transport increased (Section 8, pp. 18-19).
National Environment Action Plan (NEAP) 2022-2030 (July 2022)	This is the 4th NEAP in the series starting from the plan initiated in the 1990s for Sri Lanka, which intends to fill the national environmental planning gaps. It is presented in nine thematic areas, where the transport sector interventions are seen prominently in four thematic areas: Air Quality Management; Climate Actions for Sustainability; and Environmental Management in Cities and Human Settlements. Some of the actions proposed under these thematic areas, which are relevant to this project are: ▪ Promote concepts of 'avoid-shift-improve' ▪ Promote transport systems ▪ Promote electric mobility/EVs as an energy-efficient and environmentally sound technology option for transport ▪ Adopt policies for enforcement of legislation and implementation of action plans to support an environmentally sustainable transport system.

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

Initially, the need for technical assistance was identified by the request applicant (Air Resource Management and National Ozone unit in consultation with the NDE and the Ministry of Transport. After finding out the possibilities of getting technical assistance from CTCN, the need was widely discussed in the consultations with the national technical advisory committee to find out the scope of the technical assistance. The support of the technical advisory committee was obtained to develop the request. The technical committee comprises academics and policy advisors in the fields of transport and Electric mobility.

Background documents and other information relevant for the request:

- Draft National Policy and Strategy on Sustainable Development for a sustainably developed Sri Lanka (August 2020), Sustainable Development Council, Government of Sri Lanka.
  Web link: https://sdc.gov.lk/sites/default/files/2020-09/DRAFT%20National%20Policy%20and%20Strategy%20on%20%20Sustainable%20Development.pdf
- Western Region Megapolis Transport Master Plan (November 2016), Final Report, Western Region Megapolis Transport Planning Project, Ministry of Megapolis and Western Development.
  Web link:

https://www.researchgate.net/publication/354808276_Western_Region_Megapolis_Transport_Master_Plan_2016_Sri_Lanka.

- NAMA Design Document for Transport Sector of Sri Lanka Draft (September 2015), United Nations Development Programme (UNDP).

  Web link: http://www.climatechange.lk/NAMAs/SL%20Transport%20Sector%20NAMA-Semi%20Final.pdf
- NAMA on Sustainable Transport through E-Bus Rapid Transit Systems (March 2016), United Nations Development Programme (UNDP).

  Web link: https://www.undp.org/sites/g/files/zskgke326/files/publications/NAMA%20Study%20Sri%20Lanka%20FNL%20Print%20Ready%20REV%20(002).pdf
- National Adaptation Plan for Climate Change Impacts in Sri Lanka 2016 – 2025 (2016), Ministry of Mahaweli Development and Environment, Government of Sri Lanka, ISBN 978-955-0033-98-0.

  Web link: http://www.env.gov.lk/web/images/pdf/divisions/climate_change_division/publications/new/3_nap_for_sri_lanka_2016_2025.pdf
- National Energy Policy and Strategies of Sri Lanka (August 2019), Ministry of Power, Energy and Business Development, Government of Sri Lanka.

  Web link: http://www.documents.gov.lk/files/egz/2019/8/2135-61_E.pdf
- National Environment Action Plan (NEAP) 2022-2030 (July 2022), Ministry Environment, Government of Sri Lanka, ISBN 978-624-5817-24-5.

  Web link: https://www.researchgate.net/publication/362118983_National_Environmental_Action_Plan_2022-2030_Pathway_to_sustainable_development_in_Sri_Lanka.
- National Policy on Sustainable Consumption & Production (SCP) for Sri Lanka (October 2019), Ministry Environment, Government of Sri Lanka.

  Web link: http://www.env.gov.lk/web/images/downloads/publications/other_publication/scp_policy/scp_policy_english_printing_new_a_5_1.pdf
- National Transport Policy Draft (2018), National Transport Commission, Government of Sri Lanka, Gazette Extraordinary No. 2135/61 of 09.08.2019.

  Web link: https://www.ntc.gov.lk/corporate/pdf/2018/Revised%20Transport%20Policy%20document_Dec%202017.pdf
- Technology Needs Assessment and Technology Action Plans for Climate Change Mitigation (2014), Climate Change Secretariat, Ministry of Environment and Renewable Energy, Government of Sri Lanka, ISBN 978-955-0033-70-6.

  Web link: https://env.gov.lk/web/images/pdf/divisions/climate_change_division/publications/new/6_tna_and_taps_for_climate_change_mitigation.pdf
- The National Policy Framework Vistas of Prosperity and Splendour, Summary (2020), Ministry of Finance, Government of Sri Lanka.

  Web link: https://www.treasury.gov.lk/api/file/e27fc0b5-d4a1-4200-9bc9-148d5e9c527e
- Updated Nationally Determined Contributions (NDC) (September 2021), Ministry of Environment, Government of Sri Lanka.

  Web link: https://unfccc.int/sites/default/files/NDC/2022-06/Amendmend%20to%20the%20Updated%20Nationally%20Determined%20Contributions%20of%

20Sri%20Lanka.pdf

- Please indicate if this request has been developed with the support of the CTCN Request Incubator.

It was not developed with the support of CTCN request incubator.

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[2].

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: K. N. Kumudini Vidyalankara

Date: 28 July 2022

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

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

impacts in the country.

Signature:	
NDE name:	K. N. Kumudini Vidyalankara
Date:	04/08/2022
Signature:	K.N. Kumudini Vidyalankara Director (Climate Change) Ministry of Environment "Sobadam Piyasa" No : 416/C/1, Robert Gunawardhana Mawatha, Battaramulla.

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.