Terms of Reference for consultancy work for

the development of an electro-mobility policy framework and roadmap for Ghana

# Background

At the international and regional level Ghana is a signatory to conventions that are to be embedded in Ghanaian law and policy. These include the Paris Agreement (-15% in its GHG by 2030), Sustainable Development Goals (2016) and the African Union’s Agenda 2063 (2014), seeking to transform economies and ensure environmental sustainability and climate change resilience of its infrastructure. These commitments, supported by a number of recent national policy developments, have strengthened Ghana’s preparedness in terms of mitigating and adapting to climate change.[[1]](#footnote-1) Ghana's strategy tackle climate change has been articulated in its recent medium-term development policy framework (Agenda for Jobs: Creating Prosperity and Equal Opportunity for All, 2018-2021) and the National Climate Change Policy.[[2]](#footnote-2)

Today, Ghana is one of Africa’s fastest growing economies and, despite the consistent steady economic growth over the last decade, climate changes poses a threat to future growth and development.[[3]](#footnote-3) Ghana continues to face challenges associated with rising population such as poverty, access to education and healthcare, pollution, environmental change and energy access. Ghana’s 4th GHG Inventory (2019) shows significant growth in the energy sector, contributing 35.6% of emissions in 2016, with transport at 47.7%. Transportation had a 7.3% rise in emissions since 2012 while overall energy had a 2% decrease over 2012 figures.

The Agenda for Jobs: Creating Prosperity and Equal Opportunity for All, (2018-2021) set the road-based mass transportation system, including extending Bus Rapid Transit (BRT) corridors, as one of the medium-term strategies to improve efficiency and effectiveness of road transport infrastructure and services. It committed to increasing the proportion of renewable energy into the national energy supply mix. It was followed by the Ghana Government’s Coordinated Programme of Economic and Social Development Policies (CPESD) 2017-2024 and Agenda for Jobs: Creating Prosperity and Equal Opportunity for All 2018-2021. The development of its transport sector in Ghana has been however based on short-term planning and lacks an enabling framework. Enhancing the sustainability of its transport infrastructure and associated services can aid the economic development of Ghana, curb its emissions growth and enable it to mitigate climate change. The Ghanaian’s Government has recently released a (draft) white paper on transport that identifies the following mission: “*To provide leadership and an enabling environment for the development and maintenance of Ghana’s transportation system through effective policy formulation, [and] market regulation*”.[[4]](#footnote-4)

UNEP DTU Partnership is implementing a request received from Ghanaian government to Climate Technology Centre and Network (CTCN) to:

1. Develop a cohesive electro-mobility policy, planning and market framework to transform Ghana’s transport sector into a modern, sustainable, effective, forward looking and results driven sector.
2. Assess the market readiness, measures and instruments to enable uptake of Electric Vehicles and associated infrastructure in Ghana;
3. Deliver an action plan in the form of an implementation roadmap and business case for eVehicles and charging infrastructure deployment
4. Work with the Government of Ghana to build the capacity of stakeholders, to facilitate the development and implementation of Ghana’s electro-mobility roadmap and supporting charging infrastructure.

# Objectives

The objective of the project is the development of an electro mobility policy for Ghana, incorporating implementation frameworks for the deployment and scale-up of Electric Vehicles.

# Project organisation and approach

The project follows a country-driven approach led by the National Designated Entity (NDE)[[5]](#footnote-5) and the Ministry of Transport. A centralised steering committee is proposed to coordinate the review of deliverables and the implementation of the project. It would be the focus for stakeholder engagement (especially vulnerable groups), be a convening power for public, private and civil society stakeholders and ensure that the project implementation by the national and international consultants is delivered with the highest level of impact and best value for money considerations.

# Scope of Work

To achieve the above objectives, the following activities will be carried out with indicated deliverables. The responsibilities of the consultant and deliverable have been indicated against each activity/ sub-activity.

### Activity 1- Assessing Market Readiness and Policy Framework for deployment of selected electric mobility (e-mobility) in Ghana

A review of the existing state of the urban passenger road transport sector, identification of barriers and barrier removal measures, including regulatory, financial and other policy measures, will be undertaken in this activity for the deployment of selected e-mobility type in Ghana. The activity consists of the following sub-activities;

* 1. Review of the urban passenger road transport sector in Ghana. This should include stock of vehicles and its growth trend, transport plan and projections (if any), institutional, policy frameworks including regulations for pollution (if any) and/or banning/penalizing the importation of polluting vehicles, GHG emission profile, sectoral NDC commitments (if any), and other relevant information.

Deliverable: Review report on urban passenger road transport sector in Ghana

* 1. Prioritising the vehicle types (Buses, rickshaws, cars, scooters) for selection of vehicle types for the introduction of e-mobility: It is important to introduce e-mobility for the vehicle types that can make a maximum contribution to the national goals in terms of sustainable development impacts and mitigation of GHGs. This analysis will indicate the value that each type of selection can add to the above two parameters (sustainable development impacts and GHG mitigation) so that an informed decision can be taken by policymakers. The sub-activities include;
		1. *Mapping the current market for vehicles (Historical Trends and Future Projections) based on data collected in Activity 1.1*
		2. *Analysing the mitigation potential and related costs of EVs (for each vehicle type) (Methodology and Training on this to consultant and GHG Inventory team will be given by UDP)*
		3. *Assessment of Sustainable Development Impacts from adoption of Electric Vehicles (Buses, rickshaws, cars, scooters ) (Training will be given by UDP)*
		4. *Assessment of retrofitting possibilities- challenges and opportunities*
		5. *Prioritisation vehicle types for e-mobility using Multi Criteria Assessment (Methodology and Training will be provided by UDP)*

Deliverable: Report on prioritisation of vehicle types for introduction of e-mobility in Ghana

* 1. Barrier analysis for the prioritised Electric Vehicles using value chains, problem tree analysis, etc., which includes the following sub-activities;
		1. *Mapping the value chain for prioritised EVs*
		2. *Mapping the current policies and regulations for EVs*
		3. *Mapping the current services and infrastructures for EVs (including reliability of electricity supply)*
		4. *Identifying Barriers from activities 1.3.1 to 1.3.3 (including economic and financial barriers, institutional barriers (policy and regulatory), technical barriers, awareness, infrastructure and others relevant barriers for market readiness, and safety issues*

*The methodology for barrier analysis will be provided by UDP and training will be provided for the same*

Deliverable: Report on Barriers Analysis for the prioritized Electric Vehicles

* 1. Identification of the measures to address identified Barriers, which includes the following sub-activities;
		1. *Financial measures such as EV purchase grant scheme, charging support, accelerated capital allowances, and excise relief etc. for addressing economic and financial barriers*
		2. *Identification of measures such as facilitating local assembly, manufacturing and exports support for addressing technical barriers and creating local capacity*
		3. *Identification of measures (such as public awareness campaign, display of EVs, demonstration, press releases, website for EVs related information etc that improve awareness*
		4. *Identification of measures to address regulatory, infrastructure and institutional barriers (including for battery O&M and charging)*

UDP will provide a generic list of measures to the consultant based on global best practices. The consultant will undertake discussions and consultations with various stakeholders, including policymakers, industry professionals, experts and others. This is to identify measures specific to Ghana. It may involve relevant data collection, discussions with / meeting of relevant stakeholders, and administering questionnaires / interviews of stakeholders. Necessary guidance on methods to be adopted will be provided by UDP, wherever needed.

Deliverable: A report on measures identified for Ghana to address the barriers.

* 1. Draft Report on National Electric Mobility

UDP will draft a Market Readiness and Policy Framework Report for the deployment of selected electric mobility (e-mobility) in Ghana and the consultant will support UDP, depending on the requirement.

Deliverable: Support for "Final National Electric mobility Policy and Market Readiness Framework"

### Activity 2- Developing concept notes for recommendations and priority actions on topics related to EV promotion

 EV awareness and promotional measures require development of a mix of brochures, concept notes and guidelines for stakeholders including users, service providers, and others. Basic information for this should be available from the data gathered in the Activity 1.

* 1. Develop a brochure for citizen / users providing information on EV Vehicles
	2. Develop a concept note covering the fiscal measures (such as EV Purchase Grant Scheme, Charging support, Accelerated Capital Allowances, and Excise Relief)
	3. Develop Guidelines for charging equipment planning and installation in city and norms for intercity charging points
	4. A note on safety considerations for EVs

The consultant will have full responsibility for the sub-activities 2.1 to 2.3. UDP will provide Global Best Practices for charging equipment, which then can be appropriately modified for adoption in Ghana UDP will review and provide suggestions

Deliverable: Finalised concept notes /brochures (3 No.)

### Activity 3 - Developing Policy Roadmap at national level including regulatory, taxation and subsidy policies to drive deployment of EVs in Ghana

Once various barriers and measures- regulatory, institutional. financial and others- have been identified to address the barriers, the next step is to prioritize the actions and make a time-bound plan, indicating resource requirements to help implementation of the measures. It includes the following activities;

* 1. Data collection and stakeholder input to inform the development of the policy roadmap and priority actions include;
		1. *Framework development for a policy roadmap*
		2. *Prioritisation of measures (included in the Draft Report on National Electric Mobility and Market Readiness Framework) for infrastructure development (for EV Charging and O&M), regulatory frameworks, awareness campaigns, monetary and fiscal and other support measures for various actors involved in the value chain (local manufacturers, dealers, users etc.)*
		3. *Identification of institutions involved and assignment of responsibilities for implementation*
		4. *Defining of timeframe and budgets needed for implementation of various activities;*
		5. *Defining risks and indicators for monitoring and reporting on the implementation of the roadmap*
		6. *Finalization of the roadmap in consultation with key stakeholders*

 The consultant will support UDP through meetings / workshops / consultation with stakeholders, data collection and inputs from key stakeholders on budgets, timelines and indicators for monitoring of actions in the draft roadmap.

UDP will draft the Policy Road Map Report based on various inputs from stakeholders from these sub-activities.

Deliverable: Support for Finalised policy roadmap.

### Activity 4 - Organising Roadmap validation workshop

Several stakeholders will be involved in the implementation of the roadmap and therefore their feed back must be taken into consideration while finalising the roadmap. A workshop will be therefore organised to discuss the draft roadmap and all relevant stakeholders will be invited to the workshop. The stakeholder's feedback will be included while finalising the roadmap.

The consultant will organise the roadmap validation workshop and obtain the feedback from the stakeholders on the roadmap.

Deliverable: Report of the workshop.

### Activity 5- Public Awareness raising on EVs

Awareness raising is an important activity whenever a new technology is introduced and public needs to aware of its potential and benefits before they decide to adopt it. A variety of measures such as media campaigns, technology demonstration through deployment in selected visible segments (eg. government vehicles, test drives at dealers showrooms) etc. may be needed. The end of the project workshop provides an opportunity to raise awareness among selected key stakeholders to understand the potential and benefits of EVs so that they help promote and deployment of EVs in Ghana. A survey of the stakeholders can also help understand the level of awareness and attitude to EVs, which can help fine-tune the plan. The activities include;

* 1. A draft Plan for Public Awareness Programme: It includes;
		1. Organise a survey of wide range of stakeholders to gauge awareness and confidence in EVs and attitude to their deployment.
		2. *Identify public awareness issues based on discussions with stakeholders*
		3. *Prepare a Plan for Public Awareness Programme (campaign) based on the information generated on the identified issues in the project; for example government plan for EV, fiscal incentives, regulations, infrastructure development (charging facilities) etc.*

The consultant will be responsible for consultation with relevant stakeholders on both awareness issues identified and the campaign proposal. UDP will provide inputs based on review of the draft outputs.

Deliverable: Report on awareness issues identified and a Plan for Public Awareness Programme.

* 1. Organise Final project workshop to disseminate findings and raise awareness on EVs among key stakeholders

Deliverable: Report of the workshop

#  Budget

The budget for the consultancy contract is **USD 49,000** (including all taxes and duties) to cover all his costs including local travel related to survey work. In addition to this budget, the consultant will be reimbursed expenses for steering committee meeting, stakeholder meetings and two workshops

* Around 8-10 steering committee / stakeholder meetings are envisaged
* There will be two main workshops for which approved expenses for the workshop would be reimbursed by UDP.

# Payment

Payment of fees will be based on submission of deliverables. Deliverables will be fully defined in the contract.

# Qualifications and Skills

The appointed consultants should have the following qualifications/skills:

**Essential**

* Degree in urban transport, urban studies, civil engineering, environment or related field
* 10 years’ experience within Ghana/ West Africa, including conducting barrier analysis, market readiness assessments and developing roadmaps/action plans
* Experience of developing, facilitating and delivering stakeholder workshops and group facilitating aimed at engaging multiple actors
* Working knowledge and experience in the energy and transport sector of Ghana.
* Experience of initiatives focussing on electro-mobility
* Experience in conducting surveys.
* Experience of working with data
* Ability and experience to interview government agencies and private sector
* Proficient analytical and writing skills and excellent English communication skills

**Highly Desirable**

* Postgraduate degree in urban transport, environment or related fields
* Experience in transport demand modelling
* Knowledge of UN procedures

# Working Arrangement

The consultants or consultancy will be retained on a contract with the UNEP DTU Partnership and payments based on deliverables. They would be required to be available for the timely delivery of milestones throughout the project.

The consultant will work under the supervision of the Ministry of Transport and will agree on face-to-face workdays at its offices as per the progress of work.

# Language

All outputs should be prepared and submitted in the English language to the UNEP DTU Partnership.

# Time for completion

 Four months

#  Confidentiality and ownership of results

The contracted consultant is obliged to maintain confidentiality regarding the activities they carry out and the information they receive from the evaluated homes. The reports generated, and all products related to the object of the present contract will be the exclusive property of UNEP DTU Partnership. Any publication or dissemination that the consultant requires to do on joint works, may only be executed after authorization of such by UNEP DTU Partnership.

1. Integrated Transport Plans (2008/ (2010), National Climate Change Adaptation Strategy (2012) UNFCCC Initial National Communication (2011/2015), Ghana National Climate Change Policy (2013), Ghana's Intended Nationally Determined Contribution (INDC) (2015), National REDD+ Strategy (2015). [↑](#footnote-ref-1)
2. The Government has identified 4 key policy and measures including Renewable Energy Act, Renewable Master Plan, Scaling-up Renewable Energy-Investment Plan, SE4All Action plan, Energy Efficiency Regulations [↑](#footnote-ref-2)
3. Rising sea levels, drought, higher temperatures and erratic rainfall negatively impact infrastructure, hydropower production, food security and coastal and agricultural livelihoods. One-quarter of the population lives along the coast in rapidly expanding urban areas like Accra, and are especially vulnerable to flooding and waterborne disease. Despite the country’s recent transition to an industry and services-oriented economy, 45 percent of the workforce still depends on rainfed agriculture. Hydropower (Akosombo, Kpong and Bui dams) provides approximately 54 percent of national generation capacity. [↑](#footnote-ref-3)
4. This commitment includes a number of policy goals such as (4.2.3 Provide transport infrastructure and services without compromising the integrity of society, environment, health and the climate; (4.2.4) Create an enabling environment for public and private sector participation in transport infrastructure development and service provision; (4.2.5) Adopt and promulgate a transport planning framework based on effective use of policy, long term plans, medium term programmes; (4.2.6) Develop an institutional framework that separates functions of policy, regulation, asset management and service provision by transport sector and (4.2.10) Apply new and appropriate technology and innovations to transport infrastructure and service delivery [↑](#footnote-ref-4)
5. NDE is the CTCN focal point within the Environment Protection Agency [↑](#footnote-ref-5)