

ANNEX I – Description of the Action



*Empowered lives.
Resilient nations.*

United Nations Development Programme

Project title: Towards Low Carbon Transport: Piloting e-mobility within Belize’s Public Transport System		
Country: Belize	Implementing Partner: UNDP	Management Arrangements : Direct Implementation (DIM)
MSDCF Outcome Pillar: <i>Sustainable and Resilient Caribbean</i> <i>MSCDF Outcome: Policies and programmes for climate change adaptation, disaster risk reduction and universal access to clean and sustainable energy in place.</i> <i>MSCDF Outcome Indicator:</i>		
UNDP Strategic Plan Output: <i>Output 1.5: Inclusive and sustainable solutions adopted to achieve increased energy efficiency and universal modern energy access (especially off-grid sources of renewable energy)</i>		
EU Reference Number:		
		Project duration: 39 months (33 months implementation, 6 months closure)
Brief project description: The project to be administered by the UNDP Belize Country Office and funded by the European Union supports the implementation of Belize’s raised ambition Nationally Determined Contributions to the United Nations Framework Convention on Climate Change (UNFCCC) and associated Low Emission Development Strategy (LEDS). In line with UNDP’s Global Programme to Support Countries with the Shift to Electric Mobility and applying UNDP’s Derisking		

Renewable Energy Investment approach the project addresses policy barriers faced in transitioning towards a low carbon transport sector and the enabling of a policy framework supporting e-mobility expansion in country.

Under the second component, in partnership with private sector and local government institutions, the project EU financing in the piloting of e-mobility as a means of satisfying growing public transport demands for modernization. The pilot focuses on demonstrating conditions and early experience for e-mobility integration into the national system, informing sector growth and investment planning.

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II. DEVELOPMENT CHALLENGE / RELEVANCE OF ACTION

Environmental Context

1. Belize is an upper middle-income country with a population of 430,191 (2021), 52% of whom live in poverty (2018). Belize was ranked 110/189 (2019) on the comprehensive Human Development Index.¹ Climate change represents a significant development challenge for the country of Belize, threatening territory, population and key economic sectors. According to the 2016 systematic country diagnostic by the World Bank Group, Belize is one of the most affected countries in the world by extreme weather event, as such, Belize considers adaptation as a high priority given its vulnerability to natural hazards and climate-related shocks. However, as a member of the High Ambition Coalition, Belize also remains committed to increasing emissions reduction ambition in an updated NDC and developing a long-term strategy aligned with achieving net zero global emissions by 2050.² To enable this purpose Belize defined a Low Emissions Development Strategy (LEDS) to accompany the updated Nationally Determined Contributions (NDC's) of the country in 2020. The country's LEDS guides a forward-looking national economic development pathway which secures climate-resilient economic growth for the country. Belize's LEDS estimates that the country's gross emissions would grow more than 40% in the 2020-2050 period under business-as-usual conditions and suggests measures to eliminate the majority of its gross carbon emissions. One such measure is the transformation of the transport sector through a proposed conversion or replacement on the country's legacy petroleum-based transport fleet through a combination of accelerated adoption of electrical vehicles and blending ethanol in the regular gasoline for the legacy fleet.
2. Belize's updated transport specific NDC target (2020) seek to *'Avoid 117 KtCO₂e/year³ from the transport sector by 2030 through a 15% reduction in conventional transportation fuel use by 2030 and achieve 15% efficiency per passenger- and tonne-kilometre through appropriate policies and investments.'* The NDC document proposed specific accompanying actions including, "Improve efficiency in the public transit system through the deployment of 77 hybrid and electric buses by 2030 (17 by 2025)" and "Facilitate adoption of electric vehicles in the passenger fleet by conducting a feasibility study for EV penetration, including assessment of potential incentives, and investing in EV charging infrastructure". Electric Mobility (e-mobility), however, is in its nascency in Belize as the country is still in very early stages of technology adoption, with limited Electric vehicles (EV) operating outside of any specific EV policy or transport system

¹ <http://hdr.undp.org/en/countries/profiles/BLZ>

² <https://www.docdroid.net/gavlB6o/190922-rmi-unsg-summit-release-leaders-statement-final-combined-pdf>

³ As modelled in the TES scenario of IRENA's ReMAP analysis for Belize.

framework. The absence of a national policy framework prevents considerations of large-scale deployment.

Baseline scenario

3. Belize's public transportation network currently operates in a weak regulatory environment with ineffective regulations and poor enforcement. The public transport sector is fully implemented by the private sector, with investments in the system driven by a profit motive. Belize's public transport demand is met primarily by a fleet of used school buses imported from the USA, the average age of which is 25 years. These buses are very inefficient and the inadequacy of the national architecture necessary to enable transport sector transformation, more specifically increase efficiency in sector operations, has resulted in fragmented operations with little to no potential for realizing real impacts related to greenhouse gas (GHG) emission reduction. The development of GHG baseline emissions models for the period 2017 and 2030 show Baseline emissions increasing from 87,400 tons in 2017 to 109,500 in 2030. The majority of emissions (86 per cent) coming from buses.⁴
4. Transport Sector Diagnosis: Historical data indicates that the transport leads energy consumption in Belize, accounting for 46.8% of total secondary energy consumption (10,946 TJ). Currently there are 190 licensed public transport operators in Belize. 141 of these operate to provide village shuttles and 49 operate as conventional bus operators. Approximately two-thirds of all public transport vehicles are inter-district buses, with the remaining one-third being intra-district. According to the Comprehensive National Transport Master Plan (CNTMP), growth projections for both, passenger vehicles and trucks, is expected to grow around 3% annually, with a slight deceleration in passengers and a slight acceleration in trucks. BAU projections estimate an increase of emissions of 131% for motor gasoline and 149% for gasoil/ diesel in the 2020-2050 period. Belize's LEDs suggests three (3) pathways in dealing with anticipated emission increase: (i) increasing efficiency of regular buses, (ii) replacing regular by electric buses and (iii) attracting passengers from individual transportation (cars and motorcycles) to the public transit system.

Legal and Institutional Context

5. Several policies and strategies have an impact on the introduction of e-mobility in Belize. Direct actions are needed in order to give life to the policies and help to stimulate the paradigm shift to EVs, especially in the public transportation sector. The most significant policies and strategies related to e-mobility are the following:

a.) *National Climate Change Policy, Strategy and Action Plan*

Belize's primary climate policy is elaborated in the National Climate Change Policy, Strategy and Action Plan (NCCPSAP) that was adopted in 2015 by the Ministry of Forestry, Fisheries and Sustainable Development. It recognises that the energy and transportation sectors, because of the benefits to be

⁴ Belize LEDS 2021

derived through the pursuit of sustainable energy and low-carbon development initiatives, will require policy initiatives, which seek to limit emissions of Green House Gases (GHG). It also states that transport, as the largest source of GHG emissions in Belize, is a major energy consumer, with almost half of final energy use in Belize.

The National Climate Change Policy, Strategy and Action Plan sets out climate actions to be undertaken in the transport sector, which, if successfully implemented, should lead to improved sector-wide energy efficiency. The NCCSPAP addresses directly the need for improved public transportation and more directly the need for upgrading the country's rolling fleet for greater efficiency of fuel use and the minimization of emissions. The NCCSPAP is currently under review by the Government of Belize.

b.) *Belize's Updated Nationally Determined Contributions to the UNFCCC (NDCs)- 2020*

Belize updated its national contributions under the Paris Climate Change Agreement. Belize submitted its Nationally Determined Contribution in 2016 and has submitted an updated version of these commitments for inclusion in the global stocktake planned in conjunction with the 26th Conference of Parties to the United Nations Framework Convention on Climate Change which is to be held November 2021.

Belize's updated NDC document reflects sector targets and actions relevant to climate change mitigation and adaptation. They are an extension and application of the focus on climate change in Belize's key development plans. According to the NDC document, Belize's transport sub-sector is the largest GHG emitter in the energy sector, representing a significant opportunity to reduce emissions through interventions targeting this sector. The documents states a transport subsector target to **Avoid 117 KtCO₂e/year⁵ from the transport sector by 2030 through a 15% reduction in conventional transportation fuel use by 2030 and achieve 15% efficiency per passenger- and tonne-kilometre through appropriate policies and investments**; and recommends (i) Improve efficiency in the public transit system through the deployment of 77 hybrid and electric buses by 2030 (17 by 2025) (ii) Implement a policy framework to promote more efficient vehicles and alternative fuels/blends through incorporation of fuel economy labels; emissions testing; fuel economy standards, limitations and emissions-based taxes/feebates for imported vehicles by 2025 and (iii) Facilitate adoption of electric vehicles in the passenger fleet by conducting a feasibility study for EV penetration, including assessment of potential incentives, and investing in EV charging infrastructure.

c.) *Belize Low Emission Development Strategy (LEDS)*

The Belize Low Emission Development Strategy (LEDS) 2020-2050 is a living document compiled to define pathways to achieve low emission development in Belize until 2050. The LEDS set out the country's long term mitigation ambitions in line with a public commitment to a low emission development pathway. The LEDS uses gross emissions (total emissions excluding FOLU removals and including electricity imports) as the primary concept for tracking mitigation performance in Belize's case. The LEDS outlines a strategy for emission reduction in the transport sector led by light vehicles, through a combination of accelerated adoption of electrical vehicles and blending ethanol in the regular gasoline for the legacy fleet.

⁵ As modelled in the TES scenario of IRENA's ReMAP analysis for Belize.

d.) Comprehensive National Transport Master Plan (CNTMP)

The Master Plan seeks to address the unreliability of public and/or private data available on demand for public transport preventing accurate sector planning. The CNTMP calls for a pilot study using electric vehicles, arguing that by shifting the energy matrix in the transport sector, the Government of Belize has an opportunity to develop a policy for the introduction of electric vehicles in the long term.

According to the Comprehensive National Transport Master Plan the main problems in the public transportation sector are:

- Old and poor vehicles
- Poor maintenance and frequent road failure of public buses
- Lack of reliable data on fleet size and composition
- No data on bus operation (number of passengers using public transport, by route, time of day, trip purpose)
- No required training for bus drivers
- Lack of modern bus terminals, and on-road safe bus stops
- Lack of off-street parking facilities for public buses
- Lack of premium service for tourists and higher income Belizeans

The CNTMP then goes on to identify at the following short-, mid-, and long-term actions to address the problems identified above and which will have implications for the pilot project.

- National Belize Motor Vehicle Registration and Licensing System, with a single database - connecting municipalities and Department of Transport, under the Ministry of Transport as a first step toward a Transport Information System
- Developing bus stops program for inter-city Bus Service
- First stage of modernizing public bus service and permit issue, with the modification of permit duration, from the current 2 years to 8 to 10 years, tied with an increase in the bus operating permit requirements by Ministry of Transport in terms of organisation of companies, fleet and service characteristics, and safety
- Design, build and operate the new inter-city bus terminal of Belize City planned as a Public Private Partnership (PPP)
- Institutional strengthening of the Ministry of Transport
- Second stage of the modernisation of the public bus service, by promoting the formation of formal public transport companies, including new infrastructure to improve operations; redesigning the overall bus network, including feeders and first-class inter-city services; and developing electronic ticketing
- Renew or build bus terminals in all main cities

e.) Belize National Sustainable Energy Strategy (NSES), 2012 – 2033

The Belize National Sustainable Energy Strategy declares that the transport sector is a major user of petroleum products, accounting for just over 6,000 barrels of oil per day or 85% of the fossil fuel use. This represents around 57% of overall energy use. The NSES further recognises Belize's 2009 commitment to the "Small Island Developing States Sustainable Energy Initiative – SIDS DOCK", to reduce conventional transportation fuel use by 20-30% by 2033

Baseline initiatives/ Lessons Learned

6. Belize Electricity Limited (BEL) promotes electric mobility in Belize through its implementation of charging infrastructure under the name of "Charge and Go" consisting of a network of electric vehicle supply equipment (EVSE). BEL intends to deploy a nationwide network of EVSEs over the next five years. The installation of DC/Level 2 AC chargers is scheduled for October 2021 in locations across the country.
7. Key lessons learned associated with UNDP's involvement in the development of e-mobility interventions within the region and globally include:
 - i. Economic, regulatory and technical challenges must be wholistically address in order to achieve transition to e-mobility. Key economic barriers pertains primarily to high upfront costs and issues of business viability. Technical barriers are associated with efficiency and expansiveness of charging network, capacities to service and maintain fleet, fit for purpose electric vehicles and sourcing of spare parts (one must consider that near 90% of e buses utilized in global e-mobility pilots are sourced from China); while regulatory barriers are commonly associated with the enabling policy environment and tariff related issues.
 - ii. Pilot scale-up must be guided by a well-defined strategy supported by business models which enables private sector partnerships and involvement. Business models are expected to enable relationships between financing entities, the private sector (including fleet managers), the government and energy providers.
 - iii. True EV permeation is dependent on the existence of innovative financing mechanisms which facilitates business access to investment capital and minimizes risks associated with investment. The provision of financial and non-financial incentives greatly improves the probability of electric vehicle uptake in local markets.
 - iv. In grid management and vehicle operations, it is integral to manage electric vehicle loads at time of peak demand. This is important as we consider the true mitigative effect of the inclusion of electric vehicles within national rolling fleets and ensuring that the introduction of electric vehicles do not simply transfer emissions to power generation plants.
 - v. Consideration of charging as a service rather than the resale of electricity is key to the enabling of sector growth and the infusion of private sector investments.

III. STRATEGY

8. Belize's CNTMP calls for a pilot study using electric vehicles. Such a demonstration pilot is expected to trigger Government of Belize action in creating an enabling environment for the introduction of electric vehicles in the long term. The proposed initiative takes on this recommendation and proposes actions meant to enhance sustainability in e-mobility for low carbon transport. The **strategic objective** of the project is to facilitate transformation within Belize's Transportation Sector through the enabling of low carbon means of transportation. The ambition is to establish the foundation for further investments in e-mobility as a part of system transformation. Foundational work undertaken through this initiative is expected to contribute to NDC/ LEDS implementation, ultimately enabling the deployment of 77 hybrid and electric buses by 2030 (17 by 2025) and the avoidance of 117 KtCO₂e/year from the transport sector by 2030.

9. The proposed action described below is developed with the following **overall objective** of: *“Facilitating the implementation of Belize’s NDCs and contribute to the lowering of greenhouse gas emissions.”*

The **specific objectives** are:

1. “Establish a policy framework to promote low carbon means of transportation and lay the foundation for further investments in the e-mobility sector.”
2. “Support the introduction of electric buses in Belize, ensuring, technical, financial and regulatory settings for their operation in the public transport sector are in place.”

10. The initiative is delivered through the implementation of three (3) primary outcomes/components:

1. Component 1: E-mobility Institutionalization- Creating an ecosystem for e-mobility
2. Component 2: Demonstration of e-mobility application in the public transport sector
3. Component 3: Enabling investments in e-mobility and upscaling of system

11. Project **Component 1** addresses the policy, legislative and institutional barriers which restricts national progression towards the realization of a low carbon transportation sector. It seeks to support the development of a national policy framework to promote low carbon means of transportation and supports the penetration of electric vehicles within national rolling fleets particularly within the public transport sector. This framework will include a “National Electric Transport Policy” with policy focus areas restricted to ground transportation and detailing specifically Public Transportation.

12. Project **Component 2** provides support for the implementation of an e-mobility learning pilot which demonstrated the utilization of electric vehicles as a means of creating efficiencies within the public transportation system. It supports technology introduction and seeks to demonstrate the technical and financial feasibilities of electric vehicle usage while contributing information on the performance of electric vehicles within the Belizean landscape. As a learning/ demonstration pilot, Component 2 will be

closely monitored and observations/ experience incorporated within a longer-term action plan for e-mobility penetration in Belize, expected to be elaborated under component 3 of this planned initiative.

13. Project **Component 3** addresses the viability of electric vehicles beyond the scope of the project. This supports the elaboration of a National Transport Sector Transformation Strategy and presents viable business and financial models which support pilot scale-up and sustainability.
14. The theory of change underlying this project is based on the forecasted impact of low carbon transport on national emission reduction. It premises that as one of the principal challenges for scaling-up investment in e-mobility, high financing costs that negatively affect competitiveness against baseline technologies and market penetration must be addressed through national policy. The initiative encompasses a portfolio of measures which seek to remove existing barriers to e-mobility penetration. It coops national and international experts and utilizes the learning experience of a demonstration pilot to elaborate an enabling policy framework as well as presents financial instruments capable of de-risking market entry for electric vehicles. The project enables conditions for increasing returns on investments and attracting greater private sector interest. The project also utilizes this opportunity of sector transformation to addresses barriers and issues of capacity and policy deficits within the national transport system architecture, supporting the creation of conditions necessary for data informed policy/ strategy development.
15. The project's theory of change makes several key assumptions, including the assumption of existing political willingness to effect the transformative changes required to enable low carbon transport in the country. There is an assumption of a coordinated shared vision for transport sector modernization which involves the engagement of a broad cross section of public and private sector interest groups. It is assumed that the financial feasibility for the employment of electric vehicles across the public transport system can be enabled through policy and adoption of incentive packages by the government of Belize.
16. In the definition of project intervention, the theory of change considers the following barriers:
 - 1. Technological barriers**
 - i. Lack of operational and maintenance capabilities on e-mobility
 - ii. Lack of experience with smart meters (the pilot would provide empirical data)
 - iii. Lack of knowledge of the impact on the grid stability of charging stations
 - iv. Impact of the temperature on the performance of the batteries. Lithium batteries are specifically affected by high temperature. Real data is needed.
 - 2. Policy and regulatory barriers**
 - i. The Electricity Act has established requirement for license to produce electricity and adopted the NEC code as a national standard, but it does not cover EVs, and it does not allow "net metering" or "net billing"
 - ii. The Motor Vehicle and Road Traffic Act establishes requirement for registration and licensing of vehicles. and it limits validity of road service permits to two years
 - iii. The Public Utilities Acts establishes the regulatory environment and sets out the rate setting mechanism for sale of electricity
 - iv. There is no legislative footing for: driver training, public service vehicle maintenance, performance standards for operators

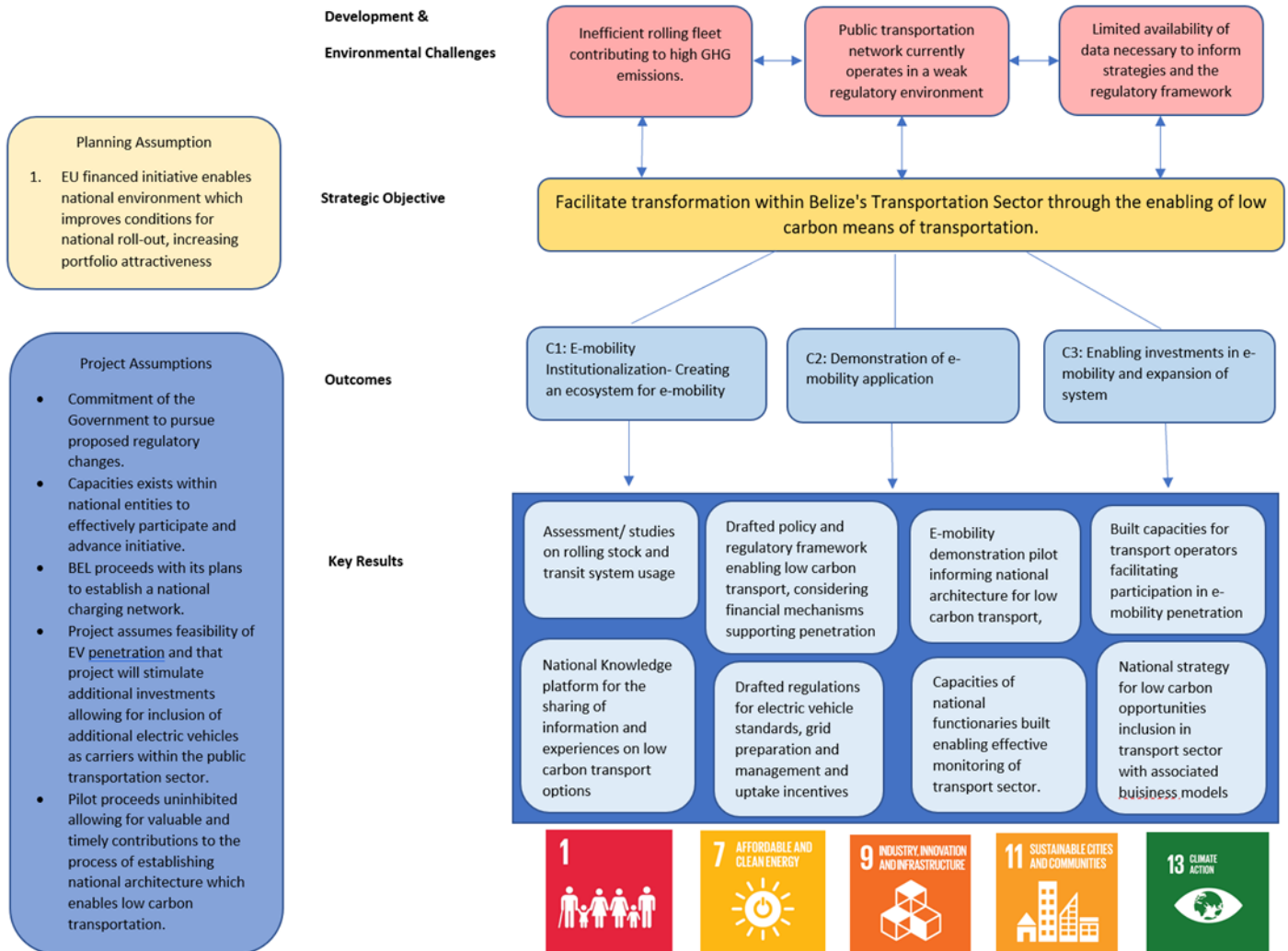
3. Financial barriers

- i. Lack of financial instruments to renew bus fleets and to improve the transport system
- ii. Lack of regulatory incentives

4. Information and awareness barrier

- i. There is no public information available about the benefits of a sustainable transport system, and in particular of e-mobility

Theory of Change Diagram



IV. RESULTS AND PARTNERSHIPS

i. Expected Results

17. Component 1: E-Mobility Institutionalization- Creating an ecosystem for e-mobility

Under this component, project proponents expect to analyze and mitigate barriers for electric vehicle mainstreaming and deployment. Proponents are expected to review existing regulations, policies and standards related to e-mobility and conventional hybrid electric vehicles. Guided by regional lessons learned, proponents will work with the Attorney General's Office, the Energy Department and the Transport Department of the Government of Belize in proposing regulations, policies and standards for low carbon transportation that are suitable for application within the Belizean context. Special focus will be given to the integration of gender considerations into policies and solutions, positioning e-mobility to support population empowerment and citizen security. The creation of an enabling policy and regulatory framework and capacity development is expected to address policy and technology risks associated with e-mobility uptake in Belize.

Assisted by a task force, this project will provide technical assistance to the Ministry of Public Utilities, Energy and Logistics, Department of Transport and Department of Energy, with an aim of increasing national capabilities for monitoring of emissions, energy efficiency and general transport sector data collection. New capacities are also expected to support the operationalization of those key policy and legislative instruments developed. Studies undertaken during the period of project implementation will provide additional necessary inputs for the creation of an improved national policy environment; while capacities built within the Energy and Transport Departments will allow for the necessary periodic update on the performance and efficiency of rolling stocks; enabling data sharing and informing effective transport sector planning and management.

In addressing EV policy and regulatory needs, decision-makers are expected to consider actions including but not limited to:

- Grid-friendly tariff design for charging EVs and managed charging technologies.
- Key fiscal and non-fiscal incentives for EVs that are appropriate in the Belizean contexts.
- Understand gaps in the workforce needed to support EV deployment and tailor policies and programs to address any gaps.

Other areas for policy consideration include financial incentives, road access policies, EV mandates, fuel taxes, discounted electricity rates, charging infrastructure, and government investment in the domestic automotive industry have on EV market penetration.

It is also intended that the project will initiate national dialogue on the possible differentiated taxation of vehicles and fuels, based on their environmental performance and the tightening of fuel economy and emissions standards, thereby enabling a clean vehicle industry to thrive.

Within Component 1, project proponents are also expected to enable mechanisms which builds capacities for transit operators and maintenance providers. The scope of this work extensive capacity building, training and technical support for agencies involved in policy implementation.

18. Outcome 1 Conducive policy and regulatory framework for low carbon transport sector enabled.

Activity 1.1: Establishment of a task force coordinated by the Ministry of Public Utilities, Energy and Logistics responsible for preparing strategies in the targeted sectors.

Supported by technical expertise provided within the project framework and based on the analysis of the existing gaps and barriers in the policy and regulatory framework, an established task force which includes the participation of policymakers, regulators and key stakeholder interest groups', is expected to provide guidance to project implementation. The task force will be empowered to:

- Discuss the identified gaps and barriers of existing procedures and instruments, etc.
- Guide the creation of policy and regulatory frameworks capable of promoting sustainable transport, supporting the deployment of low-emission transportation technologies, promote environmental responsibility amongst actors and open new market opportunities by offering financial incentives;
- Direct detailed studies along with consultants and support the monitoring of those measures meant to incentivise and promote e-mobility;
- Guide the preparation of strategies for the targeted sectors and for following-up the implementation and modification of the agreed instruments;

Gender balance will be encouraged for participation in the task force in order to generate broad-based ideas to improve the policy and regulatory framework. Proposals for policies and regulations will be informed by generated gender specific data on sharing services which covers travel patterns of women and youths. This ensures that specific measures are applied in routing and scheduling that especially benefit this demographic.

This activity is expected to contribute to:

- i. Changes in the Electricity Act, looking particularly at requirements for licenses to produce electricity and the possible adoption of the NEC code as a national standard and the permitting of "net metering" or "net billing" and the enabling of standards for EV charging infrastructure.
- ii. Establishing regulatory/ legislative footing for: driver training, public service vehicle maintenance, performance standards for operators
- iii. Development of standards for driver education/training as condition for the approval of the registration and standards for vehicle maintenance.
- iv. Development of draft policy regulations to enhance incentives related to RE and import tax exemptions and other tax exemptions for RE charging stations and e-vehicles.

Activity 1.2: Implement studies as inputs for enhancing policy instruments

Based on the results of the previous activity, the taskforce, in collaboration with UNDP contracted experts, will coordinate detailed studies to investigate the applicability and feasibility of the discussed measures and incentives, particularly as it relates to the policy and regulatory considerations associated with:

- Licensing and control of buses as the validity period of road service permits is considered a crucial incentive to attract bus operators.
- The feasibility of installing solar generating stations, subjected to commercial interaction with BEL.
- The exploration of net metering/billing and a proper tariff scheme as its absence has dissuaded the uptake of renewable energies.

Commissioned studies are expected to provide the necessary inputs for improving policy instruments in the fields of: (i) regulations that promote sustainable transport schemes, access to e-mobility technologies, (ii) promotion of environmental responsibility, (iii) development of market opportunities, and (iv) existing financial incentives.

Studies and data collection is also meant to generate information, directing the identification of specific needs in terms of capacity building of human resources and gap in terms of technology development related to maintenance.

Under the project, data collection and transport system monitoring will benefit from the addition of a small electric vehicle to the Government of Belize, Department of Transport fleet. The operation of this vehicle in the conducting of routine works associated with data collection and field monitoring serves a dual purpose as it is also expected to provide useful information related to operating efficiencies, informing the possible future replacement of diesel vehicles within the Government of Belize's fleet with electric alternatives.

Activity 1.3: Build capacities within Department of Transport for effective monitoring of transportation stocks

Effective management of the transportation sector can only be enabled by understanding demands as well as monitoring the performance of the sector. Generating quality data on transportation stocks and the utilization of this data to assist local modelling, informs policy makers of changes in the transport sector and guides amendments to strategies and regulations as a response to the dynamicity of national circumstances. This activity addresses existing barrier related to the absence of data necessary to inform strategies and the regulatory framework required for the introduction of low emission technologies in Belize's transport sector. Apart from the commissioning of studies, the project will invest in modelling hard- and software as well in capacity building for the Department of Transport and Department of Energy which enables functionaries to monitor the sector routinely. This activity also involves the mapping of the transport ecosystem, building greater national awareness of key interlinkages.

As the operating conditions for the two piloted e-bus services under this initiative vary, operational requirements are also expected to differ significantly. These first e-bus pilots are key in estimating both financial and technical performance indicators within the Belizean context. To support this, the project proposes the establishment of a web-based knowledge management platform. This platform will be managed and maintained by the Transport Department and will be supported by contributions from operators facilitating the sharing of expertise, information and experiences in the transport sector. The information available on the knowledge management platform will cover transport data such as bus frequencies, bus usability among others; and solar charging station behaviours such as energy produced, consumed and user profiles. The information contained on the knowledge management platform shall be continuously updated and special attention will be paid to those contents that might have been addressed by other initiatives carried out in the country, with the goal of avoiding an over-lap of information.

It is notable that the knowledge management platform will initially be updated and controlled by dedicated technicians from within the project management unit (PMU) during project execution, with a steady transference of responsibility to the Transport Department and the Department of Energy as capacities are built through project intervention. This ensures the institutionalization and continuity of monitoring beyond the lifespan of the project. The monitoring platform is expected to be linked to the national GHG inventory system, managed by the Department of Energy, facilitating national monitoring of GHG mitigation from this NDC measure.

Activity 1.4: Retooling of operators to operate within e-mobility environment EVs and related infrastructure require experts in order to keep them operational, charged, and safe. The introduction of EVs into the existing traditionally diesel fleet will introduce challenges as modifications of operational plans are required to ensure the coexistence of the two fleets. Changes in skills and capabilities of human resources and the training of workers on the new technology is a primary area for consideration enabling the efficient operation of a fleet of e-buses. Training facilitates maintenance and the avoidance of damage to the investment ensure its sustainability beyond the life of the project timeline.

The proposed initiative leverages the technical assistance provided by fleet vehicle manufacturers, to train a cadre of core technicians to facilitate the safe implementation and maintenance of the new EV bus fleet to be introduced into the country. Opportunities for training must be created for a diverse group of individuals inclusive of drivers, operations technicians including maintenance technicians, technicians from the regulatory agency and charging technology technicians. The conditions and numbers of specific training hours are to be included and negotiated within the purchase contract.

The project proposes the establishment of a Community of Practice (CoP) for private bus operators and supported by an e-mobility technical expert supported by the PMU. This COP will be linked to UNDP global CoP network and is meant to provide targeted technical advisory service for the management and operations of e-mobility systems.

In considering sustainability and potential initiative scale up the project, a long-term structure for fleet management and maintenance will be considered as the project explores sustainable business models for fleet operations. Working alongside partners within the Ministry of Transport, the project will work closely with private sector entities and technical educational centres such as Belize's ITVET Programme in the exploration of opportunities for the development of services or programmes which prepare future professionals for the management and maintenance of e-buses.

It should be noted that issues of spare parts and its timely sourcing must also be considered within purchasing agreements.

Component 2: Demonstration of e-mobility application

19. With an aim of learning and informing possible replication and scale-up, the project will directly invest in a small fleet of electric buses, promoting the applicability of low-emission transport and renewable energies technologies in the Belizean context. The pilot focuses on public transportation as an early adopter of electric mobility in Belize and is designed to support national experience building in effective service management, route designs (identifying routes with highest potential for e-buses in the medium term), inclusion of EVs to enhance public transport, and corresponding charging infrastructure design and development. The pilot will identify technology solutions matching the specific local operational context informing the development of the e-mobility action plan for intervention scaleup across the pilot zones as is perceived under Component 3 of this project. It finances the procurement of a minimum of five (5) e-buses and supports the installation of required charging stations within the two (2) piloted scenarios. As a learning pilot, installed technology will be monitored and information on system performance under Belize specific conditions will be captured for inclusion in the definition of broader strategy to enable the electric mobility ecosystem nationwide.
20. Proposed e-mobility pilots include the adaption of EV's in support of intercity transport as well as intra-urban transit systems. Piloted scenarios and route selection was informed by baseline observations captured within Belize's CNTMP. The country's transport master plan asserts "the major demand is presented in the transit between Belize City, Belmopan, San Ignacio, Benque Viejo and the border with Guatemala". This high trafficked corridor satisfies conditions for maintained volume of commuters contributing to the financial sustainability of operations. The route also presents two distinct topographical realities (flat vs hilly landscapes) which allows project proponents to match appropriate EV models to the country's geographical particularities.
21. The intra-urban pilot demonstrates the creation of sustainable transit systems with the context of sustainable cities. The population of Belize City allows for the selection of high frequency urban routes which facilitates demonstration (in terms of operation planning and co-benefits) for e-mobility as high utilization rates enable faster pay-back on investments, and also provides a demonstration of how EV supported city transit systems can support GHG abatement through the alleviation of city congestion and the adoption of shared/ pooled transport. It is understood, however, that although this proposal provides recommendations regarding pilot routes and fleet type, project proponents with the support of an e-mobility expert contracted by the project will reassess proposed routes and EV model to verify that recommended routes meet optimal implementation parameters. This means that specific route and electric vehicle typology may be altered within the implementation period as the project will verify compatibility of routes and charging needs, recommended fleet DNA with vehicle purpose paying attention to drive cycles (e.g. drive cycles that brake and accelerate often). Project proponents are expected to consider pilot infrastructure within the broader spatial and temporal charging grid requirements as one considers future scale-up actions and diversification of electric vehicles. The pilot is expected to contribute to a charging station location analysis to identify optimal siting of public charging station while taking into account traffic patterns.

22. The monitoring of the piloted initiative facilitates the formulation of a custom-designed, practical, and data-driven framework which enables Belize's transition to electric mobility as is described in Components 1 and 3.

23. Outcome 2: Operators have adopted electric buses, charging stations have been installed, and a performance-monitoring system for the operating e-buses is in place.

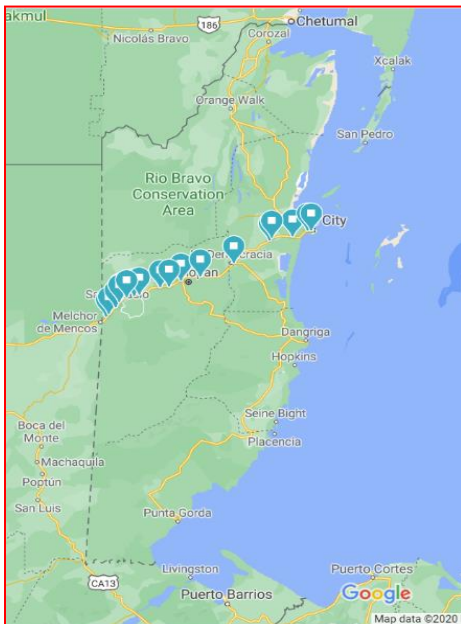
Activity 2.1: Inter-city public transportation: use of e-buses in the route Belize City - Benque Viejo del Carmen

The intercity pilot consists of the acquisition and operation of three (3) e-buses in the route Belize City - Benque Viejo del Carmen and the installation of two charging stations, in Belize City and in Benque Viejo del Carmen. The project proposes charging stations utilizing hybrid grid connected-solar. And recommends the use of e-buses have the following characteristics: 3 x 45' motor coaches (seating 57+1) with the range up to 200 miles, estimated with 1.212 kWh/km. The installation of charging infrastructure on either ends of the route mitigates for unpredictable performance influenced by route conditions including air temperature, driver habits, the frequency of stops, passenger loads and the hilly terrain.

To facilitate demonstration, monitoring and learning, project procured buses will be granted to the Belize Transport Department, who in turn is expected to negotiate, under the criteria of transparency and equity, an operating leasing arrangement with a management concession for the operation of these buses along the western corridor.

The deployment of three e-buses along the western inter-urban route will avoid the consumption of 63,950.5 gallons of diesel and using the IPCC CO₂ emission co-efficient of 10.16 kg of CO₂/gallon of diesel,⁶the total annual avoided emissions is expected to be ~649.7 metric tons: (10.16 kg x 63,950.5 gals)/1000.

Figure1: Piloted Routes (Western Corridor)



Activity 2.2: Intra-urban public transportation pilot

The Belize City Council (BCC) has a vision of transforming urban mobility with electric vehicles and has identified mass transit as a means to improve mobility system efficiency within city limits. The city council anticipates that the operation of a new network which offers reliable transportation service will increase citizen utilization of the public transportation system contributing to the mitigation of perennial congestion problems and to the realization of council goals of creating a sustainable municipality.

Project proponents suggests the incorporation of a minimum of two (2) electric vehicles to the city's transit system; initial recommendation is for the utilization of two 8.9m long buses with combined seating capacity for 113 passengers; and proposes a route which caters to commuters from economically depressed areas of Belize City. The installation of an associated charging station supporting intraurban piloted EV is also supported through project resources. It is noted that the Project will support the city council with technical expertise facilitating the verification of route design and EV model validation.

The electric vehicles used in the intra-urban pilot will be granted to the Belize Transport Department, however, it is foreseen that an operating leasing agreement will be signed with the Belize City Council who will manage and operate the electric vehicles as a part of the city transit fleet. The Transport Department is also expected to support capacity building within the City Council enabling the council to become part of the national monitoring system. The City Council is expected to participate in the performance monitoring of the piloted electric vehicles in their custody. It is noted that the BCC has indicated its ambition of expanding its network of e-buses operating within the city using a PPP model where the BCC would leverage grant funding to catalyze private sector investments in e-mobility.

Figure 2: Belize City Transit Routes



Activity 2.3: Enable monitoring framework for e-buses performance

The project proposed the use of an electronic platform capable of monitoring and analyzing real-world ranges achieved vs. the manufacture's range predictions of electric vehicles utilized within the project pilot. Evaluating the performance of the deployed e-buses allows operators to improve their operation and inform future choices for fleet expansion. Fleet performance monitoring also provides the opportunity for peer-to-peer learning for standardised data management and allowing operators access to information including their determination of best operational practices, protecting the investment in the electric fleet.

Activity 2.4: Public Awareness

The project is expected to use the opportunity provided by pilots to launch a campaign which promotes sustainable transport options, including e-mobility awareness and adoption. The campaign, designed to introduce the public to the new electric bus fleet and its benefits is also meant to trigger initial discourse on sustainable cities and sustainable urban transport. The use of persuasive messaging is expected to increase the social and environmental consciousness of transit users, as well as encourage the use of public transportation through the removal of the stigma as being a low efficient, often dirty, uncomfortable alternative.

The campaign also encourages the public's participation in various monitoring programmes and public surveys launched by the project and will benefit from the participation of city planners and the business sector.

Component 3: Enabling investments in e-mobility and expansion of system

24. There is demonstrated high-level political support to transitioning to a low carbon transportation system in Belize. There also exists a seeming willingness of private sector enterprise to participate in this transformation process. However, several policy and financial barriers exist which impede the widespread uptake of low-emission technologies in the transport sectors. Affordability of technology remains one of the biggest challenges inhibiting the application of low carbon technology within Belize's transportation sector. Component 3 supports the development of a ***National Transport Sector Transformation Strategy and Action Plan*** which is meant to guide the removal of financial, policy and technical barriers, providing applicable mechanisms and instruments that favour the inclusion and adoption of new low-carbon transport technologies in Belize. This strategy is expected to explore new business models related to electric mobility and to prepare a feasible financing mechanism in support of the expansion of Belize's e-bus system and propose incentive schemes favouring the use of electric vehicles. The financing mechanisms being key to the development of a more sophisticated private sector driven process.

25. It should be noted that barrier removal will be supported by improvements of the policy and regulatory framework undertaken under Component 1 of this initiative. Other works includes adapting operator cost structure for electric buses and the adapting of tariff and the exploration of possible subsidy structure for electric buses. The project proposes the application of the UNCDF at the beginning of the project in order to determine potentially additional policy gaps and financial barriers which would have to be addressed by national financing institutions. In determining appropriate financing mechanisms, it is important to engage local financing institutions in the discussions. A second application of the assessment is planned to coincide with the operationalization of pilots, this allows for the incorporation of generated lessons and allows for the updating of assessment figures utilizing “real” values observed through the pilots. Based on both assessments, a financial instrument would be established to support a sustainable scale-up of the project, led by private sector.

26. Outcome 3: National Transport Sector Transformation Strategy provides the foundation for accelerated inclusion of low carbon transport options within the national transportation framework.

Activity 3.1: UNCDF e-mobility feasibility assessment models, identify critical barriers to the employing of a public private implementation modality to transport sector transformation.

Activity 3.2: Investigate appropriate business models, incentive programmes and financing instrument which facilitates purchase and management of low carbon transportation options.

Activity 3.3: Elaborate a national strategy for the decarbonizing of the transport sector. The transport sector strategy will include a corresponding plan guiding the accelerated penetration of electric vehicles.

Partnerships

27. The Government of Belize: The Government of Belize is an integral partner in the realization of project outcomes and goals. As this project proposes strategic changes in the national policy environment, leadership by counterparts within the Government of Belize is crucial. The project structure is expected to interface closely with national institutions including the Departments of Energy and Transport, with these entities providing supplementary technical backstopping of project activities and performing key coordinating functions. It is anticipated that project supported investments will be vested within the various national authorities as a means of ensuring continuity of functions and sustainability of the initiative. To facilitate this, capacity development of Government Institutions will be supported through project funds.

28. United Nations Capital Development Fund (UNCDF): UNDP and UNCDF under the framework of a UN2UN partnership agreement will cooperate closely in the application of UNCDF financial feasibility models as the project explores viable financial mechanisms/ business models for the scaling up of e-mobility investments in country. Finance mechanisms will allow for the enabling of a sophisticated private sector driven implementation approach to e-mobility penetration.

29. Caribbean Community Climate Change Center (CCCCC): The project expects to work closely with the CCCCC who is currently engaged in the preparation of a project linked to private electric vehicle penetration in Belize. The 5C also provides the benefit of its network as the country seeks to investigate best practices in the design of e-mobility systems.
30. UNDP Climate Change/ NDC Support Unit: UNDP Climate Change Unit (HQ) is expected to provide technical guidance to project implementation. This team has extensive experience in the design of similar interventions and is capable to provide technical backstopping in project implementation.
31. UN Environment’s Electric Mobility Programme: The Electric Mobility Programme provides a network of donors, knowledge partners and private sector organizations positioned to support developing and transitional countries shift from fossil fuel to electric vehicles. It provides technical backstopping expertise as countries engage in policy development, exchange of best practices, piloting of technology options, tracking electric vehicle uptake, calculating emissions and economic benefits and the formulation of electric mobility roadmaps at national and regional levels.
32. Belize Electricity Limited (BEL): The project is expected to closely cooperate with BEL who is currently undertaking a programme for the design and development of a local network of charging facilities.
33. Belize City Council: The Belize City Council is expected to serve as an executing agency for one of the two suggested project pilots. The City Council, through adaptation of its existing structure will manage and operate electric vehicles as a part of its broader sustainable cities programme. The city council will also be integral in communicating with urban commuters within the project context.
34. South-South and Triangular Cooperation (SSTrC): South-South and Triangular Cooperation (SSTrC) opportunities and technology transfer from peer countries is integrated in the Project under the umbrella of the Global Programme, which offers linkages in Latin American and the Caribbean with: Jamaica, Antigua and Barbuda, Chile, Costa Rica, Peru, and Saint Lucia. UNDP will foster exchanges and the inclusion of Belize on various exchange platforms. The Project will facilitate the participation of local stakeholders and the GOB in discussions and events organized within the global programme.

Mainstreaming gender

35. The project considers within its design that the travel patterns of women and men differ significantly. While men usually travel directly between locations, women tend to link destinations (e.g. stopping to shop before returning home from work) resulting in women travelling more substantively than men. The project recognizes that gender differences are underrepresented in research and the provision of services and proposes the addition of gendered indicators in data gathering and monitoring exercises supported by the project.
36. In the development of routes, the project considers the differences in use of the public transit system, providing for routes, which conveniently links a variety of infrastructure facilities (e.g., schools, hospitals, markets and business district). Project actions are expected to promote a gender-sensitive perspective for transportation/ urban mobility planning and the delivery of gender tailored mobility services which

considers the safety and comfort measures required by the different target groups such as women, disabled people, the elderly and children.

37. The project, guided by a gender action plan also seek to ensure full gender integration in all supported actions and deliverables.

Communications and Visibility

38. Communication and visibility related activities undertaken within the context of this project will consider the public health and security measures under the national COVID-19 regulations. Within the project inception period (i.e. the first three months of implementation), the Project Manager, supported by UNDP's communications Associate is tasked with the development of a detailed overarching communication and visibility strategy plan which outlines actions necessary to ensure the realization of project visibility needs.
39. The communication and visibility actions will be carried out in line with article 8 of the General Conditions of the contribution agreement between the UNDP and the EU and with the Joint Visibility Guidelines for EC-UN actions in the field. The main objectives of the developed plan include:
- i. Promotion and communication of the results of the programme
 - ii. Promotion of the cooperation of Government-UN-EU and national/local partners to deliver on the project goals
 - iii. Ensuring visibility of EU's support to the programme
40. Key to project communications is the multimedia documentation of beneficiaries and activities including human interest stories, stories of impact and change to be covered and shared through press releases, story gathering missions, news features, social media and other media approaches possible given current restrictions. These products will be utilized in the amplification of project content amplification of content ensuring high visibility of the contribution made by the EU.
41. The project is also expected to maintain active channels for the dissemination of information on social media platforms including dedicated social media accounts of the Government of Belize, UN and UNDP at country and global levels. All relevant monitoring and evaluation products will be shared among key partners to ensure transparency, accountability and acknowledgement of results achieved.

Capacity Development

42. Programmed actions are designed to enable the building of national capacities and the promotion of national ownership. The project considers required technical capacities for training and experience exchanges among key stakeholders. UNDP will utilize its global technical networks to facilitate information exchange between countries and global and regional experts. E-mobility Communities of practice will allow for the local and international sharing of good practices, through South-South cooperation and peer-to-peer support. Activities include, but are not limited to training on technologies, fleet management and operations, business/ finance models, and digital solutions facilitating the deployment, EVSE installation and first responders training and monitoring of electric vehicles.

43. Project supported pilots provide a field classroom facilitating training. Study tours involving pilots are integral to the grounding of capacity development efforts. A project supported technical expert will lead project capacity building efforts. It is noted that capacity development interventions will target relevant stakeholders from government and electric-mobility value chain. Within the first three (3) months of implementation, led by the e-mobility technical expert and advised by the National Task Force, a capacity development plan will be developed for the project, detailing relevant capacity development actions associated with the various components of the project.

V. PROJECT MANAGEMENT

i. Cost efficiency and effectiveness

44. The Project's direct investment in e-mobility leads to direct GHG emission reductions from investments. Initial project estimates suggests that the deployment of three e-buses along the western inter-urban route will avoid the consumption of 63,950.50 gallons of diesel and using the IPCC CO₂ emission co-efficient of 10.16 kg of CO₂/gallon of diesel, the total annual avoided emissions is expected to be ~649.74 metric tons: $(10.16 \text{ kg} \times 85,267.33 \text{ gals})/1000$. While the implementation of the Belize City e-transit pilot would avoid the consumption of 42,316.98 gallons of diesel and, using the emission co-efficient set out above, the total annual avoided emission is expected to be ~429.94 metric tons of CO₂: $(10.16 \text{ kg} \times 42,316.98 \text{ gals})/1000$.
45. Project cost efficiency will be achieved through various means, including through the establishment of strong mechanisms for partnership and collaboration with ongoing initiatives that allows for the tracing of like, parallel investments increasing the cost efficiency and impact of the project minimizing the event of overlapping investments by agencies. The Project is also expected to undertake several activities that will stimulate market transformation and attract the participation of private sector investment in e-mobility, in particular support to the enabling policy and regulatory framework carried out under Component 1.
46. The project will invest in evidenced-based planning to allocate and target resources as strategically and efficiently as possible including identifying and addressing main drivers of costs.
47. The project will seek to maximize the financial resources available for project activities, which will be included in Annual Work Plans and discussed and approved by the Project steering mechanism to ensure that proposed actions are relevant and necessary. Cost-effectiveness will be taken into account when implementing project activities without compromising the quality of the outputs. The leveraging of a new national enabling structure supported with project resources stimulates access to at minimum 10 times the amount invested. Any revision/amendment to the approved project budget (or any other contractual document) shall be done in line with the provisions of the General Conditions (Annex 2 to the EU-UNDP Contribution Agreement) to be legally valid.
48. Efficiencies in project operations will be attained through use of standard competitive recruitment of third-party consultants/service providers, and the utilization of UNDP's Global Support Unit and procurement platforms in the sourcing of high value project assets. UNDP procurement is grounded in value for money processes ensuring the realization of an optimal price for the delivery of quality products. Product specifications and ToRs will be development with the guidance of experts engaged under the project and GOB partnering agencies. As a cost-reducing measure UNDP relies on existing staff within the UNDP Country Office (CO) to support such activities like communications and visibility, knowledge management, and M&E activities.

ii. Project management – Project office :

49. The Project Management Unit (PMU), led by the Project Manager, will be hosted by the UNDP Country Office headquartered in Belmopan. Project staff and consultants will travel to prioritized sites covered by the pilots as needed. The PMU will oversee the day-to-day execution of project activities and will have

responsibility for, among others: a) operational planning, managing, and executing the project, including the direct supervision of project activities sub-contracted to specialists and other institutions; b) coordinating the management of financial resources and procurement; c) reporting on the application of resources and results achieved; d) preparing reports and any proposals for adaptive management of the project, if required, and based on inputs from the project M&E plan; e) promoting inter-institutional synergies; and f) disseminating project results.

50. The Project Office will include staff carrying out various tasks related to effective project management including the provision of technical assistance, and the administration and management of project resources. The tasks listed in the Description of the Action, undertaken by staff assigned to the project office are directly attributable to the implementation of the Action. The Project Office will comprise of full-time dedicated project staff and part-time specialized project staff to contribute to various project components and activities. The part-time specialized project staff will be charged through direct project costs for the time spent directly attributable to the implementation of the Action.
51. The project management staff includes experienced organizational specialists who are fully proficient and experienced with the local context. The proposed team structure includes capacities necessary to effectively manage the project. A Principal Technical Expert (E-mobility technical expert) has been added to the team as a means of providing the technical knowledge necessary to inform project direction and investments.
52. The Project implementation is supported by the following UNDP staff:
 - a. Energy and Environment Programme Analyst: Responsible for the provision of strategic guidance, project implementation, technical quality assurance, strategic and technical backstopping, directing the project team in coordination with UNDP senior management, the Principal Technical Expert and national project counterparts. UNDP's Programme Analyst also serves as UNDP's portfolio Manager which allows for the effective linking of the proposed initiatives with other similar initiatives and projects. The UNDP Programme Analyst will be charged through direct project costs for the time spent directly attributable to the implementation of the Action, not exceeding 20% of the working time.
 - b. Project Manager: Responsible for day-to-day management of the project including timely and efficient delivery of the project technical, operational, financial and administrative outputs and substantive project inputs. The project manager maintains regular outreach and coordination with the project beneficiaries and project partners to ensure coherence and complementarity. The Project Manager will be 100% charged to the project budget.
 - c. Principal Technical Expert (E-mobility Expert): Responsible for the provision of technical input into processes designed to create policy environment for Low Carbon Transport as well as verifies design and inputs into project pilots. The Technical Expert will have demonstrated technical experience related to the scope of the Project. The technical expert takes part in development all technical and non-technical guidance documents for all studies and assessment undertaken as part of the project and prepares briefing notes and dissemination material, including but not limited to technology, best practices, roadmaps, policies, implementation models, financing and management. The Technical expert also support capacity building initiatives responding to the project work plan. The Principal Technical Expert will be 100% charged to the project budget.
 - d. Programme Associate: Responsible for the provision of programmatic and operational guidance to the PMU. The Programme Associate also holds responsibility for implementation and oversight of the

Communication and Visibility plan of the project ensuring compliance and full alignment with the visibility needs and interests of the EU. The Programme Associate will be charged through direct project costs for the time spent directly attributable to the implementation of the Action, not exceeding 25% of the working time.

- e. Project Assistant: Responsible for performing financial and administrative duties related to implementation of the project activities, assisting with organizing administrative processes for project needs and providing support to office maintenance including administering the project documentation and performing other finance related and administrative tasks. The Project Assistant will be 100% charged to the project budget.
 - f. Operations Analyst: Responsible for administrative quality assurance, advising and verifying procurement and human resources processes for the needs of the project. The Operations Analyst monitors the effective delivery of administrative services to the project and managing external relations related to all operational aspects of the project. The Operations Analyst will be charged through direct project costs for the time spent directly attributable to the implementation of the Action, not exceeding 5% of the working time.
 - g. Procurement Associate: Responsible for the administration of quality, transparent, effective and fast procurement processes in line with UNDP rules and procedures. The Procurement Associate advises on project procurement and tender processes, coordinates with UNDP Global Procurement platform and support contract negotiations. The Procurement Associate will be charged through direct project costs for the time spent directly attributable to the implementation of the Action, not exceeding 7.5% of the working time.
 - h. Finance Associate: Responsible for effecting payments to vendors and in the provision of overall financial monitoring and reporting for the overall action. The Finance Associate will be charged through direct project costs for the time spent directly attributable to the implementation of the Action, not exceeding 10% of the working time.
53. Project implementation will be supported directly by the Transportation Planner of the Department of Transport. The Transportation Planner will support the coordination of project capacity building action and will anchor monitoring systems within the established national framework. Responsibilities for the management of learning platforms will be undertaken by the Transportation Planner. (Project planning and monitoring will be supported by national counterparts within the Energy Unit of the government of Belize.)
54. The following individual consultants (key and non-key experts) will be recruited:
- a. International consultant – E-mobility Systems Architecture: The consultant is responsible to investigate and recommend innovative viable business and finance models guiding the uptake of low carbon transportation alternatives in Belize.
55. Other project office costs: To support all project activities, this proposed action includes expenses related to costs of IT equipment, and travel and fuel associated with monitoring and oversight functions of the country office. The project also contributes to office stationery, communications and connectivity costs associated with the hosting of the project.

iii. **Risk Management**

56. As per standard UNDP requirements, the Project Manager alongside UNDP’s portfolio lead are responsible for the monitoring of project risks. The status of identified project risks will be reported on a quarterly basis to an established project Board where management response to critical risks will be consulted.

Table 1 Project risks

Description	Type	Impact & Probability	Mitigation Measures
National political support for e-mobility initiatives, and renewable energies decreases	Political	I: High P: Low	This scenario is unlikely to occur as there is recorded full support by policy makers for the transformation of Belize’s transport sector. To maintain national commitment however, the project intends to engage processes for participatory and inclusive management ensuring constant interaction with key project contributors and national policy makers, securing buy-in at all levels of the national structure.
Weak technical capacities to design and implement e-mobility projects, under-developed supply chain for O&M	Technology	I: High P: High	International TA will oversee project implementation and provide quality assurance in the course of e-mobility pilot project design and implementation. UNDP also expects to leverage the capacities of vehicle fleet manufacturers in the building of national capacities for operations, maintenance, and management.
The political context changes in the country and financial incentives could not be implemented	Political	I: High P: Medium	The establishment of financial incentive system, which is expected to start operating during the project life, is expected to be executed by GoB and as such changes in the political, economic and social framework conditions of the country may affect the implementation of the incentives. Economic contractions triggered by Covid-19 is likely to influence GoB’s willingness to undertake any activity that will impact negatively on its already depressed revenue base as such incentive packages must be situated within GoB’s building forward better recovery plans, which considers longer term benefits to incentivizing low carbon transport.
Insufficient returns on investment dissuade private companies’ participation and investment in low carbon emission transport technologies	Financial	I: High P: Medium	It is an objective of the project to de-risk investments by creating an environment which enables private sector investment. The project is expected to promote unique home grown business models and financing strategies informed by assessments of national circumstances.
Climate change poses several risks to Belizeans communities, in particular related to increased occurrence of natural disasters	Nature/climate-related	I: Low P: medium	Knowledge and expertise of UNDP’s extended presence will be used to assess all nature/climate-related risks for EU-supported investments with risk mitigation and

Description	Type	Impact & Probability	Mitigation Measures
(hurricanes, floods, etc.) and availability of water resources. Climatic induced events can potentially disrupt the operations of e-vehicles as support infrastructure is impacted.			contingency measures considered in project planning. Infrastructural investments supported by the project are expected to the extent possible be climate proofed, with practical steps such as exposure and vulnerability taken into consideration at the design phase.

VI. PROJECT RESULTS FRAMEWORK

<p>This project will contribute to the following Sustainable Development Goal (s):</p> <ul style="list-style-type: none"> • SDG1 (No Poverty) Target 1.4 • SDG 5 (Gender Equality) • SDG7 (Affordable and Clean Energy) • SDG9 (Industry, Innovation and Infrastructure) • SDG11 (Sustainable Cities and Communities) • SDG13 (Climate Action). • 					
<p>This project will contribute to the following country outcome included in the UNDAF/Country Programme Document:</p> <p>UNMSDF/CPD Outcome: Policies and programmes for climate change adaptation, disaster risk reduction and universal access to clean and sustainable energy in place. UNMSDF/CPD Outcome Indicator: Indicator: Percentage of new businesses in which renewable energy services account for at least 50% of the energy mix.</p>					
<p>This project will be linked to the following output of the UNDP Strategic Plan:</p> <p>Output 1.5: Inclusive and sustainable solutions adopted to achieve increased energy efficiency and universal modern energy access (especially off-grid sources of renewable energy)</p>					
	Objective and Outcome Indicators	Baseline (2021)	Mid-term Target (After 24 months implementation)	End of Project Target (After 39 months of implementation)	Assumptions ⁷
Project Specific Objectives: 1. “Establish a policy framework to promote low carbon means of transportation and lay the foundation for further investments in the e-mobility sector.”	SO 1.1: Existence of National Strategy guiding transport sector transformation	no	partial	yes	Full uptake of policies, frameworks and regulations developed under project.
	SO 1.2: Qualitative rating of Belize’s institutional capacity to promote the uptake of low-carbon electric mobility (1 to 4). ⁸	0	1	4	

⁷ Risks are outlined in the Feasibility section of this project document.

⁸ Milestones for rating levels (1 to 4) are: 1 = e-mobility policy approved by IP; 2 = e-mobility policy adopted by GOB sector ministries; 3 = e-mobility Technical Standards formally adopted; 4 = action plan with market incentives in place.

2. “Support the introduction of electric buses in Belize, ensuring, technical, financial and regulatory settings for their operation in the public transport sector are in place.”	SO 2.1: Number of users of e-mobility services and vehicles under the pilot (#m:#f)	No change	500 new users of e-mobility services	Over 1,500 new users of e-mobility services	Willingness of citizens to utilize electric carriers and project enables the addition of non-project resourced carriers.
	SO 2.2: tCO _{2eq} , direct emissions reductions (which are attributable to the project-facilitated investments made during the project’s supervised implementation period).	n/a	0	~1,300 metric tons of emission avoidance per year	Electric vehicle performance is uninhibited

	Indicators	Baseline (2021)	Mid-term Target (After 24 months implementation)	End of Project Target (After 39 months of implementation)	Assumptions
Outcome 1 Conducive policy and regulatory framework for low carbon transport sector enabled.	1.1 Status of policies enabling implementation of the low carbon transport initiatives	None existing	0	At least 3 primary policy instruments developed/amended updated allowing the standardization, and penetration of low carbon transport options within the mix of rolling fleet	Commitment of the Government to pursue proposed regulatory changes
	1.2 Number of national functionaries and operators trained in areas of fleet operations and management and monitoring (including number of women)	0	20 (5)	50 (15)	Staff turnover is insignificant with trained people remain in their functions and servicing the sector beyond the project
	1.3 Established Community of Practice facilitating experience and knowledge exchange	None existing	CoP designed and rolled out	CoP transitions to management within national institution ensuring sustainability of efforts	GoB will normalize task force as a permanent body mandated with guiding transport sector modernization.
Outputs	<ol style="list-style-type: none"> 2. Analysis of policy and legal frameworks, including: i) review of existing regulations, policies and standards related to e-mobility and other suitable low carbon transportation options undertaken. 3. Assessment/ studies on rolling stock and transit system usage commissioned. 4. Drafted national policy for low carbon technology integration into the ground transportation sector. 5. Drafted regulations for electric vehicle standards, grid preparation and management and uptake incentives. 6. Capacities of national functionaries built enabling effective monitoring of transport sector. 7. Capacities for operators built for e-mobility system maintenance and operations. 				

8. Knowledge platform/ Community of Practice developed for the sharing of information and experiences on low carbon transport options.					
Outcome 2: Operators have adopted electric buses, charging stations have been installed, and a performance-monitoring system for the operating e-buses is in place.	2.1 Extent of integration of piloted electric buses within the public transportation sector	None existing	0	5 buses	Project will stimulate additional investments allowing for inclusion of additional electric vehicles as carriers within the public transportation sector.
	2.2 Accumulated distance driven by e-vehicles under pilots (km)	0	25,000 km	150,000 km	Transit routes and services monitored daily as a part of user pattern analysis.
	2.3 Existence of charging network	None existing	Charging grid mapped and designed	Minimum of 10 charging stations installed	BEL proceeds with its plans to establish a national charging network.
Outputs	<ol style="list-style-type: none"> 1. Operating management agreements in place with Belize's Transport department and the Belize City Council. 2. Electric vehicles facilitating pilot procured. 3. Charging stations commissioned. 4. Piloted transit routes confirmed through application of feasibility models. 5. Performance monitoring enabled through formalization of agreements with the departments of Energy and Transport. 6. Public awareness campaign of sustainable transport system inclusive of adoption of e-buses supported 				
Outcome 3 National Transport Sector Transformation Strategy provides the foundation for accelerated inclusion of low carbon transport options within the national transportation framework.	3.1 Transport Sector Transformation Strategy	None existing	0	Completed strategy endorsed by cabinet	Political will remains consistent
	3.2 Number of business model and financing mechanisms in place	None existing	0	2	Assumed feasibility of proposed business models
Outputs	<ol style="list-style-type: none"> 1. Analysis with recommendations of policy and legal frameworks to scaleup e-mobility adoption. 2. Financial feasibility assessments conducted utilizing UNCDF methodology. 3. Analysis with recommendations of policy and legal frameworks to scaleup e-mobility adoption. 4. Most appropriate business models for e-mobility scaleup identified. 				
Outcome 4 Project Adaptive Management: Project is efficiently managed, staffed and coordinated, and is implemented with national ownership	4.1 Existence of appropriate project management structure	None	Effective project management structure in place.	Components of project management structure internalized within national entities	GoB ability to absorb project capacities.
Outputs	<ol style="list-style-type: none"> 1. Effective project management structure seeded with technical expertise. 2. National Task Force established to provide technical direction to project. 3. National governance is strengthened to track progress of project pilots. 4. Communication and Visibility Plan developed and implemented 				

*** UNDP provides a progress report which includes reporting on project indicators every 12 months from the beginning of the implementation period.

VII. MONITORING AND EVALUATION (M&E) PLAN

57. The project results as outlined in the project results framework will be monitored. The project will be monitored throughout its duration and evaluated in accordance with the programme M&E plan. The project monitoring will be carried out in accordance with the policies and procedures of UNDP with implementation being assessed continuously at the level of results against clearly defined indicators. The results of monitoring activities will be presented to the Project Board (PB).
58. The Country Office staff will have a dual reporting line with project results reported to the Resident Representative as well as to Regional and Global project management where results will be collated and reported to the EU. Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the [UNDP POPP](#) and [UNDP Evaluation Policy](#); in accordance with the programming policies and procedures outlined in the UNDP User Guide, including through Atlas tracking systems and the Enhanced Results Based Management system (ERBM). The UNDP Country Office will retain all M&E records for this project for up to seven years after project financial closure in order to support ex-post evaluations undertaken by the UNDP Independent Evaluation Office (IEO) and/or the European Union (EU).
59. Annual/Regular reviews: The Project Board will precede over annual reviews of the implementation and progress in accordance with the project's Theory of Change. Reporting will be carried out in line with article 3 of the General Conditions of the EU-UNDP Contribution Agreement. UNDP will ensure results and impact-oriented reporting through prescribed narrative and financial progress reports, with a particular focus on milestones, success stories and communications and visibility.
60. The day-to-day technical and financial monitoring of the implementation of this action will be a continuous process and part of UNDP responsibilities. To this aim, UNDP shall establish an internal, technical and financial monitoring system for the action and elaborate final reports. SDGs indicators, if applicable, should be considered.
61. **Audit:** The project will be audited according to UNDP Financial Regulations and Rules and applicable audit policies.⁹
62. Lessons learned and knowledge generation: Results from the project will be disseminated within and beyond the project intervention area through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to the project. The project will identify, analyse and share lessons learned that might be beneficial to the design and implementation of similar projects and disseminate these lessons widely. There will be continuous information exchange between this project and other projects of similar focus in the same country, region and globally.
63. Terminal Evaluation (TE): An independent TE will take place upon completion of all major project outputs and activities. As is regulated by art 10 of the General Conditions, "participation in evaluation exercises should be ensured by requesting comments from the European Commission and the Contracting Authority on the terms of reference before the exercise takes place, and on the different deliverables related to an evaluation exercise prior to their final approval (as a minimum, on the final report)". The terminal evaluation process will begin three months before operational closure of the project allowing the evaluation mission to proceed while the project team is still in place, yet ensuring the project is close enough to completion for the evaluation team to reach conclusions on key aspects such as project sustainability. The Project Manager will remain on contract until the TE report and

⁹ See guidance here: <https://info.undp.org/global/popp/frm/pages/financial-management-and-execution-modalities.aspx>

management response have been finalized. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance prepared by the UNDP IEO. As noted in this guidance, the evaluation will be independent, impartial and rigorous. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. The final TE report will be cleared by the UNDP Country Office and the UNDP Regional M&E Advisor and will be approved by the Project Board. The TE report will be publicly available in English on the UNDP ERC. UNDP shall send all monitoring and evaluation reports relating to the Action to the European Commission once issued, subject to confidentiality

64. Final Report: The project's terminal report along with the TE report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the Project Board during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up. It is noted/understood that the final reports shall be drafted in line with the EU specific reporting requirements.

M&E oversight and monitoring responsibilities:

65. Project Manager: The Project Manager is responsible for day-to-day project management and regular monitoring of project results and risks, including social and environmental risks. The Project Manager will ensure that all project staff maintain a high level of transparency, responsibility and accountability in M&E and reporting of project results. The Project Manager will inform the Project Board and the UNDP Country Office of any delays or difficulties as they arise during implementation so that appropriate support and corrective measures can be adopted.
66. The Project Manager will develop annual work plans based on the multi-year work plan annexed to this document. AWP's include annual output targets to support the efficient implementation of the project. The Project Manager ensures that the results framework indicators are monitored in time for evidence-based reporting, and that the monitoring of risks occur on a regular basis.
67. Project Board: The Project Board is responsible for taking corrective action as needed to ensure the project achieves the desired results. The Project Board will hold project quarterly project reviews to assess the performance of the project. In the project's final year, the Project Board will hold an end-of-project review to capture lessons learned and discuss opportunities for scaling up and to highlight project results and lessons learned with relevant audiences. This final review meeting will also discuss the findings outlined in the project terminal evaluation report and the management response.
68. Project Implementing Partner (UNDP): UNDP is responsible for providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary and appropriate. The UNDP will strive to ensure project-level M&E is undertaken by national institutes and is aligned with national systems so that the data used by and generated by the project supports national systems. In line with the spirit of partnership, UNDP and the European Commission will carry out joint monitoring and/or evaluation where possible in accordance with article 10 of the General Conditions.
69. The UNDP Country Office will support the Project Management Unit as needed, including through quarterly supervision missions. Supervision mission reports will be circulated to the project team and Project Board within one month of the mission. The UNDP Country Office will initiate and organize key M&E activities including the

annual project review, and the independent terminal evaluation. The UNDP Country Office will also ensure that the standard UNDP and EU requirements are fulfilled to the highest quality.

70. The UNDP Country Office is responsible for complying with all UNDP project-level M&E requirements as outlined in the UNDP Policy Operations and Procedures document. This includes ensuring the UNDP Quality Assurance Assessment during implementation. UNDP Q&A targets both outcome and output level performance and includes the monitoring of the extent to which gender mainstreaming occurs within project implementation.

Table 2 Mandatory M&E Requirements and M&E Budget

Project M&E requirements	Primary responsibility	Time frame
Inception Workshop	UNDP Country Office	Within two months of project document signature (Considering COVID restrictions, Inception workshop is expected to be hosted virtually utilizing UNDP meeting platforms.)
Inception Report	Project Manager and Chief Technical Expert	Within two weeks of inception workshop
Standard UNDP monitoring and stage updates	UNDP Country Office	Quarterly
Monitoring of indicators in project results framework	Project Manager	Bi-annual
Annual Project Narrative and Financial Reports (directed to the Donor)	Project Manager and UNDP Country Office	Annually
Supervision missions	UNDP Country Office	Quarterly
Oversight missions	UNDP CO/ Project Board	Annually
Audits and HACT Assessments	UNDP Country Office	In line with UNDP rules and regulations
Independent Terminal Evaluation (TE) included in UNDP evaluation plan	UNDP Country Office and Project team	At least three months before operational closure

Monitoring Plan

The Project Manager will collect results data according to the following monitoring plan.

Monitoring	Indicators	Description	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
To facilitate transformation within Belize's Transportation Sector through the enabling of low carbon means of transportation.	<i>Indicator 1</i>	Existence of National Strategy guiding transport sector transformation	Project team based on project progress reports and official documents confirming private sector investments and grant information	Annually	Project team	Strategy and policy documents validated and submitted to cabinet	Risk: insufficient time to allow for complete process of national policy validation and cabinet endorsement. As action involves changes within the legislative and regulatory framework of the country one must consider the need for highly participatory and consultative processes in delivery validation.

Monitoring	Indicators	Description	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
	<i>Indicator 2</i>	Qualitative rating of Belize’s institutional capacity to promote the uptake of low-carbon electric mobility (1 to 4)	Project Management Team with observations validated by national task force.	Annually	Project Manager	Review matrix	There is consistency and objectivity in review criteria
	<i>Indicator 3</i>	Number of users of e-mobility services and vehicles under the pilot (#m:#f)	Electric Vehicles Fleet Management/ Monitoring Platform	Annually	Department of Transport/ Belize City Council/ Vehicle Operators	Performance Log generated from the fleet management platform	Assumption: Information is collected daily as a part of the user pattern analysis. Failure and/or insufficient capacities to generate reports

Monitoring	Indicators	Description	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
	<i>Indicator 4</i>	tCO _{2eq} , direct emissions reductions (which are attributable to the project-facilitated investments made during the project's supervised implementation period).	GHG emission reductions will be estimated based on input of vehicle performance data into modelling software	Annually	Energy Unit/ NCCO	Project progress report	Assumption: Data collected is adequate for models
Outcome 1 Conducive policy and regulatory framework for	<i>Indicator 1</i>	Status of policies enabling implementation of the low carbon transport initiatives	Review of cabinet records showing adoption of policy	Annually	Project Manager	Project progress report	National counterparts will take necessary action to have policies and regulations formally endorsed Risk: Waning support by political directorate and decision makers

Monitoring	Indicators	Description	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
low carbon transport sector enabled.	<i>Indicator 2</i>	Number of national functionaries and operators trained (including number of women)	Project team based on records of the conducted training	Annually	Project Manager	Reports from training workshops	Training facilitators will evaluate sessions collecting disaggregated participant information Risk: Inability to identify substantive numbers of female functionaries within the fledgling sector.
	<i>Indicator 3</i>	Established Community of Practice facilitating experience and knowledge exchange	UNDP based on reviews of project environment	Annually	Project Manager	Verification of existing community of practice platform CoP reports which indicate numbers of practitioners utilizing the space	GoB will support CoP as a part of its larger vision of transport sector transformation Risk: lack of interest of stakeholders in CoP space leading to low usage of CoP.

Monitoring	Indicators	Description	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
<p>Outcome 2</p> <p>Operators have adopted electric buses, solar charging stations have been installed, and a performance-monitoring system for the operating e-buses is in place.</p>	<i>Indicator 1</i>	Extent of integration of piloted electric vehicles within the public transportation sector	Department of Transport will track level of interest of public and private sector entities based on projects for integration	Annually	Department of Transport	Applications and EV registration	<p>Project period is sufficient to show changes in transit system and uptake by interested entities</p> <p>Risk: As a costly technology, private sector enterprises have little confidence in policy framework meant to derisk investments.</p>
	<i>Indicator 2</i>	Accumulated distance driven by e-vehicles under pilots (km)	DoT and the Belize City Council will utilize fleet monitoring system to track fleet performance	Annually	DoT/ BCC	Performance logs generated by fleet management platform	<p>Assumption: No disruption to services and fleet performance remains optimal during the pilot phase</p> <p>Risk: Data not inputted with accuracy and frequency required</p>

Monitoring	Indicators	Description	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
	<i>Indicator 3</i>	Existence of Charging station	Visible verification of charging infrastructure	Annually	Project Manager	Project Progress report	Risk: Complementary project establishing national charging grid is delayed or suspended
Outcome 3 National Transport Sector Transformation Strategy provides the foundation for accelerated inclusion of low carbon transport options within the national transportation framework.	<i>Indicator 1</i>	Transport Sector Transformation Strategy (Verification of existence of elaborated strategy)	Project team will monitor national process for strategy development and confirm endorsement by national authorities.	At work package end	Project Manager	Project progress report and process validation reports	Risks: Slow endorsement of national strategy after development by project.
	<i>Indicator 2</i>	Number of business model and financing mechanisms in place	Project team will monitor the existence of endorsed business and financing models	Annually	Project Manager	Project progress report and process validation reports	Risks: Due to policy and finance implications Proposed models are not fully endorsed and enabled by national authorities

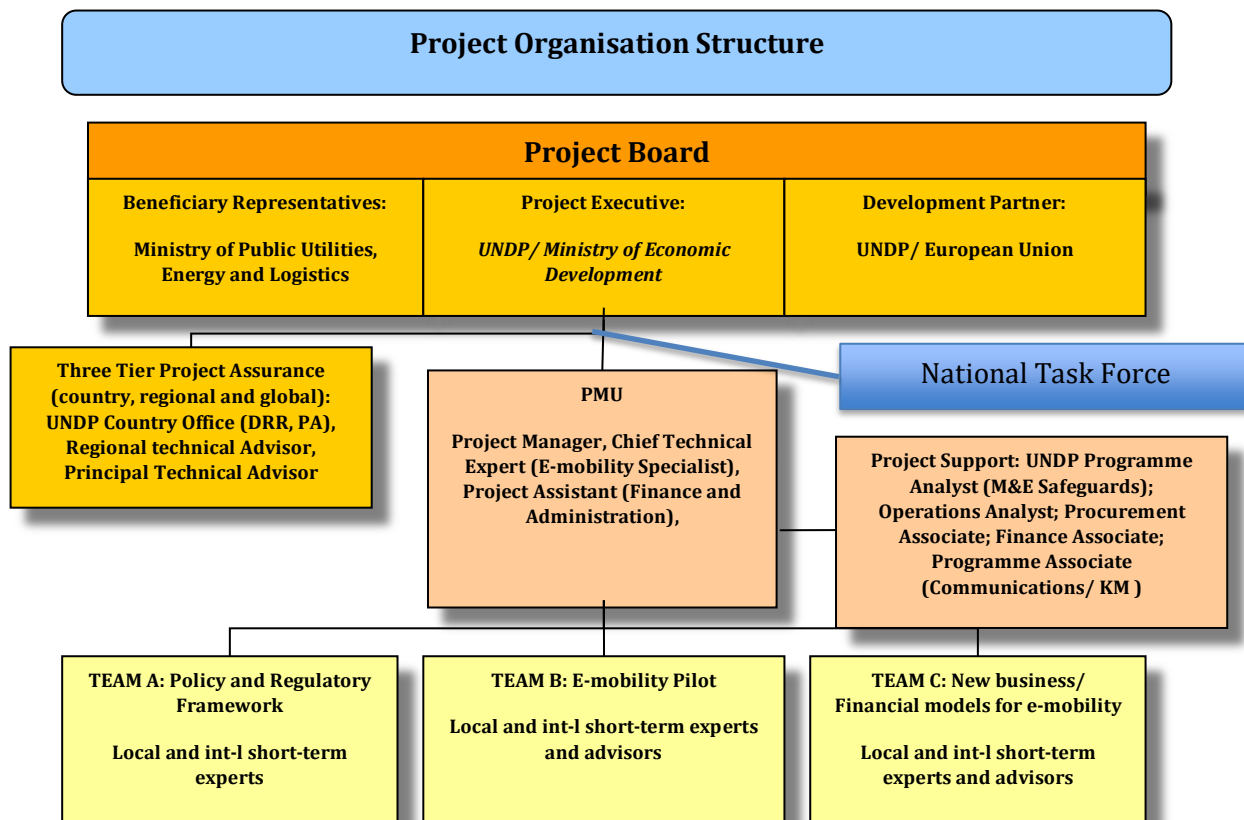
Monitoring	Indicators	Description	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Mid-term Review	N/A	Review of project progress against approved results framework	Project Manager's Report identifying progress, and lessons learn	Submitted to Board within second year of implementation	Project Manager	Completed MTR	There are no disruptions to project implementation allowing project to advance as per planned schedule.
Environmental and Social risks	N/A	Update of SESP	SESP reapplied at project midterm tracking specifically risks originally ranked as moderate and high during the project inception period.	Project midterm	Project Manager UNDP CO	Updated SESP	N/A

Evaluation Plan

Evaluation Title	Planned start date Month/year	Planned end date Month/year	Included in the Country Office Evaluation Plan			
Terminal Evaluation	June 2024	September 2024	Yes	0	-	

VIII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

71. Roles and responsibilities of the project’s governance mechanism: The project will be implemented following UNDP’s Direct Implementation Modality (DIM), in line with *Standard Basic Assistance Agreement* between the Government of Belize and the United Nations Development Programme (UNDP) and the Country Programme Document.
72. The **Implementing Partner** for this project is UNDP. UNDP is responsible and accountable for managing this project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of project resources.



73. Project Board: The Project Board is responsible for taking corrective action as needed to ensure the project achieves the desired results. In order to ensure UNDP’s ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition. In case consensus cannot be reached within the Board, the UNDP Resident Representative (or their designate) will mediate to find consensus and, if this cannot be found, will take the final decision to ensure project implementation is not unduly delayed.

74. Specific responsibilities of the Project Board include:

- Provide overall guidance and direction to the project, ensuring it remains within any specified constraints;
- Address project issues as raised by the project manager;
- Provide guidance on new project risks, and agree on possible mitigation and management actions to address specific risks;
- Agree on project manager's tolerances as required and provide direction and advice for exceptional situations when the project manager's tolerances are exceeded;
- Advise on major and minor amendments to the project within the parameters set by the donor;
- Ensure coordination between various donor and government-funded projects and programmes;
- Ensure coordination with various government agencies and their participation in project activities;
- Review the project progress, assess performance, and appraise the Annual Work Plan for the following year;
- Appraise the annual project implementation report, including the quality assessment rating report;
- Ensure commitment of human resources to support project implementation, arbitrating any issues within the project;
- Provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to plans;
- Address project-level grievances;
- Approve the project Inception Report and Terminal Evaluation reports and corresponding management responses;
- Review the final project report package during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.
- Ensure highest levels of transparency and take all measures to avoid any real or perceived conflicts of interest.

The composition of the Project Board must include the following roles.

75. The Project Executive represents national ownership of the project and co-chairs the Project Board alongside UNDP. The role of the executive is normally held by a national counterpart. In this case, the Project Executive positioned is held by the Ministry of Finance, Economic Development and Investment.
76. The Beneficiary Representatives represent the interests of those who will ultimately benefit from the project. Their primary function within the board is to ensure the realization of project results from the perspective of project beneficiaries. The Beneficiary representatives are the Ministry of Public Utilities, Energy and Logistics and the Belize City Council.
77. The Development Partner represents the interests of the parties concerned that provide funding and/or technical expertise to the project. The Development Partners involved in this case is the European Union and the United Nations Development Programme.
78. The Project Manager has the authority to run the project on a day-to-day basis on behalf of the Project Board within the constraints laid down by the Board. The Project Manager is responsible for day-to-day management and decision-making for the project. The Project Manager's prime responsibility is to ensure that the project produces

the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost.

79. UNDP recruits the Project Manager in line with the organization's rules and procedures. The Project Manager should be different from its representative in the Project Board. Specific responsibilities of the project manager include:
- i. Provide direction and guidance to project team(s)/ responsible party (ies);
 - ii. Liaise with the Project Board to assure the overall direction and integrity of the project;
 - iii. Identify and obtain any support and advice required for the management, planning and control of the project;
 - iv. Responsible for project administration;
 - v. Plan the activities of the project and monitor progress against the project results framework and the approved annual workplan;
 - vi. Mobilize personnel, goods and services, training and micro-capital grants to initiative activities, including drafting terms of reference and work specifications, and overseeing all contractors' work;
 - vii. Monitor events as determined in the project monitoring schedule plan/timetable, and update the plan as required;
 - viii. Manage requests for the provision of financial resources by UNDP, through advance of funds, direct payments or reimbursement using the fund authorization and certificate of expenditures;
 - ix. Monitor financial resources and accounting to ensure the accuracy and reliability of financial reports;
 - x. Be responsible for preparing and submitting financial updates to the board on a quarterly basis;
 - xi. Manage and monitor the project risks initially identified and submit new risks to the project board for consideration and decision on possible actions if required; update the status of these risks by maintaining the project risks log;
 - xii. Capture lessons learned during project implementation;
 - xiii. Prepare the annual workplan for the following year; and update the Atlas Project Management module if external access is made available.
 - xiv. Prepare the project annual and submit the final report to the Project Board for endorsement before formal submission to the European Union;
 - xv. Prepare project costed AWP.
 - xvi. Ensure the terminal evaluation process is undertaken as per the UNDP guidance, and submit the final TE report to the Project Board.
80. Project Assurance: UNDP provides a three – tier supervision, oversight and quality assurance role involving UNDP staff in Country Offices and at regional and headquarters levels. Project Assurance must be totally independent of

the Project Management function. The quality assurance role supports the Project Board and Project Management Unit by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager.

81. Governance role for project target groups: Project target groups will be engaged through define task force, Task Force members bring unique knowledge and skills, which complement the knowledge, and skills of the formal board in order to more effectively direct interventions within the project. The advisory groups serve to make recommendations and/or provide key information and materials to the project manager and the board.
82. UNDP: UNDP is accountable to the European Union for the implementation of this project. This includes oversight of project execution to ensure that the project is being carried out in accordance with agreed standards and provisions. UNDP is responsible for delivering project cycle management services comprising project approval and start-up, project supervision and oversight, and project completion and evaluation. UNDP is also responsible for the Project Assurance role of the Project Board.
83. Project management: The Project unit will be based at the UNDP Programme Office (Belize). Implementation of project activities will be fully supported by the Lead of UNDP Energy and Environment Programme, as well as other programme staff. The Project manager will ensure synergy with all ongoing relevant projects within the Programme for more effective impact.
84. The Project is fully embedded within the governance systems of Belize and, as such, directly supports its structures, functions and strategic commitments of the Government. In this context, the Project will implement its activities using the existing structures in Belize and ensure participation of relevant government stakeholders through the Project Board and defined Task Force. Project activities related to cooperation, training and information sharing will aim to use already established, legitimate participatory bodies, as well as existing training and cooperation platforms.

IX. MULTIYEAR WORK PLAN

Task/ Output	Responsible Party	Year 1			Year 2			Year 3 (15 months)		
Outcome 1 Conducive policy and regulatory framework for low carbon transport sector enabled.										
Activity 1.1: Establishment of a task force coordinated by the Ministry of Public Utilities, Energy and Logistics, and Public Utility Commission (PUC) responsible for preparing strategies in the targeted sectors.	MPUEL/ PMU									
Activity 1.2: Implement studies as inputs for enhancing policy instruments	Task Force/ PMU									
Activity 1.3: Build capacities within Departments of Energy and Transport for effective monitoring of transportation stocks	Task Force/PMU									
Activity 1.4: Retooling of operators to operate within e-mobility environment	Task Force/ PMU									
Monitoring	UNDP									
Outcome 2: Operators have adopted electric buses, solar charging stations have been installed, and a performance-monitoring system for the operating e-buses is in place.										
Activity 2.1: Inter-city public transportation: use of e-buses in the route Belize City - Benque Viejo del Carmen	DoT/PMU									
Activity 2.2: Intra-urban public transportation pilot	DoT/ PMU									
Activity 2.3: Enable monitoring framework for e-buses performance	DoE/ DoT/ PMU									
Activity 2.4: Public Awareness	DoT/BCC/ PMU									
Outcome 3: National Transport Sector Transformation Strategy provides the foundation for accelerated inclusion of low carbon transport options within the national transportation framework.										
Activity 3.1: UNCDF e-mobility feasibility assessment models, identify critical barriers to the employing of a public private implementation modality to transport sector transformation.	UNDP/ UNDCF									

Task/ Output	Responsible Party	Year 1	Year 2	Year 3 (15 months)
Activity 3.2: Investigate appropriate business models, incentive programmes and financing instrument which facilitates purchase and management of low carbon transportation options.	UNDP/UNCDF			
Activity 3.3: Elaborate a national strategy for the decarbonizing of the transport sector. The Transport sector strategy will include a corresponding plan guiding the accelerated penetration of Electric Vehicles.	DoT/DoE/ PMU			
Outcome 4.1: Project is efficiently managed, staffed and coordinated, and is implemented with national ownership				
Activity 4.1 : Project staffed, equipped and operational	UNDP/PMU			
Activity 4.2: Quarterly Project Board meetings conducted	UNDP/ PMU			
Activity 4.3: Regular Technical Committee (Task Force) and Consultative meetings held	PMU			
Activity 4.4: Project external audits	UNDP			
Activity 4.5: Project Final Evaluation is conducted	UNDP			
Project Financial Closure	UNDP			

	Activity staging and preparation period (covers such actions as specifications development, market research, procurement processes and structure set-up)
	Activity implementation lifespan
	Project Closure

Terms of References

Terms of reference are provided below for Project Manager, Principal Technical Advisor, Project Board, Financial Mechanism Development Consultant and Project Assistant (Administrative and Financial).

Project Manager

Summary of key functions:

In consultation with the Project Board, the Project Manager (PM) is responsible for day-to-day management, co-ordination and supervision of the implementation of the Project. Specifically, his\her responsibilities are but not limited to the following:

1. Supervises and ensures the timely implementation of the project relevant activities;
2. Prepares a detailed work plan for the project, manages the procurement and the project budget to assure timely involvement of local and international experts, organization of training and public outreach, purchase of required equipment etc. in accordance with UNDP rules and procedures;
3. Assures coordination among project activities;
4. Liaises with the relevant ministries, national and international research institutes, NGOs, and other relevant institutions in order to gather and disseminate information relevant to the project and organize realization of project activities;
5. Supervises and coordinates the contracts of the experts working for the project;
6. Submission of annual Project Implementation Reviews and other required progress reports to the Project Board and the UNDP in accordance with the section “Monitoring and Evaluation” of the Project Document;
7. As applicable, communicating with the project’s international partners and attracting additional financing in order to fulfil the project objectives; and
8. Ensuring otherwise successful completion of the project in accordance with the stated outcomes and performance indicators summarized in the project’s results framework and within the planned schedule and budget.

Required Skills and Experience:

- Advanced degree in environment/development/management related studies or other related disciplines;
- Five years’ experience in managing projects, including demonstrated capacity to actively explore new, innovative implementation and financing mechanisms to achieve the project objective;
- Good understanding of energy/climate change/development issues in Belize;
- Demonstrated experience in working with government, donors and the United Nations system;

- Good analytical and problem-solving skills and the related ability for adaptive management with prompt action on the conclusion and recommendations coming out from the project's regular monitoring and self-assessment activities as well as from periodic external evaluations;
- Ability and demonstrated success to work in a team, to effectively organize it, and to motivate its members and other project counterparts to effectively work towards the project's objective and expected outcomes;
- Good communication skills and competence in handling project's external relations at all levels;
- Familiarity and prior experience with UNDP requirements and procedures are considered as an asset;
- Fluency in English.

Principal Technical Expert (E-mobility Expert)

Summary of key functions:

In consultation with the Project Manager (PM) specifically, his\her responsibilities consist of the following:

1. Provides technical input in development of policies, regulations and bylaws;
2. Takes part in development of technical and non-technical guidance documents for all studies and assessment undertaken as part of the project;
3. Prepare briefing notes and dissemination material, including but not limited to technology, best practices, roadmaps, policies, implementation models, financing and management
4. Support and oversees the design of an innovative financing mechanism
5. Undertake an assessment of the monitoring network requirements and provides technical assistance;
6. Takes part in design and implementation of the e-mobility pilots
7. Monitor field activities implementation
8. Provides support in organization of external evaluation of the project;
9. Ensures efficiency in the provision of support to local stakeholders in the Department of Transport and the Belize City Council;
10. Ensures that all project-related issues and risks are identified and reported in a timely manner and suggests corrective measures;
11. Co-ordinates the work of the Project Team, individual consultants and contracted companies;
12. Organizes and implements trainings
13. Assist PM in development of annual work plans based on the multi-year work including annual output targets to support the efficient implementation of the project.
14. Identify capacity needs of municipal departments/companies and provide necessary trainings;
15. Provides support to mainstreaming gender equality in the project implementation;

Required Skills and Experience:

- Master's degree or Professional License in engineering, energy economics or equivalent field.
- At least five years of experience in the analysis and/or implementation of policies, regulations, and/or standards in energy and/or transport systems;
- At least five years of experience in the analysis, planning, and/or implementation of electric mobility projects;
- Experience in techno-economic modelling in the energy sector would be considered an asset
- Quantitative skills and ability to manipulate data;;
- Good communication skills and competence in handling project's external relations at all levels;

Project Board

- A Project Board will be established at the inception of the project to monitor project progress, to guide project implementation and to support the project in achieving its listed outputs and outcomes.
- It will be chaired by UNDP
- Other participants can be invited into the Board meetings at the decision of the Board.
- The Board will meet on a quarterly basis to review project progress, discuss and agree on project work plans. One of the key tasks of the Board will be to ensure coordination and synchronization of central and local-level activities supported by the project. In this respect, the Board will serve as a platform for key project stakeholders and beneficiaries to regularly get together and design a joint strategy of work on the project.
- The final list of the Project Board members will be completed at the outset of project operations and presented in the Inception Report by taking into account the envisaged role of different parties in the Board. The Project Manager will participate as a non-voting member in the Board meetings and will also be responsible for compiling a summary report of the discussions and conclusions of each meeting.
- The day-to-day management of the project will be carried out by a Project Manager under the overall guidance of the Project Board.

Financial Mechanism Development Consultant: Low carbon Transportation/ electro-mobility policy framework and roadmap for Belize

Objective and functions:

The output address opportunities for reducing the impact of transport through the integration of low-carbon, and innovative business models. The consultant is tasked with developing a cohesive low carbon transport/ electro-mobility policy, planning and market framework to transform Belize's transport sector into a modern, sustainable, effective, forward looking and results driven sector.

The objective of the proposed project is to identify, support and promote scalable, private sector-led business models for low carbon transport integration into Belize's rolling fleet incorporating implementation frameworks for the deployment and scale-up of Electric Vehicles. The consultancy is set to develop a detailed financial scheme for the adoption of low-carbon transportation options including Electric vehicles in Belize.

Consultant will:

- Assess Market Readiness and Policy Framework for deployment of selected low carbon options in Belize.
- Identification of barriers and barrier removal measures, including regulatory, financial and other policy measures.
- Develop concept notes for recommendations and priority actions on topics related to EV promotion
- Identify capacity needs of national stakeholders
- Develop Policy Roadmap at national level including regulatory, taxation and subsidy policies to drive penetration of low carbon transportation option within Belize's Transport Sector.
- Report of possible financial instruments supporting sector transformation

Competencies

Corporate Competencies:

- Demonstrates commitment to UNDP's mission, vision and values;
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability

Core Competencies:

- Demonstrating/safeguarding ethics and integrity;
- Demonstrate corporate knowledge and sound judgment;
- Self-development, initiative-taking;
- Acting as a team player and facilitating team work;
- Facilitating and encouraging open communication in the team, communicating effectively;
- Creating synergies through self-control;
- Managing conflict;
- Learning and sharing knowledge and encourage the learning of others. Promoting learning and knowledge management/sharing is the responsibility of each staff member;
- Informed and transparent decision-making.

Qualifications Requirements

Education:

- Bachelor's or equivalent degree in finance, economics or other related field. Master's or equivalent degrees will be at an advantage.

Experience:

- At least 5 years of professional experience focused on finance.
- Experience with preparation and implementation of public financial instruments to promote private sector investment in low-carbon energy.
- Experience in conducting barrier analysis, market readiness assessments and developing roadmaps/action plans
- Proven experience with financial modelling
- Experience working in developing country contexts preferred, particularly those related LAC region
- Experience working with multilateral organizations and the UN system preferred

Language

Requirements:

- Fluency in English required. Excellent drafting skills required

Others:

Project Assistant (Administration and Finance)

Background

The Project Administrative and Financial Assistant will be locally recruited based on an open competitive process. He/she will be responsible for the overall administrative support to, and financial management of the project. The Project Financial Assistant will report to the Project Manager.

Duties and Responsibilities

- Collect, register and maintain all information on project activities;
- Contribute to the preparation and implementation of progress reports;
- Advise all project counterparts on applicable administrative procedures and ensures their proper implementation;
- Assist in procurement and recruitment processes;
- Receive, screen and distribute correspondence and attach necessary background information;
- Prepare routine correspondence and memoranda for Project Managers signature;
- Assist in logistical organization of meetings, training and workshops;
- Prepare agendas and arrange field visits, appointments and meetings both internal and external related to the project activities and write minutes from the meetings;
- Maintain a project filing system;
- Maintain records over project equipment inventory;
- Monitor project budgets and financial expenditures;
- Assist in all procurement and recruitment processes;
- Advise all project counterparts on applicable financial procedures and ensures their proper implementation;
- Contribute to the preparation and implementation of progress and financial reports;
- Support the preparations of project work-plans, budgets and operational and financial planning processes;
- Assist in the preparation of payments requests for operational expenses, salaries, insurance, etc. against project budgets and work plans;
- Work closely with financial counterparts in the UNDP CO on payment requests;
- Follow-up on timely disbursements by the UNDP CO;
- Maintain data on co-financing commitments to the project;
- Coordinate the annual financial audit of the project; and
- Perform other duties as required.

Qualifications and experience

- A post-school qualification (diploma, or equivalent), preferably in financial management, accountancy or bookkeeping (or equivalent);

- At least 5 years of relevant financial management experience;
- Work experience in UNDP projects is highly desirable;
- Demonstrable ability to administer project budgets, and track financial expenditure;
- Excellent computer skills, in particular mastery of all applications of the MS Office package;
- Excellent written communication skills; and
- Knowledge of English is a requirement, while knowledge of Spanish will be an advantage.