Part I: Project Information

GEF ID
11042

Project Type
MSP

Type of Trust Fund
GET

CBIT/NGI
CBIT **No**
NGI **No**

Project Title
Integration of electric mobility with renewable energy in peri-urban and rural areas around cities in C?te d'Ivoire

Countries
Cote d'Ivoire

Agency(ies)
UNIDO

Other Executing Partner(s)
Ministry of Transport (MoT) - Government; UNIDO - GEF Agency

Executing Partner Type
Others

GEF Focal Area
Climate Change

Sector
Technology Transfer/Innovative Low-Carbon Technologies

Taxonomy

United Nations Framework Convention on Climate Change, Climate Change, Focal Areas, Paris Agreement, Nationally Determined Contribution, Climate Change Mitigation, Technology Transfer, Mainstreaming, Biodiversity, Agriculture and agrobiodiversity, Infrastructure, Fisheries, Type of Engagement, Stakeholders, Information Dissemination, Consultation, Participation, Partnership, Beneficiaries, Strategic Communications, Communications, Awareness Raising, Behavior change, Local Communities, Large corporations, Private Sector, SMEs, Capital providers, Financial intermediaries and market facilitators, Individuals/Entrepreneurs, Civil Society, Non-Governmental Organization, Academia, Community Based Organization, Gender Equality, Gender Mainstreaming, Women groups, Gender-sensitive indicators, Sex-disaggregated indicators, Gender results areas, Access to benefits and services, Participation and leadership, Integrated Programs, Commodity Supply Chains, Financial Screening Tools, Smallholder Farmers, Food Systems, Land Use and Restoration, Sustainable Commodity Production, Smallholder Farming, Food Value Chains, Sustainable Cities, Integrated urban planning, Urban sustainability framework, Municipal Financing, Transport and Mobility, Capacity, Knowledge and Research, Enabling Activities, Innovation, Knowledge Exchange, Exhibit, Peer-to-Peer, Twinning, Field Visit, South-South, Knowledge Generation, Training, Workshop, Targeted Research, Capacity Development

Rio Markers

Climate Change Mitigation

Significant Objective 1

Climate Change Adaptation

No Contribution 0

Biodiversity

No Contribution 0

Land Degradation

No Contribution 0

Submission Date

2/28/2023

Expected Implementation Start

1/1/2024

Expected Completion Date

8/31/2027

Duration

48In Months

Agency Fee($)

152,715.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
CCM-1-1	Promote innovation and technology transfer for sustainable energy breakthroughs for decentralized power with energy usage	GET	248,973.00	4,000,000.00
CCM-1-2	Promote innovation and technology transfer for sustainable energy breakthroughs for electric drive technologies and electric mobility	GET	1,358,562.00	9,238,200.00
		Total Project Cost($)	**1,607,535.00**	**13,238,200.00**

B. Project description summary

Project Objective

The objective of the project is to accelerate the adoption of an integrated renewable energy-based electric transport system, to reduce greenhouse gas emissions and support economic and productive use activities in C?te d'Ivoire.

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 1. Strengthening the institutional framework and financial mechanisms to promote electric mobility in Cote d?Ivoire	Technical Assistance	Legislation and financial mechanisms are strengthened to promote electric mobility with renewable energy solutions	**Output 1.1.1:** National regulatory mechanisms promoting integrated renewable energy powered electric mobility (supporting productive use activities and the special requirements of peri-urban and rural areas) are developed and proposed to the government for adoption. **Output 1.1.2:** A national funding mechanism to incentivize the shift to electric mobility is developed and submitted to the government for adoption at the	GET	212,698.00	1,175,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
			national level. **Output 1.1.3:** A sectorial EV roadmap (technical regulations, standards for EVs and charging infrastructure) linked to value-adding economic activities is developed.			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 2. Demonstration of e-mobility technologies and charging infrastructure	Technical Assistance	**Outcome 2.1:** Viable e-Mobility technology demonstrations are operationalized, engaging women and young entrepreneurs in the target areas to de-risk investments.	**Output: 2.1.1:** Provide tailored technical assistance and investment guidelines on potential uses of integrated e-Mobility technologies focusing on creating opportunities for green businesses (e.g., sustainable transportation along agro-food value chains) and decent jobs for youth and women.	GET	174,800.00	808,700.00
Component 2. Demonstration of e-Mobility technologies and charging infrastructure.	Investment	**Outcome 2.1:** Viable e-Mobility technology demonstrations are operationalized, engaging women and young entrepreneurs in the target areas to de-risk investments.	**Output 2.1.2:** Low-carbon e-Mobility technologies implemented and operationalized to demonstrate environmental and economic benefits as well as replicable business models.	GET	622,837.00	7,666,500.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 3. Capacity building and awareness raising.	Technical Assistance	**Outcome 3.1:** National capacities and awareness are enhanced to accelerate the adoption of e-Mobility (with a focus on electric two and three wheelers whe elers in peri-urban and rural areas).	**Output 3.1.1:** Capacity building through technical trainings of local market actors to provide the new skills needed in the shift to e-Mobility with a focus on youth and women. **Output 3.1.2:** Workshops and awareness raising activities for policy-makers and change makers on integrated e-Mobility and renewable energy and quality infrastructure are conducted. **Output 3.1.3**: Assessment of opportunities for localizing value chains of electric vehicles and renewable powered	GET	402,500.00	1,175,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
			charging stations.			
Component 4. Monitoring, learning and evaluation	Technical Assistance	Outcome 4.1: Adequate monitoring of all project indicators in line with GEF and UNIDO requirements.	Output 4.1.1: Project monitoring and GHG monitoring scheme. Output 4.1.2: The project is evaluated in the mid-term and final stage independently.	GET	50,000.00	1,175,000.00
			Sub Total ($)		**1,462,835.00**	**12,000,200.00**

Project Management Cost (PMC)		
GET	144,700.00	1,238,000.00
Sub Total($)	**144,700.00**	**1,238,000.00**
Total Project Cost($)	**1,607,535.00**	**13,238,200.00**

Please provide justification

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Recipient Country Government	Ministry of Transport (MoT)	In-kind	Recurrent expenditures	9,000,000.00
Recipient Country Government	Ministry of Environment and Sustainable Development (MoENSD)	In-kind	Recurrent expenditures	1,555,000.00
Other	Council of Panafrican Doctors in Environment (COPADEN)	In-kind	Recurrent expenditures	450,000.00
Private Sector	Groupe Africain pour le development de l'eau, l'?nergie et l'environnement (A3E)	In-kind	Recurrent expenditures	400,000.00
Recipient Country Government	District Autonome du D?nguel? (Odienn?)	In-kind	Recurrent expenditures	100,000.00
Recipient Country Government	Ivorian Parks and Reserves Office (OIPR)	In-kind	Recurrent expenditures	1,043,200.00
Other	Centre pour les Energies Renouvelables et l?Efficacit? Energ?tique de la CEDEAO (ECREEE)	In-kind	Recurrent expenditures	210,000.00
GEF Agency	UNIDO	In-kind	Recurrent expenditures	40,000.00
GEF Agency	UNIDO	Grant	Investment mobilized	40,000.00
Other	CATALYSTE+ Formerly CESO-SACO	In-kind	Recurrent expenditures	400,000.00
			Total Co-Financing($)	**13,238,200.00**

Describe how any "Investment Mobilized" was identified

Investment mobilized was identified during the PPG phase through stakeholder consultations (ministries, local authorities, private sector) on funding priorities and according to existing projects and pipeline of

projects. Investment is mobilized under all components, enabling the demonstration of electric vehicles (EVs) in C?te d'Ivoire. Consultations are organized with the following partners: Council of Panafrican Doctors in Environment (COPADEN); Groupe Africain pour le development de l'eau, l'?nergie et l'environnement (A3E); Centre pour les Energies Renouvelables et l?Efficacit? Energ?tique de la CEDEAO (ECREEE) etc. Discussions and meeting are also organized with the Government of C?te d'Ivoire (GoCI) through the Ministry of Transport (MoT); Ministry of Environment and Sustainable Development (MoENSD), Ministry of Energy (MoE); Town Hall of Yamoussoukro; District of Yamoussoukro; Women and Environment (WE-FE) etc., ensuring their commitment to the project activities. The committed in-kind co-financing by the concerned authorities and institutions such as the Ministry of Transport; National Polytechnic Institute Houphouet Boigny (INPHB); Chamber of Commerce and Industries (CCI-CI), Ivorian Parks and Reserves Office (OIPR) etc., will provide office space and some local expenditures relating to workshops, seminars, training courses, awareness campaigns and publications. It also includes hardware contributions on vehicles and charging stations. The total investment committed by the Ministry of Transport in its letter of co-financing is USD 19 million (including indirect support to the project). However, during the PPG it was assessed that only USD 9 million of this co-financing is a tangible and realistic amount relevant to the project?s targets. Under Component 1, funds will support drafting of policy/national regulatory mechanisms promoting the development of e-mobility in the country and unlocking finance flows for e-mobility solutions. The policy activities aim to consolidate the various relevant policies and initiatives and identify gaps to accelerate EV deployment in Cote d?Ivoire and provide recommendations for the way forward. This has been developed in a participatory manner through consultations with stakeholders of the public and private sector. The project?s activities are aligned with national priorities and supported by the country. This component is also aligned with the recently launched UNEP led GEF 7 project entitled ?Integrated, Sustainable and Low Emissions Transport in C?te d?Ivoire?. While the UNEP led project has a particular focus on urban transport, the proposed project by UNIDO has its key focus on providing sustainable transport solutions for productive uses including rural and peri-urban areas. The feasibility studies that will be developed under Component 2 will be followed by a competitive bidding process to select the private suppliers for the pilots. The Component 2 will include in-kind contributions from local authorities, as well as the local private sector itself wherever feasible. The private sector actors will be engaged for providing co-financing of replicable, low-carbon transportation investments. UNIDO?s in-kind co-financing refers to knowledge and training materials that the project will benefit from (e.g., other relevant programmes and projects with similar focus) throughout the project duration. Under Component 3, funds will support preparations for scale-up and wider uptake of low carbon electric mobility interventions through partnerships, knowledge management and capacity building activities. Co-financing will be leveraged from a number of national and municipal partners such as the Town Hall Yamoussoukro/District of Yamoussoukro; Town Hall of Bouak?; the National Polytechnic Institute F?lix Houphou?t-Boigny (INPHB), Chamber of Commerce and Industries (CCI-CI) etc. Moreover, funds from the ECOWAS Regional Centre for Renewable Energy and Energy Efficiency (ECREEE) will be used to ensure alignment of the project with ongoing regional initiatives, to provide a strategy to scale up the project at the regional level and for the allocation of at least two (2) dedicated personal working part time on the project. During the implementation phase, the project

will work towards securing additional cash co-financing and/or explore alternatives with other partners. Additional co-financing will be reported in the Project Implementation Report (PIR).

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNIDO	GET	Cote d'Ivoire	Climate Change	CC STAR Allocation	1,607,535	152,715	1,760,250.00
			Total Grant Resources($)		**1,607,535.00**	**152,715.00**	**1,760,250.00**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount ($)

50,000

PPG Agency Fee ($)

4,750

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNIDO	GET	Cote d'Ivoire	Climate Change	CC STAR Allocation	50,000	4,750	**54,750.00**
			Total Project Costs($)		**50,000.00**	**4,750.00**	**54,750.00**

Core Indicators

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)	13857	19490	0	0
Expected metric tons of CO?e (indirect)	103970	273760	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)	13,857			
Expected metric tons of CO?e (indirect)	103,970			
Anticipated start year of accounting	2022	2024		
Duration of accounting	20	20		

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)		19,490		
Expected metric tons of CO?e (indirect)		273,760		
Anticipated start year of accounting		2024		
Duration of accounting		20		

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
Energy Storage				
Solar Photovoltaic		0.20		

Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	165,000	20,530		
Male	165,000	43,570		
Total	330000	64100	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Direct beneficiaries (GEF Core Indicator #11) are estimated to be between 30-50% women depending on the target group. Detailed justification is explained in page 8, under ?Reduced gender target?: ? 500 users of two and three wheelers from the pilot sites o 10 sites with about 50 people from each site o Target: 50% women beneficiaries, so 250 women and 250 men ? 21,000 users of the e-vehicles from the governmental fleet o 19 Mio / 70,000 ? with 70,000 the average total cost a vehicle o Target: 30% women reached as the majority of the public servants are male (estimated at more than 70% in the transport and energy fields), so 6,300 women and 14,700 men ? 36,000 users of the e-bikes o 20,000 from the Banco Park; 10,000 from R?serve Naturel Dhalia Fleur; 6000 from INHPB o Target: even if difficult to estimate at this stage, we forecast 30% women, so 10800 women and 25200 men ? 600 beneficiaries from the training o 3 training of max. 50 people each per year during 4 years, with 1 training targeting public servant, 1 training targeting the private sector including financial institutions and 1 targeting cooperatives / farmers o Target: 30% women as most of the public servants are men (estimated at more than 70% in the transport and energy fields), so 180 women and 420 men ? 6,000 beneficiaries from awareness raising o 3 events of max. 50 people each per year during 4 years, and disseminated info in the media ? TV, radio, written journals, web news o Target: ? from the awareness raising in-person session 600 beneficiaries: 50% women, so 300 women and 300 men ? from the media, it is assumed the gender percentage would be 50%, so 2,700 women and 2,700 men)

Part II. Project Justification

1a. Project Description

CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN WITH THE ORIGINAL PIF

The key changes in alignment with the project design with the original PIF are explained below:

- **Institutional arrangements to change the executing agency of the project**: Following consultations with the government counterpart, roles and responsibilities of the main stakeholders are identified and elaborated. The Ministry of Transport will act as the Lead National Execution Partner. This is a change in comparison to the PIF stage where the Ministry of Environment and Sustainable Development was anticipated to act as the Executing Agency of the project. During the PPG phase, further information was collected and the Ministry of Transport is evaluated as a more suitable institution for the execution of services and activities under the project considering the project technical focus area and their network and outreach in the transport sector. Other relevant government institutions such as the Greater Abidjan Urban Mobility Authority (Autorit? de la Mobilit? Urbaine dans le Grand Abidjan ? AMUGA) will support the co-ordination of the project activities at the national level. In addition, it was agreed with the counterpart and the GEF OFP that UNIDO and ECREEE will provide targeted executional support to the project. A letter from the GEF OFP informing of this change has been submitted as an evidence.

- **Changes in the level of co-financing:** Additional co-finance has been secured by the Ministry of Transport through the approval of additional pilot demonstration projects such as the purchase of EV models, introduction of an innovative fleet management system and the installation of a network of EV charging stations in Abidjan, Yamoussoukro, Bouak?, Korhogo, San P?dro and Odienn?. The Government of C?te d?Ivoire is promoting the deployment of EVs in the country and encouraging investments into environmentally friendly transportation to align with the climate action. The aim is to improve the mobility of people and goods through the introduction of EVs, advance e-mobility business opportunities and innovative solutions and increase access to sustainable energy and services for a greater engagement in productive activities by the local population, through enabling income-generating activities. During the implementation phase the project will work towards securing additional cash co-financing and/or explore alternatives with other partners. Additional co-financing will be reported in the Project Implementation Report (PIR)

- **Potential target areas:** following a mapping of potential target areas, the PPG phase identified the following areas for pilot demonstrations activities: Abidjan, Yamoussoukro, Bouak?, Korhogo, San P?dro and Odienn? (including the special requirements of rural and peri-urban areas). The pilot project sites were identified by the Government and technical experts. The sites were recognised to have a good sampling and above all to reflect the diversity of the type of mobility needs in C?te d'Ivoire. Odienn?, a major town at the border with Guinea and Mali, is included in the list for its strategic positioning in the northern area, its specific interest to test the spectrum of EVs and for its specific agri-food products such as cashew, mangoes, cotton etc. In the area, there are lots of cross border traffic, especially on two wheelers. Odienn? is identified as a potential demonstration project site as it provides relevant lessons

specific to mobility needs in border towns, which can be further on replicated. It should be noted that the aforementioned list of pilot sites covers the south, the centre, the west and the northern part of the country. The eastern part of the country is not considered during the PPG phase. However, it will be assessed through the feasibility studies that are foreseen during the implementation phase. This was notably a recommendation from the Validation Workshop.

- **Mobility for rural communities engaged in agri-food sector/agri-food clusters**: Stronger focus on local solutions to provide access to mobility for rural communities engaged in agri-food sector/agri-food clusters to boost their income and ensure the delivery of goods and parcels. PPG activities showed that there are no support mechanisms for supply chain investments in place. Transitioning to EVs (such as electric 2&3 wheelers) can help reduce GHG emissions while also increasing the socio-economic status of people in peri-urban and rural areas in C?te d?Ivoire.

- **Need to couple the use of electric vehicles with the supply of electricity and move to the use of electricity supplies with high proportions of renewable energy**. Globally, the thinking of charging of electric vehicles has matured from one where electric vehicles simply provide a demand on the supply of electricity to where they can support the supply of electricity. Continuing on this development line, it expected in the future that the charging, and even the operation of electric vehicles, would become closely coupled with the supply of electricity. The proposed demonstration projects (with their role to demonstrate in preparation of future e-mobility) should therefore be designed to integrate with the local supply of electricity where this is practicable. In addition, the use of electric vehicles as a ?climate change mitigation tool? is compromised unless the source of electricity used to charge the vehicles has a high renewable proportion, and provisions have been provided to add solar electricity generation to the projects where this is practicable. This is also in line with global trends towards developing more resilient and integrated, multi-component/multi-system solutions.

- **Alignment**: During the PPG, the project collaborated with UNEP (which is implementing the project ?Integrated, Sustainable and Low Emissions Transport in C?te d?Ivoire?) to align objectives and streamline the interventions of the projects. While the UNEP led project has a particular focus on urban transport, the proposed project by UNIDO has its key focus on providing sustainable transport solutions for productive uses including rural and peri-urban areas. During the implementation close collaboration will be particularly essential in the policy component of the project.

- **Reduced gender target**: the gender baseline report has been developed during the PPG phase with the support of the Ministry of Transport and the Ministry of Woman, Family and Child in consultation with other stakeholders. Besides the validation meeting to inform and raise awareness about the gender dimension of the project, several bilateral meetings with the Ministry of Woman, Family and Child and Ministry of Transport have been organised to discuss issues concerning this aspect of the project. During the bilateral meetings, the project coordinator of a similar project from UNEP in briefed the team on the lessons learnt, challenges and actions taken by UNEP in Cote d'Ivoire to fully mainstream gender in their project implementation. This later indicated that UNEP's goal is to have at least 30% women participation in their activities. However, despite their efforts in making sure that the documents and the events are gender mainstreamed, and recalling the stakeholders on the 30% participation, they only get 10% women participation. Based on this feedback, as well as the observation that most of the counterparts from the key institutions and organizations met during the validation are males, it was decided to mitigate the risk

of not succeeded to reach the 50% target set during the PIF by reducing the target to 30% participation of women in some activities like training to be provided to public servant. However, for some targeted activities where the project team will be able to influence the number by selecting for example the organisation to be involved in the selected site, the 50%participation is still applied. Since the executing agency, the Ministry of Transport does not have much experience with gender mainstreaming, this solutions seems to be the best to mitigate the risk of not reaching the 50% participation.

- **Change of title of the project:** as per the request of the Government of C?te d?Ivoire, through notably the Ministry of Transport, the project is now including the urban area of Abidjan while only focusing on the peri-urban and rural areas in the PIF document. The Government requested indeed the project to support the shift of its fleet from conventional vehicles to electric ones. If the project main target area will remain the peri-urban and rural areas, these vehicles being used essentially in urban areas, it was necessary to modify the title of the project to reflect this aspect. Therefore, after exchanges with different actors, the title was modified from ?Integration of electric mobility with renewable energy in peri-urban and rural areas around cities in C?te d'Ivoire? to ?Integration of electric mobility with renewable energy solutions in C?te d'Ivoire?. The change has been already validated by the key stakeholders such as the GEF OFP and the Ministry of Transport.

Business model technology. At the PIF stage, the project?s business model focused on cable charging. During the PPG, it has been assessed that in addition to cable charging, the battery swapping technology could be viable under certain technical circumcision as endorsed by the national stakeholders. The project is not opting for only one business model (cable-charging technology, battery swapping or any other) but will select the most suitable technology based on the economic and technical feasibility studies that will be developed under the Component 2.

The Output 3.1.3 is included as below ?Assessment of opportunities for localizing value chains of electric vehicles and renewable powered charging stations?.

In consultation with governmental stakeholders, the project structure is amended to include a new output 3.1.3 to assist the efforts in assessing the possibility of localizing value chains for the manufacturing and assembling of EVs and spare parts in the country. Activities under this output will be closely coordinated with INBHP and ECREEE. The output will develop an assessment study on local value chains for vehicles and solar charging infrastructure and the use of new mobility concepts with the active participation of local partners (farming communities, agricultural colleges, cooperative societies, agricultural service centres, etc.). This assessment will establish the future development of a roadmap for the local supply of e-vehicles that considers ?made in Africa? and planning for in country builds.

1) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)

The global problem of fossil fuel-based transportation

Globally, the transport sector is the fastest growing contributor to climate emissions, accounting for 23% of global carbon dioxide emissions. Road transportation accounts for the large majority of those emissions. Additionally, the global vehicle fleet is set to double by 2050, and almost all this growth will take place in low- and middle-income countries. Therefore, de-carbonizing the transport sector will play an important role in addressing global environmental issues since they represent a significant share of GHG emissions and other types of air pollution.

Climate action

The Intergovernmental Panel on Climate Change (IPCC), stated that to maintain a target of 1.5C all vehicles added to the global fleet need to be electric from 2035 onwards, resulting in a complete switch to electric fleets by 2050. At UNFCCC COP21, a group of countries adopted the Paris Declaration on Electro-mobility and Climate Change, which calls for 100 million electric cars and 400 million electric two and three wheelers by 2030.

Moreover, climate action is included in the 2030 Agenda for Sustainable Development as a stand-alone Sustainable Development Goal (SDG), SDG 13, which provides a roadmap to reduce emissions and build climate resilience. The International Energy Agency has developed several scenarios for the contribution of the introduction of electric mobility to achieving global climate targets. In addition, the United Nations Environment Assembly, at its fourth session in March 2019, adopted the first ever UN sustainable mobility resolution that calls on all countries to switch to sustainable mobility, including electric mobility.

The shift to sustainable transport

To meet the objectives of the Paris Agreement and the 2030 Agenda for Sustainable Development, direct transport emissions must decrease by over 9 % by 2030. To achieve such a fall will require urgent action to put cleaner and more efficient modes of transport on the roads.

There is a potential to increase the share of electric cars on the roads, through providing incentives, since EVs can support meeting strategic objectives such as reducing dependency on imported fuel (i.e., oil), more efficient use of energy and significant CO2 reduction potential. Electric vehicles (EVs) are efficient, low-carbon, quiet means of transportation, making them a crucial part of global efforts to cut fossil fuel dependency, improve air quality and decarbonize the economy.

The shift to electric mobility will contribute directly to achieve progress on SDG 13 on climate action, SDG 3 on good health and well-being due to improved urban air quality, SDG 7 on affordable and clean energy due to renewable energy integration, SDG 11 on sustainable cities and communities as well as SDG 5 on gender equality and women's empowerment.

The investment in infrastructure and technology required to build an enabling ecosystem for e-mobility will also provide new green jobs, business opportunities, improved access to services and scope for

technological innovation, which will contribute to progress on a wider range of development goals including poverty reduction, decent work, industry and sustainable cities and communities.

The UN High Level Advisory Group on Transport defines sustainable transport as "the provision of services and infrastructure for the mobility of people and goods, supporting economic and social development for the benefit of current and future generations, in a safe, affordable, accessible, efficient and resilient manner, while minimizing carbon and other emissions and environmental impacts". Transport is a driver of development, it connects people, it links local communities to the world, and it creates markets and facilitates trade.

In turn, sustainable transport is the engine of sustainable development, fundamental to meeting the needs of people in their personal and economic lives, while respecting the ability of future generations to meet their needs.

The case of Africa

The continent faces numerous challenges in the provision of basic transport services and ensuring connectivity. Achieving sustainable and inclusive transport systems in Africa is essential as a catalytic sector for the Region?s low carbon economic and social development, as well as ensuring a transition to climate-resilient pathways with clean fuels and EVs, and thus healthier environments and better resilience of communities to climate change impacts.

Rapid population growth, rapid and unplanned urbanization, increasing motorization, lack of investment in sustainable transport infrastructure and modes of transport, lack of stringent sustainable transport policies, institutional and governance framework challenges and political buy-in, inefficient vehicles with high fossil fuel consumption rate are some of the factors which are contributing to a state of poor transport accessibility. Combined to this, the rising road deaths; increasing traffic congestion and pollution exacerbating significantly the decrease in air quality correlated to health issues. A lack of sustainable transport infrastructure and affordable services remains a major obstacle to all African countries.

Two and three wheelers

Two and three wheelers are the fastest growing transport mode in many low and middle-income countries. Growth rates of motorcycles in many African countries are some of the highest in the world. Today, about 270 million motorcycles are on the road with annual motorcycle sales accounting for about 52 million. By 2050, the global fleet of motorcycles is projected to account for more than 400 million vehicles, representing a 50% increase compared to today.

However, many of these internal combustion engine, 2&3 wheelers are old and inefficient, thus emitting substantial amounts of particulate matter (PM) and black carbon (BC), a potent short-lived pollutant. Two-stroke scooters, for example, produce more particle emissions than a passenger car.

Scenario calculations using the UN Environment eMob calculator show that assuming a global shift to 90% battery electric motorcycles sales by 2030 could result in CO2 emissions reductions of about 11 billion tons between now and 2050. At the same time, overall monetary savings from lower fuel and maintenance costs and taking into account a higher purchase price of electric motorcycles could amount to about USD 350 billion by 2050.

Motorized 2&3 wheelers, which are traditionally intended for purely private use, have been appropriated for a commercial activity: the motorbike taxi, in a number of Sub-Saharan African cities. The rise of motorbike taxis can be explained by the shortage of transport supply, the availability of factors of production and the tolerance of the regulatory framework.

The rapid growth of transport supply by these operators has been fostered by a number of factors:

- car ownership is affordable to only a minority of the population,

- strong demand for public transport,

- poor service offered by remaining state-run companies,

- the roads are inadequate or in poor condition, and consequently more suited to small vehicles than to large buses,

- the absence of the obligation for the operators to provide services with regulated fares, timetables, routes and service times

It is within this context that an unusual form of public transport has appeared in a number of cities: the commercial use of motorized 2&3 wheelers. While there is a trend to reduce the role of 2&3 wheelers in public transport for safety reasons, these vehicles can play an important role in the rural and peri-urban areas to transport agricultural products to the point of sales.

The case of C?te d?Ivoire - Rising transport emissions generated by a growing economy

In its Nationally Determined Contribution (NDC) in the Paris Agreement, C?te d?Ivoire estimated a growth in greenhouse gas (GHG) emissions of around 4.3% on average per year from 2012-2030. In particular, GHG emissions from the transport sector could rise by 25% over this period, from 2,389.36 kilotons of CO2 equivalent (ktCO2) in 2012 to 6,441.27 in 2030, which is an average annual increase of 5.7 %. GHG emissions generated by road transport almost tripled from 2005 to 2016 ? although, in comparison with the global average per inhabitant, this emissions level remains extremely low (0.1 tons of CO2 /year/inhabitant) and the volume of journeys is limited. The transport sector thus constitutes the second biggest source of potential emissions growth after electricity production, and plays an important role in the mitigation strategy of C?te d?Ivoire, which is aiming at a 28% reduction in emissions by 2030 compared to 2012.

C?te d?Ivoire has boosted the ownership of private cars more than the development of public transport. Informal transport solutions like w?r?s-w?r?s and gb?k?s are more flexible and better

matched to meet the growing demand for mobility. The significant hike in car registrations can be explained by the high cost and difficulty of moving around on public transport. The poorest households spend on average 20% to 30% of their income on public transport and spend 200 minutes a day using it or waiting for it.

Sources:

https://www.ndcs.undp.org/content/ndc-support-programme/en/home/our-work/geographic/africa/cotedivoire

https://www.climate-chance.org/wp-content/uploads/2020/06/fiche-transport-cote-divoire_en_20200605.pdf

Opportunities to link sustainable transport to the productive use sectors

In support of the sustainable development objectives (through the promotion of development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation) and in support of the decarbonization goals, the Government of Cote d?Ivoire has ambitious targets to introduce e-mobility solutions in the country.

High transportation costs (operating costs are very expensive especially now with the increase of petrol price) have undermined the profitability of agricultural production (e.g., rice, cassava) in C?te d?Ivoire. An efficient transport system using e-mobility solutions could essentially support local production, facilitate timely distribution of farm inputs and produces, reduce post-harvest losses and ensure a vibrant local economy and food system. There is a need for cooperation and local solutions to provide access to mobility for the communities involved in productive use activities: e-conversion of 2&3 wheelers, rural e-mobility solutions, new business model innovation.

Linking peri-urban and rural areas with economic activities (productive use aspect)

Urban and peri-urban agriculture play a crucial role in the business ecosystem of large urban areas as the main providers of various commodities and goods and services. In C?te d'Ivoire, this very dynamic sector faces several logistical challenges, notably the transport of foodstuffs from production areas or fields to rural areas and/or from these storage or handling areas to the major cities. The lack of road infrastructure or good quality roads, especially during the rainy season, aggravates this pressure.

For example, the Cocoa transportation in C?te d?Ivoire is unsustainable. However, with the correct implementation of policy, financing and technological innovation, there is potential to improve the sustainability of cocoa transportation. Trucks and motorcycles are the dominant forms of transportation from farm gate to export harbor and there is not a railway system that could be used in the cocoa value chain. Transportation inefficiencies include insufficient village collection points, non-sustainable modes of transport, blocked roads during rain due to lack of profiling and tar, excessive reparations costs due to potholes and low-quality roads, excessive pollution caused by trucks, ?pisteurs? lowering the value chains? credibility etc.

In recent decades, farmers have adapted by adopting motorbikes and tricycles, which are more agile and efficient on these bumpy roads than vehicles or trucks, for both goods and people mobility. However, the majority of these vehicles are two-stroke engines, which are very polluting in terms of GHG emissions and very energy-intensive in terms of fuel.

Moreover, the rise in diesel and petrol prices is having a particularly tough impact in rural areas. Many people who live in rural areas are particularly feeling the impact, being more dependent on private vehicles for travelling longer distances and with fewer public transport alternatives.

It is necessary to ensure the delivery of goods and parcels in areas that are difficult to access due to the state of practicability of the roads. Along with environmental benefits, renewables are expected to be instrumental in improving energy access, particularly in remote regions. Transitioning to EVs can help reduce GHG emissions while also increasing the socioeconomic status of people in in C?te d?Ivoire.

Demonstrating and testing different business models (i.e., cable-charging technology vs. battery swapping)

It is important to highlight that the project is not opting for only one business model but will apply the most suitable one based on the feasibility studies that will be developed during the implementation phase under Component 2. This component will address barriers to adoption and financing for innovative technologies through the development of feasibility studies, business models and technology demonstrations. There is a lack of public and private experience with the application of smart charging technology, battery-swapping technology for EVs, etc. This is a barrier to adoption and investment in these technologies. Likewise, business models that support the adoption of these technologies have not been developed at the national or local level. The expected outcome of Component 2 is that the adoption of these innovative technology solutions for electric mobility and sustainable battery use will be supported and financed.

Under Output: 2.1.1, are foreseen to be developed six pre-feasibility studies for integrated e-mobility technology demonstration projects. **An assessment will be carried out and will provide an overview of the different charging solutions (smart cable- charging technology vs. battery swapping) including operating environment considerations and business models developed; overview of financing options for Light Electric Vehicles (LEVs), e-bikes, e2Ws and e3Ws including best practices, and taxation instruments developed, etc.**

The purpose of the pilot projects is to deliver real-life data on EV performance under local conditions. The pilot demonstration experiences will help C?te d'Ivoire to validate business models for e-mobility. **The project will contribute to demonstrate business models and financing schemes for a variety of EV modes and charging models.**

The International Council on Clean Transportation (ICCT)[1][1] carried out Total cost of ownership (TCO) modelling for both cable-charged and battery swap E2Ws and petrol-fuelled 2Ws. The results of its modelling for a setting in India found that the 5-year TCO of a cable-charged E2W was around 30% lower than for a battery swap, free-range E2W, which in turn had a 30% lower 5-year TCO than a petrol-fuelled 2W, for a private ownership situation (without considering opportunity cost). Modelling E2W use in ride-hailing, and adding a factor to account for the opportunity costs incurred through downtime while charging during the working day, found the 5-year TCO for the petrol-fuelled E2W to increase to around 15% more than a battery swap E2W. Given that the applications for the proposed GEF project are expected to result in utilisations somewhere between personal and ride-hailing use, it can be expected that the TCO of the cable-charge and battery swap electric vehicles would therefore be similar for this level of modelling (of a free-range application).

If we now add the cost reductions expected with the use of fewer, dedicated battery swap stations, the potential to increase the life of the batteries, and the expectation that the EOL battery management will be more robustly provided through the stewardship of the battery swap service provider, the use of battery swapping becomes favoured. The battery swapping is technology advancing (including those that reduce the cost of the hardware and software involved) and other technology improvements are expected to enhance the case for battery swapping: in short, the advantages are such that battery swapping is expected to become a significant feature in the future provision of small-format electric vehicle mobility.

The demonstration of battery swapping technology can provide evidence-based technical data to the e-transport market, including the technical capacity, knowledge and experience required. The proposed demonstrations that the GEF project comprises are designed to set the country on a path of the accelerated adoption of the most viable electric vehicle technologies including battery swapping technologies.

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[1] https://theicct.org/wp-content/uploads/2021/12/cost-compare-india-ice-2ws-ldvs-nov21.pdf

Sources:

https://www.worldbank.org/en/news/press-release/2019/06/27/cote-divoire-world-bank--approves-300-million-to-boost-urban-mass-transit-in-abidjan

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Rationale for the project

Fossil-fueled two- and three-wheelers (2Ws and 3Ws) are common and provide an important service in rural and peri-urban areas in C?te d'Ivoire, their popularity due to their affordability and their ability to negotiate the local roads all year round. However, their engines are relatively primitive compared to modern-day engines and as a result they contribute significantly to local air pollution as well as consuming relatively high amounts of fuel (with the associated higher levels of greenhouse gas emission).

Replacing these vehicles with electric vehicles would provide a further, and large, step change over what can be achieved by the use of modern-engine 2Ws and 3Ws. For example, local tailpipe emissions would be eliminated altogether and their in-service greenhouse gas emissions would be halved, even when using the country?s current mix of thermal and renewable grid electricity. Further reduction of in-service greenhouse gas emissions would be achieved as the proportion of renewables in the electricity mix used to charge the e-vehicles increases. There are also many potential benefits to be gained by combining ?smart? charging of electric vehicle batteries and electricity generation from photovoltaic (PV) micro grids (including where the PV micro grid is dedicated to the charging station) ? which is why the project targets the use of on-site solar-powered electricity generation.

Globally, the availability of electric two- and three-wheelers (including power-assisted bikes, or e-bikes, ?e2Ws? and ?e3Ws?) is rapidly advancing. Because they use relatively small batteries ?one of the most expensive components of an electric vehicle ? they are largely immune to the high cost premiums seen with passenger cars and larger e-vehicles.

The small size and manageable weight of the battery also provides opportunities for manual battery swapping, which in turn creates the opportunity for new platforms for accessing the energy needed for transport (which is why both fuel suppliers and electricity suppliers are entering this new transport energy market). Battery swapping provided through a service provider can be tidy solution: the batteries can be carefully monitored and expertly managed over their lives, including their repurposing after first use; for the vehicle owner, a battery-swap service allows the concerns and the upfront cost of battery ownership to be largely handed over to the battery service provider; with well-positioned battery-swap stations, the downtime associated with ?charging? is minimal and related lost opportunity costs therefore kept to a minimum. However, battery swapping does involve another party who requires remuneration for providing their services, and the total cost of ownership is expected to be higher for battery swapping than for at-home, own charging.

Note: For example, Pertimina, the state-owned oil supplier in Indonesia, and PLN, the state-owned electricity supplier in Indonesia, are now both offering battery swapping (Pertimina, at fuel stations, and PLN at general stores and caf?s) targeting use by electric 2W owners.

Where battery swapping particularly makes sense is where the daily distances travelled are such that the battery requires replenishment during the day and useful operating time would be lost (and opportunity cost incurred) if it were not for the speed of battery swapping. The project will target applications that have greater daily distances travelled for this reason. A further reason is that the per-kilometer costs of operating an electric vehicle are far lower than for a fossil-fueled vehicle and this advantage becomes more evident with greater distances travelled.

Another advantage of battery swapping is that the battery swap stations can be integrated with the local supply of electricity in a way that the battery swap stations can actually support the local grid. For example, charging rates at the battery swap station can be reduced when there is particularly high demand on the local electricity supply, and there is potential for export from the battery swap station to the local grid during times when the local grid is particularly stressed. This coupling of electric vehicle charging and the supply of electricity is becoming recognized as an important mechanism to support both future of e-mobility and support the use of higher proportions of intermittent renewable electricity.

Battery swapping has the potential to reduce recharging times by replacing the vehicles? batteries with fully charged batteries. However, this technology will perform at its best if common international standards can be adopted globally. For this reason, the main players of the industry have founded the Swappable Batteries Motorcycle Consortium (SBMC) in 2021. The mission of the SBMC is to accelerate the deployment of swappable battery systems by developing and promoting new common technical specifications towards global and open standardization. Its aim is to ensure full interoperability of swapping batteries to facilitate their application and boost sustainable mobility. This means that users will be able to charge their electric vehicles anywhere, without being limited by the manufacturer or the model of their vehicle. This standardization is a step forward for even more practical and affordable use of electric vehicles.

There has been a global trend towards increasing vehicle sharing ? where a single vehicle may have multiple, short-term users. When vehicle sharing schemes are well designed, users have access when they want to a fit-for-purpose vehicle at far lower cost over the year than if they were the sole owner and user of the vehicle. Part of the winning formula is the increased distances travelled by the vehicle with multiple users, which also recommends electric vehicles for this task due to their lower operating costs. The project will look for opportunities to also introduce the e2Ws and e3Ws via vehicle sharing, to demonstrate this service and its benefits. That said, it is acknowledged that people in C?te d?Ivoire could be resistant to vehicle sharing. However, this was also thought to be the case in many Pacific Island communities where sharing a village-owned utility vehicle has instead been normalized.

Although e2W and e3W technology is new, in their favor, the technology is relatively simple and is based on the use of low voltages (around 48V) ? allaying the concern about local capability to repair and also the risk of severe injury should mistakes happen. In this regard, the introduction of e2Ws and e3Ws could also prove to be a useful teaching tool, providing a useful base from which capacity building for technically supporting larger-format electric vehicles can springboard.

The swap batteries also provide a ?mobile electricity? source that can be used to power ?e3W-scale? refrigerated containers, with the potential for such cold chain arrangements to significantly improve upon transport logistics and improve the quality of product and/or reduce the waste of product to the financial benefit of those working in this supply chain. Appliances such as refrigeration for preserving products such as food crop can support income-generation. This in turn highlights the need to focus on productive uses in the light of potential income-earning opportunities that e-mobility coupled with renewable energy can provide.

Relevant barriers that need to be addressed

The project target areas have a strong contribution to the GDP of Cote d?Ivoire. Economic activities include fishing and many agricultural products and related food processing activities. Presently, while there are significant opportunities in the Cote d?Ivoire market, there are also barriers preventing market acceptance of EVs, which are listed below.

? Lack of the necessary policy, regulations and incentive mechanism to encourage market take-off and deployment of EVs;

? Limited coordination among relevant institutions nationally;

? Low awareness within the public of the opportunities associated with EVs: one of the challenges in the adoption of electric mobility lies in the general lack of awareness and understanding of the technologies, their implications and benefits. The transition to a different form of mobility will necessarily require awareness building for policymakers and stakeholders. There is a lack of overall knowledge regarding the use and maintenance of both electric motors and their charging appliances.

? Lack of infrastructure: the country is lacking testing facilities, charging station networks and support applications, as well as structure and capacities for the maintenance of e-vehicles, etc.

The lack of access to low-carbon affordable mobility solutions restricts economic improvement opportunities, strangles the markets and hinders people from commuting to areas with jobs and increasing their income. However, the mobility in rural areas has received far less attention from policy makers than urban mobility. The core objective of the project is to help these communities test new solutions to overcome some of the fundamental challenges they face ? as well as exploring the new opportunities created by technological and other forms of innovation. In addition, the project will support the government to play a pioneering role in renewing its government fleet by e-light vehicles. This will significantly contribute to awareness raising and visibility of e-mobility in the country.

The introduction of EVs (e-motorbikes, e-tricycles, e-bicycles) that meet the same needs as conventional vehicles in terms of robustness, agility and value for money will substantially reduce the GHG emissions of this sector, which is highly dependent on fossil fuels.

The project will support Cote d?Ivoire in overcoming these barriers through providing integrated technical assistance and technology investments, including capacity building and awareness raising activities and the development of instructional structures to support the introduction of electric mobility.

2) The baseline scenario and any associated baseline projects

Country context

Similar to many other African countries, C?te d'Ivoire is facing mobility challenges and the impacts of climate change. The population faces mobility challenges due to **the dominance of the urban transport sector at 70% by private transport system operating mostly in the informal sector**. These challenges are highlighted by the insufficient supply of mass public transport. In Abidjan, urban transport services are provided by the public transport company SOTRA and private transport system owners. Private

transport systems are under the control of transport unions, and they provide their services by means of minibuses called ?gbaka?, metered taxis, and intra-communal shared taxis called ?city-taxis (w?r?-w?r?s)?.

The public transport company SOTRA, managed under a public-private partnership (60%-40%), is a mass public transport company which owns a fleet of buses and water buses **running exclusively on fossil fuels.** Despite the fleet renewal program launched a few years ago, SOTRA's current fleet of 1,600 buses remains insufficient to meet the mobility needs in Abidjan, a city with a population currently estimated at 6.3 million. The entry into the market of two new mass transport companies, STL and CI-Trans which operate water buses have not resolved the mobility challenges in Abidjan.

The movement of people by w?r?-w?r?s has increased at a significant rate, over 7% per year , while the public transport company SOTRA has lost a market share of nearly 2% per year due to their poor traffic conditions resulting in low commercial speed (less than 15 km/h), increasingly long waiting times for SOTRA users and the failure to adapt its network to the urban developments.
As for the other targeted cities such as Yamoussoukro, Bouak?, Korhogo, San P?dro and Odienn?, urban transport services are provided exclusively by private transport system owners, by means of ?gbaka? or shared taxis called ?city-taxis?. Population growth in these cities is extending the distances to be traveled and making it difficult for residents to travel due to frequent disruptions in supply; which leads sometimes to high transit fare for low-income passengers. Motorcycle taxis businesses have therefore recently emerged in those cities, increasing the risk of road traffic accidents.

In the rural and peri-urban areas, two and three wheeler vehicles are the most common means of transportation, contributing to local air pollution and greenhouse gas emissions (GHG). While the Government of C?te d?Ivoire intends to reduce the role of 2&3 wheelers in public transport for safety reasons, **these vehicles can play an important role in the rural and peri-urban areas to transport agricultural products to the point of sales.**

There is a heavy pollution resulting from road traffic. Due to the exclusive use of fossil fuels, aging of the automobile fleet and increasing motorization of transport systems, the transport sector is responsible of 15% of the country's greenhouse gas (GHG) emissions. Airborne particulate matters from road traffic degrade the quality of the ambient air and affect the health of the population.

The main current impacts of climate change in C?te d'Ivoire are severe flooding, severe coastal erosion in the southern region, and disruption of the agricultural season and depletion of water resources in the center and northern regions. In recent years, precipitations have led to severe flooding in cities like Abidjan, resulting in extensive material damage and loss of life. The coastline of the country is affected by the loss of large areas of land due to the advancing sea.

Climate change creates new uncertainties about the spread of vector-borne diseases (such as malaria and dengue fever) by altering conditions that affect the development and dynamics of the disease vectors and the pathogens they carry. Rising global temperatures can lengthen the season and increase the geographic range of disease-carrying insects.

C?te d'Ivoire submitted its second **Nationally Determined Contributions (NDC)** in May 2022. In its updated NDC, C?te d'Ivoire commits to reducing its greenhouse gas emissions by 30.41% by 2030 relative to business as usual, or 98.95% with international support. With additional mitigation measures in the Food and Land Use sector and the inclusion of new greenhouse gases, C?te d?Ivoire significantly raises its climate ambition, resolutely committing to carbon neutrality from 2030. The updated NDC also considers crosscutting aspects including green jobs and just transition, gender, local authorities, and short-lived climate pollutants.

Source: https://climatepromise.undp.org/what-we-do/where-we-work/cote-divoire

To achieve the targets set in the revised NDC enhanced coordination and communication is necessary, from enhanced inter-ministerial coordination to increased exchange between public and private actions. UNIDO will fully support the Government in the implementation of the NDC, coordinate accordingly, and strengthen the existing good collaboration.

Some baseline activities and projects implemented by intergovernmental organizations / Baseline activities focusing the support of low-carbon, clean transportation undertaken by sub-regional unions and associations include:

The Economic Community of West African States (ECOWAS) comprises 15 member states namely, Benin, Burkina Faso, Cape Verde, Cote d? Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Sierra Leone, Senegal and Togo. The ECOWAS Commission coordinates regional activities and seeks to promote regional integration of among member states. **A regionally harmonized fuel economy road map** that lays the foundation for the adoption of electric vehicles in the sub-region was approved by Minsters of Energy and the Environment in February 2020. The roadmap supported the development of a regulatory framework and pilot projects to facilitate import of electric vehicles.

The project will create synergies with other relevant initiatives such as the **UNEP national child project ?Integrated, Sustainable and Low Emissions Transport in Cote d'Ivoire?**, under the **GEF Global Programme to Support Countries with the Shift to Electric Mobility.** While the UNEP project is focusing on the broader e-mobility framework at the national level, the proposed project will focus more on the introduction of 2&3 electric wheelers in the target areas. The UNIDO project would benefit from Component 3 of the UNEP-GEF project i.e. "the Government of C?te d?Ivoire adopts financial incentives and technical standards to promote investments in low-carbon electric mobility in public transport?. The project will be complementary and closely linked to the aforementioned UNEP project. The project will cooperate with the programme and other GEF funded programmes and projects which include electric mobility.

Additionally, the project will build on previous **GEF-UNIDO projects such as ?Promoting Renewable Energy-Based Grids in Rural Communities for Productive Uses in Co?te d?Ivoire?**. The government and the wider renewable energy and development sectors can benefit from strengthened dialogue, experience sharing and communication with regard to leveraging renewable energy to secure improved energy access and spur socio-economic development. UNIDO, through this project on the

promotion of solar PV mini-grids in rural areas, has assisted the Government of C?te d'Ivoire in drafting the necessary policy documents and legislation.
Another baseline initiative is the **GEF-UNIDO project ?Sustainable industrial production in the cassava and other agro-food sectors with renewable energy applications and low-carbon technologies in Co?te d?Ivoire?.**

The municipality of Jacqueville, just outside Abidjan , has been testing solar three wheelers to replace old transport vehicles better known as "bush taxis". The mini-cars, 2.7 meters long and two meters high, are covered in solar panels each fitted out with six 12-volt batteries, giving the vehicles a range of 140 kilometers. This new solar-powered three wheelers have been introduced to help the country reach its renewable energy targets by replacing noisy and polluting bush taxis.

The Institut National Polytechnique F?lix HOUPHOU?T-BOIGNY (INP-HB) of Yamoussoukro and the Technical University of Munich (TUM) Electric Vehicle Project
The Institut National Polytechnique F?lix HOUPHOU?T-BOIGNY (INP-HB) of Yamoussoukro and the Technical University of Munich (TUM) have been working for nearly two years on the co-construction and implementation of a project called "aCar Mobility" **aimed at promoting electric mobility in sub-Saharan Africa and particularly in C?te d'Ivoire.**

Two electric vehicles of the EVUM Motors brand were acquired within the framework of the global project **Green Innovation Centre for the Agro-Food Sector (PRO-CIV) implemented by the German Technical Cooperation GIZ.** Over the duration of the project, these vehicles will be tested in the cooperative society SOCCOPROCY, located in Zatta.

The cooperation between INP-HB and TUM aims to study the fundamental issues of mobility needs in C?te d'Ivoire, the specific technical requirements of e-mobility and the possibility of developing business models. Specifically, the two institutions will investigate local value-added options and the use of new mobility concepts with the active participation of local partners (farming communities, agricultural colleges, cooperative societies, agricultural service centers. etc.). The work will help to define the mobility and infrastructure requirements in C?te d'Ivoire, through a holistic view of current and future mobility needs in the target regions. This research will thus highlight mobility concepts, solar charging infrastructure needs and capacities, opportunities for optimization of both vehicles and value creation.

At the end of the project, an assessment will be made of the potential for future operation of these vehicles to make them more accessible to users and to propose methods for creating a skilled workforce to sustain a large-scale electric vehicle fleet.

Green Mobility and Alternative Fuels in C?te d'Ivoire
The Agency for the Promotion of the Electric Mobility Ecosystem (APEME - Agence pour la Promotion de l'?cosyst?me de la Mobilit? ?lectrique en C?te d'Ivoire)
The Agency for the Promotion of the Electric Mobility Ecosystem (APEME) in C?te d'Ivoire is an association that brings together the main institutional and private players in the transport sector (44 members in December 2022). In collaboration with the Ministry of Transport, it is committed to providing solutions conducive to the emergence of green mobility in C?te d'Ivoire.

The Global Fuel Economy Initiative (GFEI)

The Global Fuel Economy Initiative (GFEI) is a partnership of the International Energy Agency (IEA), United Nations Environment Programme (UNEP), International Transport Forum (ITF) of the OECD, International Council on Clean Transportation (ICCT), Institute for Transportation Studies at UC Davis, and the FIA Foundation. The GFEI team assists governments and transport stakeholders to promote greater fuel economy. It establishes a baseline in participating countries; presents policy options and case studies; and enables all stakeholders to engage in the policy process. The GFEI works to secure real improvements in fuel economy, and the maximum deployment of vehicle efficiency technologies across the world. This includes light and heavy-duty vehicles, and the full range of technologies, including hybrid and fully electric vehicles. The Initiative promotes these objectives through shared analysis, advocacy, and through in country policy support, and tools. Currently, 24 African countries are involved in the GFEI initiative and eight (8) from the ECOWAS (Cote d?Ivoire, Benin, Ghana, Liberia, Mali, Nigeria, Senegal, Togo).

The GFEI partners established new targets for two and three wheelers to reduce per-kilometer CO2 emissions by 80% by 2035 and 95% by 2050 (both relative to 2005). To achieve these new targets, the fuel efficiency of internal combustion engine powered 2 and 3 wheelers will need to improve by 1.4% per year from 2020 to 2050, the global sales fraction of electric 2 and 3 wheelers will need to increase to 74% of sales in 2030 and 100% of sales in 2050, and the carbon intensity of the global electricity grid will need to decrease by at least 90% between 2020 and 2050.

The GFEI aims to improve the global automotive fuel economy from its current global average of 8L/100km to 4L/100km. This will be achieved through having countries that have not yet done so to adopt clean and efficient vehicles policies (which in some cases includes the introduction of cleaner fuels that are necessary to allow introduction of modern, more efficient vehicles).

While in OECD countries policies have been put in place to improve efficiency (average fuel economy improved 2.3%/yr), in non-OECD countries there are only a handful of countries that have policies to promote fuel economy actually fuel economy got worse in non-OECD countries on average 0.3%/yr. The trend is that the fuel economy in non-OECD countries is increasingly deteriorating while at the same time almost 2 billion vehicles will be added to these countries in the coming decades. Doubling fuel economy together with measures promoting public transport, ZEVs, Non-Motorized Transport, better urban planning etc. can actually reduce the overall CO2 emissions of the transport sector.

C?te d?Ivoire has been implementing the Global Fuel Economy Initiative since 2015. During this time, Cote d?Ivoire has undertaken an analysis on the country?s average vehicle fuel economy inventory trends between 2005 and 2015. This analysis found that the country?s average fuel economy is higher than the global average, but it is improving over time. In 2010 for example, the average fuel economy was 10.6 litres/100 kilometres. By 2015, it was 7.98 litres/100 kilometres, which is near the global average of 7.6 litres/100 kilometres.

A workshop organized in the region recommended the introduction of a harmonized vehicle-labelling scheme, enhanced sensitization of consumers on benefits of cleaner, more fuel-efficient vehicles and

introduction of fiscal incentives to promote import of more fuel-efficient vehicles. The GFEI could be coupled to the e-mobility project and create synergy in GHG emissions reduction. The workshop also recommended the need for mandatory vehicle maintenance programs including training of mechanics, introduction of cleaner fuels, and introduction of sustainable public transport including non-motorized transport. Countries that have not undertaken baseline studies were encouraged to carry them out. The ECOWAS Commission and UN Environment were asked to support countries to undertake fuel economy studies and implement the workshop recommendations. The e-mobility project will contribute to accelerating the widespread use of EVs.

Bollor? 3-year e-Bus pilot project on the Campus of Abidjan-Cocody

Bollor? has a pilot project of e-Buses on the Campus of Cocody used as shuttle service for the transportation of students between Departments. Each circuit has 5 km and each e-Bus can load 30 students. The e-Buses are powered by a plug-in solar energy source build on the campus. Data on the distance, energy consumption, mileage and number of students are available and a very good source of information for further analysis, duplication or scale up.

The mobility project of the Ivorian Office of Parks and Reserves (OIPR)

The OIPR has tested e-bikes in the R?serve Naturel Dahlia Fleur (Abidjan/Bingerville) for tourist travel and the patrol of agents. The project was initially successful, but had to be abandoned due to the early discharge of the batteries because of humidity and lack of spare parts. There are several lessons to be learned from this initiative in terms of design (the brake was used as an accelerator whereas in the cultural concept, the brake is used for braking), the ergonomics of the bike, the range of battery charges, battery swap strategy, solar panel, mini-grid, etc.

Relevant policy frameworks include

Table 1: Relevant regulatory framework of C?te d'Ivoire

Year	Name	Main Focus	Addresses relevant topics
Transport policy			
1964	Decree No. 64-212 of 26 May 1964: regulating the use of roads open to public traffic (Code de la route).	Technical	The law specifies the technical characteristics of vehicles authorized to travel in C?te d'Ivoire.

Year	Name	Main Focus	Addresses relevant topics
2015	Decree No. 2015-18 of 14 January 2015	Customs clearance of new and used vehicles	On the organization of the Ministry of Transport; created the Direction du Guichet Unique Automobile (GUA). The customs clearance of new and used vehicles takes place at the GUA where other services are also located that intervene in the formalities to be completed by the importer.
2017	Decree No. 2017-69 of 1 February 2017	Road safety management scheme	Establishing a harmonized road safety management scheme in C?te d?Ivoire, a scheme that takes into account public and private sector actors involved in transport and road safety.
2017	Decree No. 2017-792 of 06 December 2017	Age limit of imported used vehicles in C?te d'Ivoire	Sets the age limit for vehicles imported in C?te d'Ivoire at 5 years for passenger vehicles and taxi type transport vehicles.
2017	Decree No. 2017-793 of December 6, 2017	Duration of operation of vehicles	Fixing the duration of operation of vehicles assigned to the public or private transport of persons or goods sets at 7 years the limit of operation of taxi type transport vehicles.
2019	Decree No. 2019-100 of 30 January 2019	Urban Mobility Authority of Greater Abidjan (AMUGA)	On the organization and functioning of the Urban Mobility Authority of Greater Abidjan (AMUGA) assigns the management of mobility in the District of Abidjan to AMUGA
2019	Decree No. 2019-101 of 30 January 2019	Domestic transport regulatory authority (ARTI)	On the organization and functioning of the domestic transport, regulatory authority (ARTI); assigns the regulation of lagoon, road and rail transport to ARTI throughout the country.
Energy policy			
1985	Law No. 85-583 of July 29, 1985	Production and distribution of electricity	Organizing the production and distribution of electricity in C?te d?Ivoire.
2014	Law No. 2014-132 of 24 March 2014 on the Electricity Code.	Production of renewable energies	Authorizes the production of renewable energies including solar electricity. It allows decentralized electricity production and sale by independent producers as well as self-generation for private use.

Year	Name	Main Focus	Addresses relevant topics
2016	Decree Nr. 2016-782 of 12 October 2016: on the conclusion of concession agreements for the generation, transmission, dispatching, import, export, distribution and marketing of electricity.	Concession agreements	Stipulates that selection of concessionaires will be conducted by means of an open invitation to tender. The decree also elaborates on the information to be contained in an agreement.
2016	Decree Nr. 2016-783: stipulating the conditions for the sale of electricity produced by an IPP or surplus electricity produced by a self-producer	Conditions for the sale of electricity	State that captive power plants wishing to sell to third parties ("eligible customers") or the state must obtain authorisation first and enter into an agreement that stipulates the terms and conditions of the sale of electricity to the state or the third party. In addition, captive power plants wishing to sell to third parties must obtain permission from the regulator. A captive plant that sells excess power can only sell up to 50% of its annual generation. Adherence to the technical standards and codes is mandatory.
2016	Decree Nr. 2016-787 of 12 October 2016: stipulates the conditions and arrangements for carrying out the activity of generation, distribution and marketing of electrical energy by means of mini-grid or standalone systems.	Arrangements for generation, distribution and marketing of electrical energy	The decree stipulates that companies wishing to operate mini-grids and standalone systems have to obtain a concession agreement under specific terms and conditions provided by CI-Energies. The decree elaborates on the obligations of concession holders, including quality of service.
2022	Order No. 329 MMPE/DGE of December 9, 2022	Agreements/contractual relationships	Defining the status of eligible customer and the terms and conditions of the authorization to purchase electrical energy

Year	Name	Main Focus	Addresses relevant topics
2022	Order No. 328 MMPE/DGE of 9 December 2022	Agreements/contractual relationships	Setting the terms and conditions for issuing, obtaining and withdrawing approvals for the exercise of activities related to the activity segments of the electricity sector
2020	Order No. 135 / MPEER / MT / MCLU / MINEDD / MCI / of November 25, 2020	Agreements/contractual relationships	On the Conditions of Subjection of Energy Consuming; Establishments to the Mandatory and Periodic Energy Audit, the methods of its Realization as well as the Conditions of exercise of the activity of Energy Auditors.
Environment policy and sustainable development			
1996	Law No. 96-766 of 3 October 1996	Environment Code	On the Environment Code.
2005	Decree No. 2005-03 of 6 January 2005	Environmental audit	Requires an environmental audit of companies every three (3) years.
2012	Decree No. 2012-1047 of 24 October 2012	Polluter pays principle	On the "polluter pays" principle.
2014	Law No. 2014-390 of June 20, 2014 - - -	Guidance on Sustainable Development	The law on sustainable development (in particular article 9), which recommends the policy to supervise and guide the implementation of activities with a view to guaranteeing the questions of safeguarding and responsibility in terms of sustainable development.
2017	Decree No. 2017-217 of 5 April 2017: Management and treatment of waste of electrical and electronic equipment/ Gestion et traitement des d?chets d??quipements ?lectriques et ?lectroniques (DEEE)	Management and treatment of waste	The decree for the ecological management of DEEE in C?te d'Ivoire. This decree aims, among other things, to specify the requirements relating to electrical equipment based on the principle of extended producer responsibility and to encourage them and the various actors to get involved in the governance and establishment of a regulated system of DEEE management.

The strategic plan for the development of the electricity sector in C?te d?Ivoire aims to expand electricity production capacity, upgrade transmission infrastructure, and increase the generation of renewable energy, **which will allow the deployment of renewables into implementing e-mobility.** Adequate political will at the local and national level is critical for achieving sustainable results; however, the local users need to see concrete tangible benefits. Pilot activities, especially if demonstrating innovative management practices can more easily attract local stakeholder support.

Several other policy documents are considered such as the sectorial policy for the development of renewable energies and energy efficiency (PSDEREE), the generation, transmission and distribution master plans (2022-2040), the national environment and sustainable development policy, etc.

The proposed alternative scenario and brief description of expected project outcomes and components

The project aims to accelerate the adoption of an integrated renewable energy-based electric transport system, to reduce greenhouse gas emissions and support economic activities in peri-urban areas in C?te d'Ivoire. The project will develop an enabling environment for the introduction and accelerated uptake of e-mobility with a special focus on productive use, pilot several integrated, sustainable and renewable energy-based transport solutions, and provide awareness and outreach of the experiences and programs that are developed. The pilots will particularly focus on small-format vehicles ? e-bikes, e2Ws and e3Ws for productive use. One proposed pilot would additionally provide experience with light e-vehicles (LEVs). Further on, the project will conduct a study to identify potential of localizing value chains for the different types of E-vehicles as well as for the charging infrastructure.

The project target areas are Greater Abidjan (including Banco Park, R?serve Naturel Dahlia Fleur and the town of Jacqueville), Yamoussoukro (including Kossou), Bouak?, Korhogo, San P?dro and Odienn?. The project?s main beneficiaries are the Government of C?te d?Ivoire and relevant institutions, local municipalities, research institutions, local clusters, farmers active in the agri-food sector, fishermen and fish processors, with specific targeting of participation by women entrepreneurs and youth within these groups.

The project will promote the development of the target locations (including the special requirements of rural and peri-urban areas) by improving the mobility of people and goods through the introduction of electric vehicles (EVs), that are mainly charged using renewable electricity, are primarily used for productive use in activities in C?te d?Ivoire, and additionally where the incorporation of cold chain handling equipment is expected to provide added benefit.

The project will support the Government of C?te d?Ivoire in addressing the main barriers for the transition to electric mobility and will provide technical assistance for the installation of a network of EV charging stations in Abidjan, Bouak?, Korhogo and Odienn?. The aim is to increase access to sustainable energy and services and/or a greater engagement in productive activities by the local population, through enabling income-generating activities.

The project will address existing and expected barriers to the introduction and uptake of e-mobility through four project components:

Component 1. Strengthening the institutional framework and financial mechanisms to promote electric mobility in Cote d?Ivoire.

The activities will support various Technical Assistance packages: the development of supporting e-mobility policy, including the development of technical guidelines and standards, tax policy, and proposals for financial incentives; the development of mechanisms for financially challenged parties to gain access to e-mobility; and conducting studies to generate data and information that will support these tasks)

Component 2. Demonstration of e-mobility technologies and charging infrastructure

The component aims at filling gaps in local knowledge that might present barriers to the uptake of e-mobility, as well as to validate different business models for the uptake of e-mobility for productive use. Piloting will be supported by monitoring, evaluation, reporting and verification, aimed at robustly capturing the information and experiences gained for later dissemination.

Component 3. Capacity building and awareness raising

The component aims at planning and starting the process of developing the capacity of the local market to support the uptake of e-mobility in C?te d?Ivoire, starting the transition of C?te d?Ivoire to a position of ?EV readiness?; enhancement of in-country knowledge base, technical skills and awareness as well as will assess the opportunities for localizing value chains of electric vehicles and renewable powered charging stations; supporting the government fleet by EVs will significantly contribute to awareness raising in the public.

Component 4. Monitoring, learning and evaluation

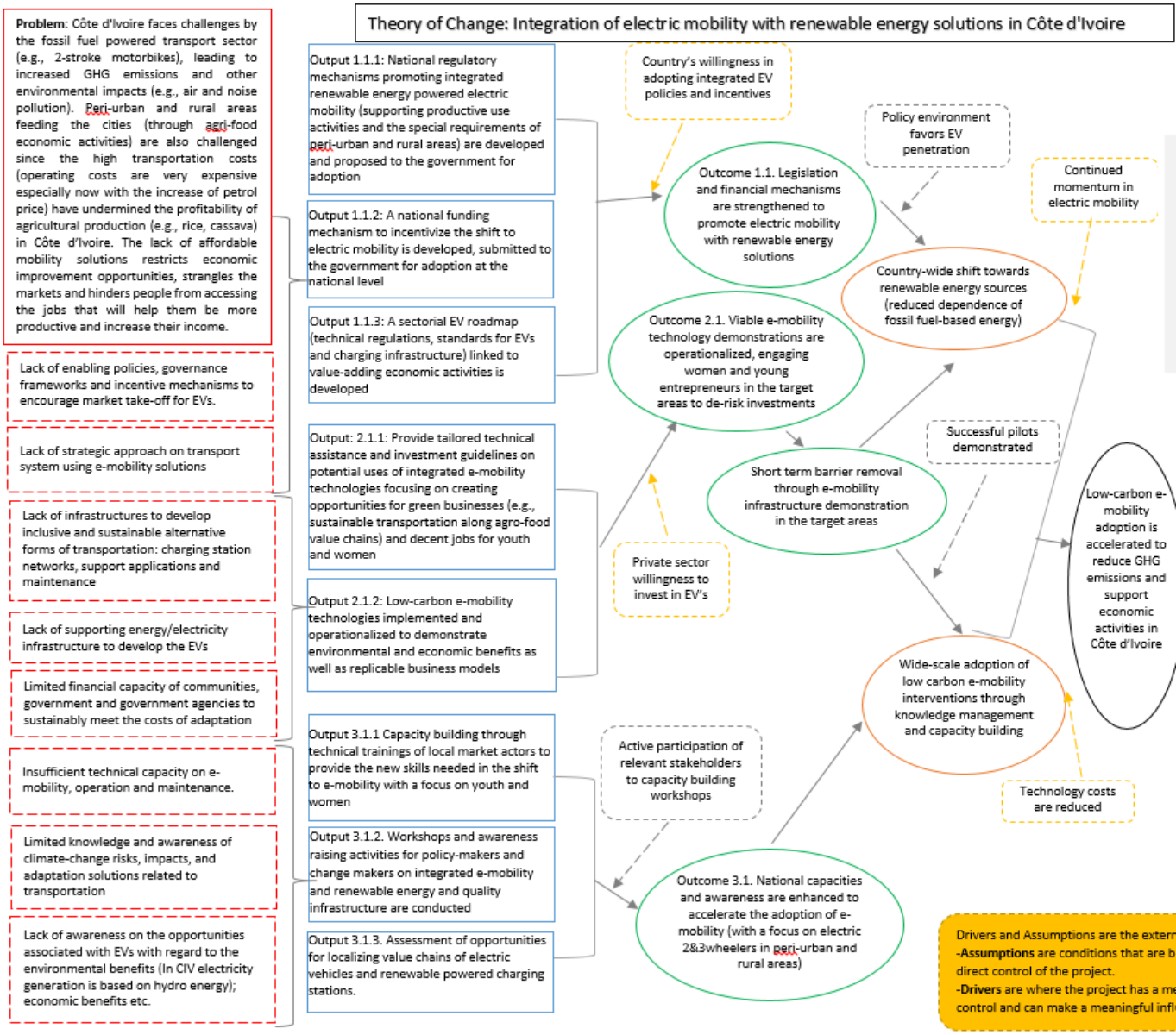
The project aims to produce social, environmental and economic benefits through the reduction of operational costs, reduced local pollution levels, and improved quality and access to mobility services for lower income commuters. An efficient transport system using e-mobility solutions could support local production, facilitate timely distribution of farm inputs and products, reduce post-harvest losses and ensure a vibrant food system.

The project will demonstrate the technical and commercial viability of e-mobility infrastructure, strengthen institutional capacities and create incentives for investment in low-carbon transportation infrastructure and vehicles. The solutions will increase accessibility of pilot sites while generating important spillover effects such as employment opportunities and enhanced access to services (See Theory of Change diagram).

The theory of change is to address the root causes of fossil-fuel dependency in the transport sector in C?te d'Ivoire and reduce the associated social, economic, and environmental externalities. This is achieved by promoting a switch from ICE vehicles towards EVs thereby reducing fossil fuel demand by the sector. Specific interventions are targeted to accelerate the processes towards the uptake of e-mobility at the national scale and support economic activities in the country.

The theory of change underlying the project is that C?te d'Ivoire is currently experiencing suppressed demand for e-mobility transport options (i.e. deployment of 2&3 wheelers electric vehicles in peri-urban and rural areas for goods transportation; refrigerated 3 wheeler electric vehicles charged by mini-grids, etc.). As such, the project design seeks to address the barriers that can catalyze sectoral change in an innovative and sustainable way, with high potential for scaling up.

Theory of Change Diagram



Brief description of the project components

Component 1: Strengthening the institutional framework and financial mechanisms to promote electric mobility in Cote d?Ivoire

Outcome 1.1. Legislation and financial mechanisms are strengthened to promote electric mobility with renewable energy solutions

This outcome will contribute to the development of enabling policy for the introduction and uptake of e-mobility in C?te d'Ivoire and will strengthen the coordination capacities of the main government stakeholders and local experts (including between 30 to 50% women).

Output 1.1.1 National regulatory mechanisms promoting integrated renewable energy powered electric mobility in an inclusive manner (supporting productive use activities and the special requirements of peri-urban and rural areas) are developed and proposed to the government for adoption

Summary of activities:
1.1.1.1 Conduct strategic analysis of the legal challenges, opportunities, and barriers to shift to e-mobility in C?te d'Ivoire
1.1.1.2 Conduct public-private dialogue (PPD) events on the low-carbon e-mobility
1.1.1.3 Develop a draft regulatory report including a set of policy recommendations on e-mobility policy and its contribution to C?te d?Ivoire?s NDC with a focus on mobility for productive uses and the governmental fleet renewal

Activities under this output, will promote public-private-partnerships and an engagement framework with the private sector ensuring that mechanisms are available to support inclusive multi-stakeholder initiatives and working with other development organizations (such as UNEP) to harmonize efforts and realize development results. The technical committee and its working groups established under the project will work closely with the national inter-sectoral e-mobility coordination body established under the UNEP project.

A draft regulatory report and a set of recommendations on e-mobility policy and its contribution to C?te d?Ivoire? NDC, with a focus on mobility for productive uses and the governmental fleet renewal, will be prepared and submitted to the government. Other activities include relevant technical policy and legislation framework recommendations.

Note: The objective of C?te d?Ivoire?s Nationally Determined Contribution is to increase renewable energy in the energy mix by 42%, intensify and mechanize agricultural production, reduce greenhouse gas (GHG) emissions, and sustainable management and recovery of waste.

Moreover, two consultation meetings with the relevant stakeholders, including women associations/ organizations that promote gender quality and women empowerment will be organized.

Output 1.1.2: A national funding mechanism to incentivize the shift to electric mobility is developed and submitted to the government for adoption at the national level

Summary of activities:
1.1.2.1 Develop a gender-neutral proposal for the establishment of a financial mechanism for financially challenged parties to ease the transition to e-mobility
1.1.2.2 Conduct gender mainstreamed training session on e-mobility (50% women participation)

1.1.2.3 Conduct one training on gender smart climate finance gender smart financial model (50% women participation)
1.1.2.4 Develop policy recommendations including implementation guidelines to manage the financial mechanism

This output will explore the financial incentives and mechanisms for financially challenged parties to gain access to funding to invest in e-mobility. Feasibility studies and a strong collaboration with the private sector will provide recommendations to the government for a possible financial model and identifying suitable institutions, such as the "Fonds de Development des Transports Routiers" (FDTR ? Road Transport Development Fund) to manage the scheme. FDTR is an existing and active financial instrument established by the government under the Ministry of Transport. The objective of this instrument is to support the ongoing project on the replacement of the old cars in the country through a guaranteed Funds scheme to acquire new vehicles financed by the commercial banking system. This financial instrument should extend and adjust its activities to facilitate the acquisition of EVs by means of major incentives such as subsidy on the interest rate, customs duty components etc. in order to promote sustainable ecosystem around e-mobility development in C?te d?Ivoire.

Source: Decree No. 2009-360 of October 29, 2009 on the creation, organization and operation of the Road Transport Development Fund.

Output 1.1.3: A sectorial EV roadmap (technical regulations, standards for EVs and charging infrastructure) linked to value-adding economic activities is developed.

Summary of activities:
1.1.3.1 Conduct relevant technical studies to support the Draft Roadmap for Sustainable Transport in Cote D?Ivoire:
a) Conduct a study on how e-mobility and renewable energy (e.g., electric three-wheelers with power-refrigerated cool boxes charged by mini-grids) can create transformational opportunities for the identified communities.
b) Prepare a proposal on the development of technical guidelines and standards in support of the e-mobility policy for identified relevant sectors and social aspects such as gender dimensions in transport.

This output will support the Ministry of Transport and relevant institutions on the implementation of the objectives of the Draft Roadmap for Sustainable Transport in Cote D?Ivoire. It will provide specific recommendations to improved energy performance in transport sector in value chains (e.g., refrigerated electric three-wheelers charged by mini-grids) in the target areas. The proposed roadmap will build upon existing institutional networks, which have been established during the preparation of the Draft Roadmap for Sustainable Mobility to electrify the urban public transport.

This roadmap for Mobility in C?te d'Ivoire is built by responding to the various aspirations of Agenda 2063 of the African Union. One of the aspirations of the Agenda is ? A prosperous Africa based on inclusive growth and a sustainable development". The sustainable mobility precedes and accompanies the sustainable development at through infrastructure resilient and a system of urban and rural transport that promotes access to opportunities for all.

Sources:
https://www.climate-chance.org/en/urban-transport-the-ivorian-state-adopts-a-roadmap-for-sustainable-mobility/
https://au.int/en/agenda2063/overview

The output will support the following objectives of the Draft Roadmap for Sustainable Transport adapted to peri-urban and rural areas:
a) Promote the development of rural areas by improving the mobility of people and goods
Mobility in rural areas is essential for achieving the Sustainable the Development Goals. It is correlated to poverty reduction by creating access to economic opportunities, better valuation agricultural of products through systems of storage and distribution, access to health systems and education, the involvement of the women or the resilience to climate change.
b) Use renewables to improve mobility in rural areas and increase the income of farmers.
Two and three wheelers are often more suitable than larger vehicles for use along the more remote roadways. The additional use of low-carbon technologies, including the use of renewables such as solar energy for these vehicles will reduce economic, and social and environmental costs for rural areas.

Moreover, this output will strengthen the local testing infrastructure for Electric Vehicles through the support of the adoption of international standards for E-Vehicles in C?te d'Ivoire and it will ensure that deliverables developed under the project will be considered by relevant stakeholders.

Close collaboration with the Ministry of Agriculture and respective institutions such as the National Agency for Support to Rural Development (ANADER) will be sought when developing the roadmap. The mission of ANADER is "to contribute to the improvement of the living conditions of the rural world through the professionalization of farmers and professional agricultural organizations by designing and implementing appropriate tools and approaches, adapted programs to ensure sustainable and controlled development ".

Component 2: Demonstration of e-mobility technologies and charging infrastructure

This component will address barriers to adoption and financing for innovative technologies through the development of feasibility studies, business models and technology demonstrations. There is a lack of public and private experience with the application of smart charging technology, battery-swapping technology for EVs etc. This is a barrier to adoption and investment in these technologies. Likewise, business models that support the adoption of these technologies have not been developed at that national or local level. The expected outcome of Component 2 is that the adoption of these innovative technology solutions for electric mobility and sustainable battery use will be supported and financed.

Outcome 2.1 Viable e-mobility technology demonstrations are operationalized, engaging women and young entrepreneurs in the target areas to de-risk investments

Output: 2.1.1 Provide tailored technical assistance and investment guidelines on potential uses of integrated e-mobility technologies focusing on creating opportunities for green businesses (e.g.,

sustainable transportation along with agro-food value chains) and decent jobs for youth and women

Summary of activities:

2.1.1.1 Prepare pre-feasibility and technical design including environmental, energetic, social and gender dimensions with focus on renewable energy-EV integration based on the best international experience.

2.1.1.2 Provide technical/investment guidelines on the topics of community and private sector engagement and investment mobilization.

2.1.1.3 Provide technical assistance (e.g., support the full financial and technical feasibility studies) for at least three projects.

In more details, the activities under this output include:

? The delivery of a transport needs assessment for the men, women and youth of the involved in each of the pilot demonstrations, with the development of an EV Master Document. Community consultations will include one women-only focus group discussion.

? A techno-economic analysis of e-bikes, e2Ws and e3Ws and LEVs for passenger and/or goods transport considered across various mobility value chains, analysis that will consider the value chain from EV supply through to end use, plus in-service and life-cycle GHG emission analysis.

? From the above, the development of generic guidelines for the specification of e-bikes, e2Ws and e3Ws and LEVs (as part of the enabling policy guidelines and standards development work), then calibration of these e-mobility solutions into pilot-specific specifications for the various e-vehicles involved, as required by each pilot demonstration. A component of the latter will consider what local application engineering and parts/retrofit supply could be provided locally. For example, the manufacture of mobile cool boxes used in cold chain supply would be within the capability of the local market, and could provide a cost-effective and more flexible solution than importation.

? Depending upon the specific pilot demonstration, the use of electric bikes (e-bikes), electric-two-wheelers (e2Ws) and/or electric three-wheelers (e3Ws) and LEVs or combinations of these.

? An assessment of the charging requirements for each pilot demonstration. Because of the commercial nature of the target vehicles, it is expected that the e-vehicles will be charged mainly through battery swapping, but direct vehicle charging will be considered if this is found to be more appropriate to any given pilot.

Note that the charging of batteries tends to be a good fit with (the intermittent nature of) the use of renewably sourced electricity and, also in the interests of providing a low-carbon transport solution, the battery swap stations will use solar-generated electricity to charge the swap batteries wherever this is practical. To this end, the assessment of the charging requirements for each pilot will also include an assessment of the local electricity supply arrangement and how a solar-powered charging station (or other renewable electricity supplied charging station) might best fit with this.

Note that the pilot will also target the provision of (charged) batteries as a service, removing the cost of the batteries from the vehicle purchase and removing the concerns some purchasers might have about the durability and longevity of batteries, among others. Supplying batteries as a service also enables the health of the batteries to be monitored and managed throughout their life by a party with specific expertise in the field. This guardianship now often continues beyond a battery?s vehicle use and into its post-vehicle, re-purposed life).

? An assessment of the shared vehicle, lease-to-own and/or battery-as-a-service business and financial models that could be deployed in order to provide access to the required mobility at the same times as identifying preferred models. This work is to include an assessment of the subsidies or other incentives that might be required in order to gain participation in the pilot.
? An Environment and Social Management Plan that will consider environmental and social aspects across the mobility value chains involved in the various pilots, and provide management strategies for any potentially negative aspects, including developing a management plan for both in-service and post-project batteries (which will include refurbishing and second-life re-use/repurposing).
? Gender analysis aimed at understanding the needs and priorities of women and youth and designing the pilots and other project-related activities to take these needs and priorities into account.

The aforementioned activities will establish a comprehensive methodology for the project demonstration, monitoring and evaluation. A partnership with private sector actors will be integrated in the methodology.

Under this output, six pre-feasibility studies for integrated e-mobility technology demonstration projects will be developed as well as at least three technical and financial feasibility studies including technology delivery plan. Moreover, three workshops using participatory concepts and methodologies will be conducted with civil society and communities to ensure that environmental and social consideration (e.g., women, youth and other vulnerable group?s dimensions) are incorporated into technology project?s design with a no harm approach ? with at least one women association/ organization is involved in the stakeholder consultations.

One workshop will be organized with the relevant financial sector representatives (e.g., IFIs, national banks).

Output 2.1.2: Low-carbon e-mobility infrastructure technologies implemented and operationalized to demonstrate environmental and economic benefits as well as replicable business models

Summary of activities:
2.1.2.1 Installation of e-mobility infrastructure technologies
2.1.2.2 Develop key-fact sheet on the technology projects and disseminate

One of the outputs of the PPG phase was the identification of around ten potential pilot projects. This work was done in collaboration with numerous national stakeholders, including the Ministry of Transport, the Council of Pan-African Doctors in Environment (COPADEN), the African Group for the Development of Water, and the African Group for Water, Energy and Environment Development (A3E). The pilot project list was reduced to a shortlist of six through consideration of a wide range of criteria, including location, likelihood to succeed, high potential of replicability, availability of a suitable lead party, social (e.g., impact on women, youth and job creation), and likelihood to provide fitting ?national scale? examples of e-mobility utilization from which to support and encourage a wider uptake of e-mobility. The Evaluation Criteria Matrix formulated, provides a set of questions to evaluate the

relevance, effectiveness, efficiency, sustainability and impact of the pilots. (Please the Annex on the Evaluation Criteria).

Considering that this is a pilot project and the budget is limited, it should be noted that the selection of the final sites may be limited to less than six sites. However, the indication of assessing several sites in different regions of the country will provide basic information to enable further deployment and scale up of the project. In addition, activities under Component 3 related to awareness raising and capacity building will be foreseen to the extent possible to the assessed sites to inform the stakeholders. The pilots can set the foundation for bigger projects in the future.

During the selection of the pilots related to agri-business and agro-food, the Ministry of Agriculture and Rural Development and the National Agency for Support to Rural Development (ANADER) will provide technical expertise for the selection of the sites and the groups of farmers. A list with organizations of farmers in C?te d?Ivoire is shared during the PPG phase. To ensure gender mainstreaming and youth involvement, the gender focal points from the Ministry of Transport and the Ministry of Woman, Family and Child will also play a key role in providing guidance on both gender and youth inclusion. The feasibility study to be undertaken at the project inception will carefully consider and adapt the foreseen activities to be gender responsive.

The current list of pilot sites covers the south, the center, west and the northern part of the country. The eastern part was not directly targeted at the PIF stage. However, this region will be included in the feasibility studies. This was notably a recommendation from the validation workshop conducted during the PPG phase.

The following outlines the six pilot demonstration projects, first by the project objectives that they have in common, followed by individual descriptions of the projects.

The proposed pilot demonstrations share these objectives:
? To provide improved access to lower-cost and more sustainable mobility;
? To provide proof of concept of more sustainable transport solutions (including testing of e-vehicle specification(s), charging arrangements, technical support systems, and business solutions);
? To enable upscale through providing familiarization with the technology, knowledge gap filling, and capacity development.

The proposed pilot demonstrations share these project activities:
? Development of a pilot-specific transport needs assessment.
? Pilot-specific calibration of the e-bike, e2W and/or e3W, LEV specifications (depending upon the vehicle requirements of the pilot), including incorporation of local engineering works and provisions, as required.
? Pilot-specific calibration of the charging arrangement and the integration of that arrangement with the local electricity supply network.
? Pilot-specific calibration of the technical support provided to the pilot.

? Pilot-specific calibration of the vehicle business models, the target and possible subsidies and incentives to be provided, and identification of the providers of a) vehicles, b) battery service, and c) finance.

Descriptions of the pilot demonstration projects:

1. e2Ws and e3Ws for taxi and agri-product transportation in Jacqueville

a. Local lead counterpart: Town Hall of Jacqueville/Ministry of the Interior

b. Description:

Produce delivery: Women?s groups currently collect vegetables and fruit from local farmers, process them, and then transport the resulting product to market. On some days, up to half of the income received at the market is used to pay for transport. The use of own transport would provide for easier transport logistics, time and cost benefits, and the use of customized cool boxes, which would be possible with the use of own e3Ws, has the potential to increase profit through lower wastage and improved product quality.

Moving people: Jaqueville has more than 600 three-wheelers used as taxis for local passenger transport. These are operated by SMEs, under the direction of the Town Hall. The introduction of e3Ws is expected to improve upon the use of the existing fossil-fuelled three-wheelers, and the business models that will be introduced alongside are expected to provide new and better ways of matching passengers with operators and new financing options for vehicle ownership.

2. e3Ws for the local-district transport of cacao by farmers in San Pedro regions, (Cocoa belt)

a. Local lead counterpart: Conseil du Caf?-Cacao (CCC), the public body that regulates the sector in C?te d?Ivoire, acting as an aggregator for farming clusters.

b. Description: each year the Conseil du Caf?-Cacao supports its cacao farmers through the provision of more than 3,000 gasoline-fuelled 3-wheelers, targeting the carriage of cacao. The pilot demonstration will identify clusters of farmers and cooperatives in the Cocoa belt, specifically in San Pedro with the inclusion of areas such as Soubre, M?agui. The project will cooperate with CCC to transition from conventional three wheelers to e3Ws. This pilot will likely involve charging the e3W batteries through both battery swapping and on board battery charging, depending upon the duties of specific e3Ws, which will provide a comparison of the relative merits of these two methods.

3. 3. Pilot demonstration of e-bikes in the Banco National Park and R?serve Naturel Dahlia Fleur in the Greater Abidjan

a. Local lead counterpart: Ivorian Office of Parks and Reserves (OIPR)

b. Description: the Banco Park, with its natural beauty, attracts more than 1,000 visitors per week. The area has many tracks and dirt roads that are suitable for biking and e-biking and it is expected that providing access to e-bikes on a short-term loan basis would make the area an even more appealing tourist destination. Easy access to e-bikes in such a quiet environment has the potential to provide a safe first experience of e-biking to thousands of people each year, with the likelihood that this experience will result in some people switching to e-bikes for their commuting. It is proposed that entrepreneurial figures, local NGOs or CBOs, will manage the e-bikes, including their hire, charging of batteries, and repair and maintenance, each of which will provide an income for these groups. The supporting battery charging stations will use solar power from on-site panel arrays.

4. e-Cargo bikes and e3Ws transporting fish product, Kossou Dam in Yamoussoukro region

a. Local lead counterpart: the Fishing Cooperative, Kossou Dam/Ministry of Fisheries/Ministry of Transport

b. Description: The lake behind Kossou Dam is a source of fish. The project will develop a cold chain using e-cargo bikes and e3Ws with power-refrigerated cool boxes to preserve the fish between catch and delivery to a fish wholesaler. The e-cargo bikes will be used for first-mile deliveries whereas the e3Ws will be used on longer journeys, including between Kossou Dam and Toumbokro/Akoue-Bozi (the local village of the fishers) and Yamouassoukro (which is 30 km from the Dam) and Bouafl?.(also 30 km from the Dam). Although Kossou Dam is one of Cote d?Ivoire?s largest electricity generators, providing a source of renewable electricity, the battery charging stations will be fitted with solar panels to provide a predominantly ?sun-to-wheels? pilot demonstration for duplication in other parts of the country. Furthermore, the charging stations will be connected to the local power supply to provide backup and added cooling of the cool box and/or product, as required. The cool boxes will also be fitted with solar panels across their top surface to provide powered refrigeration while in transit.

The feasibility study to be undertaken at the project inception will carefully consider and adapt the foreseen activities to be gender responsive in order to make sure that women that are the majority in the post-harvest sector are represented.

5. Light Electric Vehicles (LEVs), e-bikes, e2Ws and e3Ws use, in partnership with the National Polytechnic Institute F?lix Houphou?t-Boigny (INPHB), Group A3E, COPADEN and other relevant partners in Yamoussoukro

a. Local lead counterpart: National Polytechnic Institute F?lix Houphou?t-Boigny (INPHB), District of Yamoussoukro

b. Description: many students and staff at the INPHB commute across three campuses, with some commuting over 6 km several times a day. This setting is ideal for providing a shared e-mobility solution ? where users hire e-vehicles for short terms to travel between campuses, and then leave the vehicle in allocated parking areas for the next user. A range of e-mobility options will be provided to appeal to the different user requirements and weather. A research group within the polytech?s ?cole Sup?rieure de Commerce et d?Administration des Entreprises will monitor and analyse the utilization of the e-vehicles, also surveying users to understand the choices that people make. A group within the polytech?s ?cole Sup?rieure d?Industrie will be responsible for managing the upkeep of the e-vehicles and their charging (including outsourcing to third party ?juicers?, as they are sometimes called), Mobility as a Service (MaaS) solutions, and the integration of solar-generated electricity. As such, this will provide a real-world demonstration that is monitored and directed by both commercial and research enterprises, with the expectation that the pilot and associated studies and collaborations will develop capability and both social and technical understanding to inform future deployments of shared, small-format e-mobility across the country.

6. Light Electric Vehicles (LEVs) in Abidjan, Bouak?, Korhogo and Odienn? in partnership with the National Polytechnic Institute F?lix Houphou?t-Boigny (INPHB) and Group A3E, COPADEN and other relevant partners

a. Local lead counterpart: Ministry of Transport/ Town Hall of Abidjan, Bouak?, Korhogo and Odienn?

b. Description: The Government is encouraging the deployment of EVs and wishes to show leadership in their uptake. The pilot demonstration involves the deployment of fast charging stations that allow travel by LEVs between Abidjan, Bouak?, Korhogo, San P?dro and Odienn? to be practical, and in so doing introduce C?te d?Ivoire?s first ?electric vehicle highway?. Odienn?, a major town at the border with Guinea and Mali, is identified as a demonstration project as it provides relevant lessons specific to mobility needs in border towns which can be further on replicated. The Government of C?te d?Ivoire will co-finance this pilot through the purchase of the EVs involved in the pilot. The charging stations will be public, hopefully encouraging others to purchase EVs.

The activities under output 2.1.2 will provide technical and investment support to the shortlisted pilot projects linked with financing. At least three-technology implementation reports will be developed as well as dissemination materials (e.g., pilot project factsheets, three short promotional videos of the technology projects) will be prepared and shared through stakeholders` (local actors, ministries and private sector network).

Targeted technical assistance from UNIDO will include guidelines to be provided to the Ministry of Transport (etc.) on topics such as community involvement (e.g., women, vulnerable groups), private sector engagement and investment mobilization. Moreover, the project will provide support for financial structure of the investment including roles and inputs of public and private actors and business models.

Total Cost of Ownership:
Simple modelling was carried out to compare the total cost of ownership (TCO) of a gasoline-fuelled three-wheeler with an e3W over five years. The analysis considered direct charging of the e3W and battery swapping, the latter modelled by quadrupling the cost of the electricity to the e3W user (i.e., 4 x US$0.195/kWh, 4 x the business rate for electricity as at the beginning of November 2022, the domestic rate was US$0.115/kWh) with the premium involved covering the provision of the battery service, payback on the additional equipment involved, etc., to the battery service provider. The simple TCO model also considered the cost of oil changes, maintenance and other operating costs, and the cost of gasoline for the gasoline-fuelled counterpart. The results from the modelling are presented in Table 2.

Table 2: Result of the TCO modelling

5 year TCO	Two-Wheeler	Three-Wheeler
2022		
Gasoline	$ 5,838.78	$ 10,738.05
EV: permanent battery	$ 4,468.00	$ 10,462.00
EV: battery swap	$ 5,632.00	$ 10,078.00
2030		

Gasoline	$ 5,838.78	$ 10,738.05
EV: battery swap	$ 3,236.00	$ 8,614.00

From Table 2, the model-calculated TCO of the e-vehicles over five years was always smaller than for their gasoline-fuelled counterparts. The e2W that was charged directly provided the lowest TCO, although the simple model did not consider the opportunity cost arising from vehicle downtime when charging. Whether lost opportunity would feature in the operation of an in-service e2W would depend upon the daily distances travelled and if charging was required during the day when the e2W could be in use. Even in the model of the battery swap e2W, with a cost of energy of four times the business per-kWh rate in C?te d?Ivoire, the TCO of the battery swap e2W was still marginally better than for a gasoline-fuelled three-wheeler. Projecting this forward to 2030, when the supply of e2Ws and battery services is expected to be mature, and the TCO for e2Ws is expected to be the order of 40% lower cost. Comparison of the modelled TCO results for a three-wheeler indicates that the battery swap e3W has the lowest 5-year TCO of the three-wheeler options considered. The marginally lower TCO than that for the permanent battery e2W would be because the TCO does not carry the capital cost of the larger batteries used. Projecting this forward to 2030, and the e3Ws would be expected to provide a TCO around 20% lower than that of a gasoline-fuelled two-wheeler, all else equal.

Component 3. Capacity building and awareness raising

This component will address the capacity building, knowledge sharing and scaling-up at the national level. The expected outcome of this component together with experiences and tools demonstrated in Component 1 and 2 will benefit the industry and help scale up the electric mobility regionally.

Outcome 3.1: National capacities and awareness are enhanced to accelerate the adoption of e-mobility (with a focus on electric two and three wheelers in peri-urban and rural areas)

Output 3.1.1 Capacity building through technical trainings of local market actors to provide the new skills needed in the shift to e-mobility with a focus on youth and women

Summary of activities:

3.1.1.1 Conduct capacity-building events through technical trainings of local market actors in e-mobility to provide the new skills needed in the shift to e-mobility with a focus on youth and women.

To ensure medium and long-term sustainability and lasting impact of the project?s activities, this output will focus on capacity building of the relevant institutions such as the Ministry of Transport, Ministry of Agriculture (ANADER) and relevant local organization in C?te d'Ivoire. The project will provide technical assistance for capacity building based on the best international practices. The evidence based technical and operational data generated from the technology interventions under the Component 2, will be incorporated into trainings and curriculum. The training material and curriculum will be prepared in close collaboration with INBHP, ECREE etc. The training material and curriculum will be prepared in

close collaboration with INBHP, ECREEE etc. The training materials and the organization of workshops (time, location etc.) will be gender-responsive.

Output 3.1.2 Workshops and awareness raising activities for policy-makers and change makers on integrated e-mobility and renewable energy and quality infrastructure are conducted

Summary of activities:
3.1.2.1 Conduct workshops for policymakers on integrated e-mobility and renewable energy and environmentally sound management of end-of-life batteries
3.1.2.2 Conduct trainings to support the National Polytechnic Institute Houphouet Boigny (INPHB) to study the mobility needs in C?te d'Ivoire, test EVs, specific technical requirements of e-mobility and the possibility of developing business models

The activities under this output, aim at building the institutional capacity through workshops for policymakers and relevant stakeholders in both public and private sector.

Activities include integrating e-mobility and GHG accounting in university curriculums and organizing student seminars on promoting low-carbon e-mobility technology.

Moreover, trainings will be conducted to raise awareness and to enhance gender equality and women?s empowerment with a focus on e-mobility and renewable energy.
Under the cooperation with academia, the project will organize an educational conference dedicated to electric mobility as an effective approach towards better environment. The education event will address electric mobility, identifying priorities, needs and address recommendations. This aims at initiating a wide-ranging debate, from battery technology through to social acceptance of modern mobility strategies, governmental needs and adaptations.

Specific training workshops related to different aspects of e-mobility for relevant staff will be developed.

Specific topics to be addressed:

- Career opportunities in EV industry (EV technicians etc.)
- Behaviour change is important for the transition towards e-mobility
- Design a network of public charging stations
- Renewable energy - from fossil fuel to renewable energy
- Photovoltaic - Interactions between electric mobility and photovoltaic generation

Output 3.1.3. Assessment of opportunities for localizing value chains of electric vehicles and renewable powered charging stations

Summary of activities:

3.1.3.1 Develop an assessment study to investigate the opportunities for localizing value chains of electric vehicles (including two and three wheelers) and RE powered charging stations (including battery manufacturing)
3.1.3.2 Scaling-up strategy document at the country and regional level

Activities under this output will be coordinated in collaboration with INBHP and ECREEE.

A study is planned to look into possible local value addition for vehicles and solar charging infrastructure. It aims to investigate local value-added options and the use of new mobility concepts with the active participation of local partners (farming communities, agricultural colleges, cooperative societies, agricultural service centers, etc.). This assessment will establish the future development of a roadmap for the local supply of e-vehicles that considers ?made in Africa? and planning for in country builds.

Other activities will support the National Polytechnic Institute Houphouet Boigny (INPHB) to study the mobility needs in C?te d'Ivoire, test EVs, assess on the potential for future operation of piloted EVs s to make them more accessible to users (e.g farmers) and to propose methods for creating a skilled workforce to sustain a large-scale electric vehicle fleet.

The partnership with INBHP, COPADEN, A3E, ECREEE etc., will explore synergies/learn lessons from the initiatives of suppliers of electric 2&3 wheelers locally manufactured in Rwanda (made by start-up Ampersand) as well as the case of Opibus and Kibo (Kenya).

Source: https://www.weforum.org/agenda/2022/05/electric-motorbikes-rwanda-ampersand/

The results will be developed into an awareness-raising programme on the opportunities and benefits (environmental, health, economic, etc.) on using EVs. Moreover, a scaling-up strategy document at the country and regional level will be developed (e.g., through the collaboration with ECREEE).

Component 4: Monitoring and evaluation
Under this component, the project progress will be continuously monitored and evaluated in a timely manner. Monitoring and evaluation (M&E) will be conducted in accordance with established UNIDO and GEF procedures. M&E will be ensured through the annual Project Steering Committee (PSC) meetings. During the project implementation, the project will be continuously monitored by the Ministry of Transport as the lead executing entity to determine the progress being made toward the achievement of outcomes and will identify course correction if needed. The project will also monitor the technical data from the EVs in the target areas (kWh charged, number of cars benefitted etc.). UNIDO will take care of the mid-term and final evaluation of the project, providing limited but targeted support for the monitoring of the project to the Ministry, supporting notably the review of each annual Project Implementation Review (PIR).

All monitoring and evaluation tools and documents, such as the monitoring plan, progress reports, and final evaluation report will include gender dimensions, and report with respect to an established baseline for gender related targets in the Gender Action Plan (See the project gender baseline report including the gender action plan).

Outcome 4.1: Adequate monitoring of all project indicators in line with GEF and UNIDO requirements

Output 4.1.1 Project monitoring and GHG monitoring scheme

Summary of activities:

4.1.1.1 Conduct regular monitoring of the project and reporting to the GEF

4.1.1.2 Develop Monitoring, Review and Verification (MRV) system

The project activities will be continuously monitored against the project targets and timeline by the Ministry of transport. At the inception phase, specific training on implementing the Gender Mainstreaming Strategy and Action Plan as well as the Environmental and Social Management Plan (ESMP) will be provided to the Ministry of Transport and identified key stakeholders. .

The data below will be collected during the project for all activities:

- # and proportion (%) of women who participate in capacity-building and awareness-raising, workshops and general project activities
- # and proportion (%) of women employed by the project management unit at a professional level and jobs created (gender-aggregated)

All the progress reports include the progress on the implementation of the Gender Action Plan and ESMP.

Output 4.1.2: The project is evaluated in the mid-term and final stages independently

Summary of activities:

4.1.2.1 Conduct gender responsive mid-term review evaluation

4.1.2.2 Conduct gender responsive independent terminal project evaluation at the end of the project

Mid-term review (MTR)

Mid-term evaluation will be conducted in the beginning of the 3rd year of the project which will include the outcomes of the survey to measure progress against project`s impact through technology investments, trainings and policy support. The MTR will be conducted by UNIDO through independent international and national evaluators.

Terminal Evaluation (TE)

TE will be conducted at the end of the project lifetime by UNIDO through independent international and national evaluator?s in-line with the GEF?s Monitoring and Evaluation Policy and UNIDO?s Evaluation Policies. UNIDO Independent Evaluation Division (ODG/EIO/IED) is responsible for the independent evaluation function of UNIDO. It supports learning, continuous improvement and accountability, and provides fact based information about result and practices that feed into the programmatic and strategic decision-making processes. Evaluation is an assessment, as systematic and impartial as possible, of a programme, a project or a theme. Independent evaluations provide evidence-based information that is

credible, reliable and useful, enabling the timely incorporation of findings, recommendations and lessons learned into the decision-making processes at organization-wide, programme and project level. ODG/EIO/IED is guided by the UNIDO Evaluation Policy, which is aligned to the norms and standards for evaluation in the UN system.

The TE will cover the whole duration of the project from its starting date up to the date of the evaluation. It will assess project performance against the evaluation criteria: relevance, effectiveness, efficiency, sustainability, and impact.

The TE has an additional purpose of drawing lessons and developing recommendations for UNIDO, the Government, Donors, and the project stakeholders and partners that may help improving the selection, enhancing the design and implementation of similar future projects and activities in the country and on a global scale upon project completion. The TE report should include examples of good practices for other projects in the focal area, country, or region.

The overall purpose of the TE is to assess whether the project has achieved or is likely to achieve its main objective. The evaluation has three specific objectives:

i. Assess the project performance in terms of relevance, effectiveness, efficiency, sustainability and progress to impact;

ii. Identify key learning to feed into the design and implementation of the forthcoming projects; and

iii. Develop a series of findings, lessons and recommendations for enhancing the design of new and implementation of ongoing projects by UNIDO.

1.4 Alignment with GEF focal area and/or Impact Program strategies

In line with the GEF CCM focal area, the project will reduce the GHG emissions resulting from transport directly through investment on integrated RE-EV infrastructure and indirectly through scale-up of its interventions towards shift to low-carbon e-mobility. The project aims to enhance institutional capacities on climate change, e.g., vulnerability of urban infrastructure, strengthen awareness and develop relevant policies, plans and associated processes at sub-national and national level and support the country in realizing Global Environmental Benefits outlined under GEF-7. From a climate change mitigation perspective the project aligns with GEF-7 strategic objective to finance low-carbon technologies and mitigation options and promoting integrated low-emission transport, catalyzing technology innovations towards scale, whilst counteracting environmental impacts of air pollution through the transport sector in the target areas.

1.5 Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

The project resources will be utilized to develop a comprehensive institutional structure by forming a coordination mechanism where key stakeholders will work together for the execution of this project. This will help remove the barrier around the lack of coordination mechanism to implement e-mobility projects. The GEF funds will support a review of the policy and regulatory framework and develop policy recommendations. The project will support an investment component to design, demonstrate and test business models for the pilot of electric vehicle and charging infrastructure deployment.

Lack of financing and appropriate financing models is a major barrier to scale up adoption of EV business models across vehicle segments in C?te d?Ivoire. The project will support analysis of various financing

models. In addition to financing, the proposed interventions are expected to provide technical assistance in planning & designing of target areas charging infrastructure network.
The enabling environment that will be facilitated by the project will assist to realize the alternative scenario. The demonstration and enabling policy framework will de-risk the investments and encourage private sector participation. This increased information and its tracking on use of sustainable low-emission transport modes will create greater awareness of benefits in policymakers and users to integrate new and emerging sustainable and low-emission transport options.
The project builds on a number of baseline initiatives to ensure that they are coordinated coherently and move the transport sector to address the problems of unsustainable mobility more broadly.
The project will be supported by stakeholders in the form of co-financing to technology demonstration projects (e.g., charging infrastructure hardware investment) which will ensure a successful implementation of the project.

1.6 Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

The project will generate multiple global environmental benefits through technical assistance and investment support in electric mobility solutions, enhancing capacities of the beneficiaries and ensuring long-term sustainability and scaling-up through policy support.
The project will provide technical assistance and facilitate investment mobilization for at least three shortlisted technology projects, which will result in direct GHG emission reduction.
The breakdown of total (direct + indirect) GHG emission mitigation (GEF Core Indicator #6) of 293,250 tCOeq is summarized here briefly. The total direct GHG emission mitigation is 19,490 tCO2e is expected to be achieved through replacing diesel buses, two and three wheelers with electric vehicles (e.g., direct fleet renewal), electric two and three wheelers powered by renewables in the target areas of Abidjan, Yamoussoukro, Bouak?, Korhogo, San P?dro and Odienn? for the technology lifetime of 20 years. The indirect project mitigation of this total corresponds to 273,760 tCOeq assumed to be realized through scaling-up of electric vehicles, electric two and three wheelers and renewable energy technologies in similar areas and further adoption of EVs in C?te d?Ivoire. The inddirect emissions are resulting from direct replication and replacing ICE vehicles with EVs powered by renewables due to the enabling environment that the project will support (e.g., through supportive policies) catalyzed by GEF and co-financing investments over 20 years lifetime.

The project will expect to provide benefits to 64,100 beneficiaries (GEF Core Indicator #11) (20,530 women, 43,570 men) through capacity building, investment support and income generation. The number of beneficiaries is calculated based on the expected outreach of the project and the below given assumptions:

? 500 users of two and three wheelers from the target pilot sites (10 sites with about 50 people from each site)
? 21,000 users of the EVs from the governmental fleet (19 Mio / 70 000 ? with USD 70 000 the average total cost a vehicle)
? 36,000 users of e-bikes (20,000 from the Banco Park; 10,000 from R?serve Naturel Dhalia Fleur; 6,000 from INHPB)

? 600 beneficiaries from the trainings (3 trainings of max. 50 people each per year during 4 years, with 1 training targeting public servant, 1 training targeting the private sector including financial institutions and one training targeting cooperatives / farmers)
? 6,000 beneficiaries from awareness raising activities (3 events of max. 50 people each per year during 4 years, and disseminated info in the media ? TV, radio, written journals, and web news).

1.7 Innovation, sustainability and potential for scaling up

Innovation

The GEF grant and this project cannot fund the entire activities needed for the transport sector. Instead, the project uses innovation to identify gaps where investing a limited amount of donor funds can help unlock long-term and scalable solutions. One of the innovative features of the project is that EV companies could consider investing in homegrown-product innovation to design or tailor EVs (e.g., refrigerated electric two & three-wheelers charged by mini-grids) for local needs and conditions in peri-urban and rural areas. Developing an electric 2&3 wheeler that is both durable and capable of carrying a spare battery may be required to meet the needs of the drivers.

Sustainability

The project will support the sustainability through the development of an enabling policy environment (Component 1), capacity building within the relevant institutions and partners through incorporation of the training content into the existing learning and knowledge management structure, support of a number of initiatives in its partner cities (such as Yamoussoukro, San Pedro, Bouak?, Korhogo) and the promotion of the required supporting infrastructures (Component 2).
These interventions will continue beyond the scope of the proposed project, and will serve to institutionalize these new transportation modalities into the existing Ivorian transport infrastructure building on ongoing policy efforts and strategies. As a result, the capacity built will continue to achieve the project?s objectives well beyond the 4-year scope of project implementation.
There is large potential for expansion and replication into additional Ivorian Municipalities using the enhanced policy and regulatory framework, built institutional testing capacity, and infrastructure to encourage large implementation programs by the private and public sectors. The project has a strong focus on sustainable business models, which increase opportunities for the private sector and increase affordability for the end users.

Potential for scaling up

As the project will work closely with both government and private sector partners, the use of pilot projects for demonstration of technology and awareness creation will aim to facilitate the scaling up. This innovative approach holds significant potential for replication, synergies and scaling up in future projects, not only in C?te d?Ivoire, but also in other African countries. The project will support the development and expansion of innovative modes of transport in C?te d'Ivoire. **In order for these comparatively new technologies to gain a position in the market and achieve consumer adoption, they must also be shown to be sustainable.**
Such efforts will build local capacity, support the development of context-specific policies, and reduce the investment risk. This will attract concessional funding for scaling-up the demonstration of electric vehicles, facilitating the transformation to market-wide electric mobility in the long term. The GEF project can therefore significantly accelerate the large-scale market introduction of EVs in C?te d?Ivoire,

which is necessary to support the country to achieve its nationally determined contributions to the Paris Climate Agreement.

Moreover, the project will collaborate and regularly exchange knowledge with other (donor-funded) transport and energy sector initiatives such as UNEP?s project on ?Integrated, Sustainable and Low Emissions Transport in C?te d?Ivoire?. These knowledge management activities will enhance the impact of the project because they empower stakeholders to take informed decisions, create a strong sense of ownership by active participation in the conceptual work, anchor knowledge and skills in the country and ensure that best practices are shared regionally and internationally.

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

Country	Coordinates
C?te d?Ivoire	Latitude: 5.392125 Longitude: -4.080845

It should be highlighted that the final selection of the pilot sites will occur during project implementation phase and the project document will be updated accordingly once the project pilot demonstration sites are finally selected for technical and investment support.

Geographical Location for E-Mobility Technology Demonstration Projects in:

Abidjan: 5.3600? N, 4.0083? W
Banco National Park: 5?23?N 4?3?W
Jacqueville: 5.2060? N, 4.4234? W

Yamoussoukro: 6.8276? N, 5.2893? W
Kossou Dam: 4.7579? N, 6.6424? W

Bouak?: 7.6905? N, 5.0391? W

San P?dro: 4.7579? N, 6.6424? W
M?agui: 5?24?N 6?34?W
Soubr?: 5.7866? N, 6.5890? W

1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

NA

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Civil Society Organizations Yes

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none of the above, please explain why:

Please provide the Stakeholder Engagement Plan or equivalent assessment.

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

A Stakeholder Identification and Engagement Plan has been prepared to ensure compliance with both Cote d'Ivoire e requirements, as well international good practice standards. A series of meetings and workshops led by UNIDO were organized during the second half of 2022 and early 2023. The consultation meetings were conducted as part of the development of the project documents to gather views and feedback on the proposed structure from diverse range of stakeholders. Participants included representatives the Ministry of Transport, the Ministry of the Environment and Sustainable Development (MINEDD), Ministry of Agriculture and Rural Development, Ministry of Woman, Family and Child, Ministry of Petroleum, Energy and Renewable Energies, Groupe Africain pour le development de l'eau, l'?nergie et l'environnement (A3E), Pan-African Council of Doctors in Environment (COPADEN), R?seau National des Agro transformatrices (RET-PACI), F?lix Houphou?t-Boigny National Polytechnique Institute (INP-HB), ECREEE, etc.

The objective of the meetings was to collect inputs to sharpen the project's interventions to best serve Cote d?Ivoire?s needs and priorities. Other consultation meetings were conducted on an ad-hoc basis with representatives from academia and the private sector. The following topics were discussed:
- Recommendations on fine-tuning the project?s interventions on technology demonstration based on the needs of the target areas;
- New ongoing initiatives and investments in electric mobility and renewable energy that the project can complement to, such as the UNEP project ?Integrated, Sustainable and Low Emissions Transport in C?te d?Ivoire?;
- Needs for institutional capacity strengthening through trainings and bringing together key stakeholders;
- Recommendations on the gaps where the project can support the policy framework to promote the accelerating deployment of e-mobility.

On 26 January 2023, UNIDO in collaboration with the Ministry of Transport conducted the Validation Workshop of the project. More than 50 stakeholders representing national ministries, international organizations, private sector companies, civil society organizations, local authorities, NGOs and cooperatives participated in the workshop. The workshop made it possible to:
- Introduce the challenges of electric mobility and its development in C?te d'Ivoire;

- Inform participants about the activities, budget and implementation structures of the project;
- Obtain stakeholder feedback on the project document;
- Validate the activities and the implementation strategy of the project.

There was an excellent level of participation to the discussions by all present at the workshop, which resulted in a range of constructive comments, questions and suggestions that are reflected in the project document. The discussions focused in particular on the institutional and legal framework, the tax barriers related to the import of electric vehicles, the availability of a qualified workforce for the management of the ecosystem of electric vehicles, the consideration of all the stakeholders in the management of the project, the conditions for the development of charging infrastructures, the choice of pilot sites, the availability of electrical energy, the production of renewable energy, the impact of the project on the reduction of greenhouse gas emissions, the impact in terms of job creation, women empowerment and rural development.

The recommendations included the following actions:
- Stakeholders: Ensure active involvement of relevant ministries, private sector as well inclusion of women and youth;
- Capacity building: Integrate issues related to electric mobility into training curricula (technical, vocational and higher education);
- Government fleet renewal: Promote the use of electric vehicles by initially providing public administration services with EVs;
- Finance ? factor cost: Facilitate the import of EVs including spare parts by removing tax barriers (custom clearance and general taxation on vehicles and equipment)
- Sustainability: Ensure availability of spare parts, capacity building in terms of maintenance and provide programs on recycling of batteries (waste management)

The validation workshop achieved its goal to discuss all the key elements of the project design and secure agreement and support for the project by key partners.

During the implementation phase, the stakeholders will be consulted on a frequent basis, through Project Steering Committee meetings, technical working group meetings, stakeholder consultation and workshops. The project will also engage with NGOs working on women and youth empowerment, and local civil society through consultation meetings to assess and mitigate any emerging social and environmental risks related to the technology demonstration projects.

A list with the main stakeholders and their role in the project is included below. Please see the full Stakeholder Engagement Plan in Annex H.

Main Project Stakeholders and their Role in the Project

Category	Stakeholder	Role

Implementation Agency	United Nations Industrial Development Organization (UNIDO)	UNIDO is the specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization and environmental sustainability. **Role in the project** UNIDO will act as the Implementation Agency for the project and take a lead role in managing Component 4: Monitoring and Evaluation. This includes coordinating the Independent Midterm and Final Evaluations. *Note: As requested by the national counterparts, UNIDO will also provide targeted executional support, delivering international technical assistance to the project in particular under Component 2. The organization will support the assessment of the transport needs in the different value chains, the pilot selections, the identification of suitable business models and the scale up of the project. The execution services provided by UNIDO are expected to include: assistance in the preparation of procurement and recruitment plans; assistance in the preparation of terms of reference and procurement packages; management of output deliverables.*
Lead Executing Agency	Ministry of Transport (MoT)	The Ministry of Transport main mission is to monitor and implement the Government?s policy on transport with a view to modernizing the transportation system in C?te d'Ivoire. The ministry is responsible for transport planning, the coordination of transport modes and road safety; and responsible for the approval of new vehicles imported by car dealers. **Role in the project** MoT will act as the project?s lead executing entity. As such, MoT will undertake the overall project management, day-to-day project execution and hosting of the project management unit. It will cover the policy and climate rational of the project, ensuring that the gender and youth aspects are well-covered. MoT will be in charge of ensuring that the co-funding is concretise and have an oversight of the pilot projects. It also coordinates the execution of project delivery partners and experts through their procurement and recruitment processes. The Ministry will coordinate the project inputs from all stakeholders, ensure ongoing ownership of the project and that the project execution is operationally implemented in line with the GEF and UNIDO requirements, and Government priorities, rules and regulations. MoT will be involved in the development of a set of recommendations on regulations and financial mechanisms for e-mobility deployment, in setting enabling transformative environment and supportive governance for EVs in C?te d'Ivoire.

Project partner/regional organization	ECREEE	ECREEE aims at the establishment of an enabling environment for renewable energy and energy efficiency investments and markets within the ECOWAS region. It is a specialized agency, which coordinates and executes regional programs, projects and activities in the areas of capacity and policy development, information and data sharing, as well as investment and business promotion. **Role in the project:** Together with UNIDO, ECREEE will provide targeted executional services. They will ensure alignment with regional priorities and bringing regional expertise, providing regional support for the capacity building and awareness raising activities and support for the development of the regional scale up strategy. Together with INPHB, they will support capacity building program development, providing among other a training session at the Centre for Renewable Energy and Industrial Maintenance (CERMI) in Cape Verde.
Steering committee member	Ministry of Environment and Sustainable Development (MoENSD)	The Ministry is responsible for implementing and monitoring the government's policy on environmental protection, urban sanitation, and sustainable development. **Role in the project** The Ministry will provide oversight to the project through their role in the Project Steering Committee and will be involved in monitoring the environmental aspect of the project.
Steering committee member	The Ministry of Mines, Petroleum, and Energy (MMPE) and C?te d?Ivoire Energies (CI-ENERGIES)	The Directorate General for Energy is responsible for coordinating and planning the national energy policy, the development and monitoring of legislation and regulations on electricity, renewable energies and the management of the use of energy resources. CI-ENERGIES is the state-owned entity responsible for monitoring and managing the electricity system. **Role in the project** The Ministry will provide oversight to the project through their role in the Project Steering Committee. It is proposed that the Ministry will also take part to the Technical Committee providing guidance on the energy dimension of the project.

Steering committee member	Ministry of Agriculture and Rural Development (MINADER) and National Agency for Rural Development Support (ANADER)	MINADER is the ministry in charge of Agricultural, Land, and Food Policy. As such, reforms are necessary to enable the agricultural sector to support the economic and social development of the country. ANADER's mission is to contribute to the improvement of living conditions in the rural world through the professionalization of farmers and professional agricultural organizations by designing and implementing appropriate tools, approaches and programs adapted to ensure sustainable development. **Role in the project** The Ministry will provide oversight to the project through their role in the Project Steering Committee. The project through close collaboration with MINADER and ANADER will support the identification of associations and cooperatives engaged in agricultural production in the targeted project areas as well as the development of the business models. Access to sustainable mobility for the targeted groups will allow for a reduction in duration in travel times and transport costs bringing efficiency in the value chain, facilitating the expansion of agriculture, trade, and access to markets.
Steering committee member	The Ministry of Commerce and Industry (MCI)	The Ministry of Commerce and Industry is responsible for the implementation and monitoring of the Government's policy on trade, crafts and SMEs promotion. **Role in the project** The Ministry will provide oversight to the project through their role in the Project Steering Committee. The project will work with MCI on coordinating project components to support EV Industry Development.

Steering committee member	Ministry of Woman, Family and Child (Minist?re de la Femme, de la Famille et de l?Enfant) Gender focal points and associations that promote GEEW	C?te d'Ivoire?s Ministry of Woman, Family and Child supports the protection of children?s rights, family welfare, and gender equality and women?s rights. **Role in the project** The Ministry will support the project on mainstreaming gender throughout the implementation, ensuring that this dimension is considered in all decision-making processes. The Ministry will nominate a gender focal point to support the project coordination team from the Ministry of Transport. Special support will be provided for capacity building, knowledge sharing and event organization. With respect to project management, the Project Steering Committee meetings will aim to be gender balanced and extend invitations to observers that represent gender dimensions, such as organizations / associations promoting gender equality and advocating women?s empowerment. During project activity implementation, effort will be given during stakeholder consultations towards focusing on gender equality and women?s empowerment issues, in particular during policy review and formulation. The ministry will also be involved in the selection of sites and groups of farmers.
Project partner	Council of Panafrican Doctors in Environment (COPADEN)	COPADEN is an NGO working on environmental issues closely affecting the African continent. **Role in the project** COPADEN will provide technical expertise to the project in developing the set of recommendations on regulation and financial mechanisms, in the identification of the sites and target groups and in developing the scale up strategy.
Project partner	Groupe Africain pour le development de l'eau, l'?nergie et l'environnement (A3E)	Group A3E is a private sector company which works towards the promotion of universal and sustainable access to water, energy, and in the preservation of the environment in Africa. **Role in the project** Group A3E will provide technical expertise to the project by specifically supporting the development of a set of recommendations targeting promoters and the private sector in general. They will support the development of business models, the deployment of charging stations, fostering a transformative, vibrant and a resilient EV business ecosystem that guarantees market predictability and business certainty.

Project partner	District of Abidjan; District of Yamoussoukro; Municipality of Bouak?; District Autonome du D?nguel? (Odienn?); Korhogo; San Pedro ? Soubr?, M?agui.	Local partners at the city level. **Role in the project:** The local authorities (districts and municipalities) will play a role in designing an inclusive project that best meets the needs and aspirations of communities. Among other, they will as well: -Advocate for the promotion of EVs and mobilize decision-makers at the local level or national level; -Facilitate and promote dialogue and buy-in of the project at the City level by communities, CSOs and CBOs; -Facilitate the participation of beneficiaries in the development of action plans; -Lobbying and defending the interests of the disadvantaged groups
Project partner/private sector	The General Confederation of the Companies of C?te d'Ivoire / Conf?d?ration G?n?rale des Entreprises de C?te d'Ivoire (CGECI)	CGECI is the most representative employers' organization of the private sector in C?te d'Ivoire. CGECI brings together professional groups, business associations and companies from all sectors of activity (industry, commerce, agriculture and services). CGECI is a major player in the representation of companies, the defence of their interests and the promotion of their activities. **Role in the project:** CGECI will support the draft of the recommendations on regulations and financial mechanisms, involving their members during stakeholder?s consultations and ease the validation and submission to the government. With their support, the project will orient the private sector about opportunities for engagement and share value opportunities related to e-mobility development in the country. CGECI will support the project to involve local financial institutions (such as banks) who can play a prominent role in financing smaller scale distributed systems by tailoring existing lending portfolios to include EVs (under conventional vehicle loans).
Project partner/academia	National Polytechnic Institute Houphouet Boigny (INPHB)	The Institut National Polytechnique F?lix Houphou?t-Boigny is a public polytechnic institute of higher education, research and production in Yamoussoukro in C?te d'Ivoire. **Role in the project:** The Institute will support generation and exchange of knowledge (e.g., technical training material), awareness raising and capacity building activities of the project. Together with ECREEE and UNIDO they will support the scale up strategy which will include manufacturing plan of EVs in the country. Besides this role, they will take part in the deployment of e-bikes within their campus.

Project partner	Ivorian Parks and Reserves Office (OIPR)	OIPR deals with the management of the country's national parks or reserves. **Role in the project:** OIPR will mainly share lessons learned from their experience in deploying e-bikes in the Banco Park in order to ensure an improved and more efficient deployment of these EVs in the Banco Park and R?serve Naturel Dahlia Fleur as well as in the INPHB campus in Yamoussoukro. They will also support the feasibility studies (data collection, consultations, etc.) for these specific sites. If the sites are selected, they will support the deployment of this type of EVs.
Project partner	Agence pour la Promotion de l'?cosyst?me de la Mobilit? ?lectrique (APEME)	APEME is an association that brings together the main institutional and private players in the transport sector for the promotion of e-mobility ecosystem in C?te d'Ivoire. **Role in the project:** APEME will be reached out regarding their lessons learned in the deployment of charging stations and EVs in C?te d'Ivoire. The project will explore ways to involve the association in awareness raising, knowledge sharing and capacity building activities in order to benefit from their practical experience especially in building business ecosystems.
Project partner	The United Nations Environment Programme (UNEP)	UNEP is responsible for coordinating responses to environmental issues within the United Nations system. UNEP is implementing in the county the project Integrated, Sustainable and Low Emissions Transport in C?te d?Ivoire? **Role in the project:** The technical committee that will be established under the project will work closely with the national inter-sectoral e-mobility coordination body established under the UNEP project.

Select what role civil society will play in the project:

Consulted only; Yes

Member of Advisory Body; Contractor;

Co-financier;

Member of project steering committee or equivalent decision-making body; Yes

Executor or co-executor;

Other (Please explain) No

It is foreseen that the relevant CSOs identified during the inception phase are invited to take part to the technical committee notably in the working groups. It has been discussed for example that some already identified such as RET-PACI or Women in Environment will be invited to take an active role in the gender working group to be leaded by the gender focal points of the Ministry of Transport and the Ministry of Woman, Family and Child.

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

UNIDO promotes gender mainstreaming in all projects. The project strategy and implementation modalities for gender equality and women?s empowerment are designed by using a guide for the gender studies to ensure that the project is in line with both, UNIDO (UNIDO Energy Department?s Guide on Gender Mainstreaming Energy and Climate Change) and GEF requirements (the Guidance to Advance Gender Equality in GEF Projects and Programs (GEF/C.54/Inf.05 June 1, 2018) .
UNIDO recognizes government efforts to integrate gender equality goals into C?te d'Ivoire?s priorities and national strategies. Due to the fact that gender, mobility and the economy are closely connected and because of their essential linkages with development, such as education and employment, and even health, sustainable policies relating to mobility and transport must incorporate gender issues.

Improving access of both women and men to safer, cleaner and more efficient transport can increase economic development in C?te d'Ivoire by reducing the time of trips, making available more frequent and safer transport modes, and making available markets and agri-food products to more buyers, as well as sellers. By enabling women to access markets and jobs, as well as a range of social and health services, sustainable transport promotes women?s economic empowerment and social inclusion. Transport services themselves must also be physically accessible to older and disabled people. Article 9 of the UN Convention on the Rights of Persons with Disabilities sets out the imperative that ?in order to enable persons with disabilities to live independently and participate fully in all aspects of life, appropriate measures should be taken to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, including information and communications technologies and systems, and to other facilities and services open or provided to the public, both in urban and in rural areas.? Women and vulnerable groups, namely children and elderly, are adversely affected by poor air quality as they relatively spend more time outside and along roads. As the project will also have air quality benefits, it will especially benefit women and vulnerable groups.
Renewable energy and energy efficiency technologies and approaches, such as EVs, are climate solutions that can boost sustainable and inclusive economic growth and industrialization. Strategic gender-responsive interventions, public policies and measures can help ensure that women can equally lead, participate in and benefit from the growing opportunities and employment in these dynamic sectors. Taking the needs of women and men into consideration during consultations and project planning can make energy infrastructure projects more inclusive and efficient.

Note: to collect gender-related information and sex-disaggregated beneficiary data, and to determine the baseline situation; ? inform or form part of the project?s Social and Environmental Screening procedure;

? integrate gender considerations into the program/project theory of change to understand how and why a given intervention will lead to a specific change; ? determine program/project activities required to respond to gender risks, differences, gaps, and opportunities; and ? support the formulation of indicators relating to sex disaggregation and gender sensitivity, to be included in program/project results framework.

Energy infrastructure is an umbrella term that often relates to the generation, transmission and distribution of large-scale power, but that also encompasses charging stations for electric vehicles. Transmission and distribution projects focus on connecting generated energy (electricity or heat) to energy consumers. Sustainable energy infrastructure has the potential to be transformative by providing much needed energy access and reducing greenhouse gas emissions, whilst also increasing opportunities for women?s empowerment, employment and gender equality. For instance, charging stations for EVs could help to increase safety through lighting, which improves the mobility of women and girls to safely access transport at night.
Studies show that in many cases fewer women than men own a private car in the ECOWAS. Moreover, in both urban and rural areas, developed and developing countries, the daily mobility program followed by women is far more complex than those of men due to their double working day, since women are usually participating in productive use activities but also take care of domestic chores, children, elderly and the sick. A study by OECD/ITF found that women usually make more trips, with greater variety or routes, but within a more restricted geographical area, using generally less expensive modes of transport; and in their choice of travel mode, they are more sensitive than men are to environmental issues such as air pollution. Since normally fewer women are working in transport-related jobs, which are seen as ?men?s work?, the needs of women are generally neglected. As mobility and travel have significant influence on the lives of women, this can lead to a form of social exclusion. Therefore, the project aims to demonstrate good practices in mainstreaming gender aspects into sustainable low-carbon transport projects, wherever possible, and avoid negative impacts on women or men due to their gender, ethnicity, social status or age.

Women can play a key role in promoting and implementing new clean technologies. Energy interventions that meet the needs of and involve both women and men increase the likelihood of technologies being adopted and used. Entrepreneurship programmes and innovation accelerator programs have also proven effective in tapping into women?s potential to identify affordable and scalable solutions for cleaner, more resilient economies. For instance, in South Africa, the national award for the Best Woman-Led Business in 2015, went to the woman-led business ZingCO with its innovative battery swapping solution for electric vehicles that aims to promote sustainable and affordable transportation, with a particular focus on university transport solutions. In designing the activities, the project has consulted local clusters in C?te d'Ivoire such as the R?seau National des Agro Transformatrices (RET-PACI), which is an umbrella organization made up of more than 200 small businesses run by women.

Other relevant organisations such as Women in Environment (WEVE), Les Femmes du March? Gouro, Coop?rative des Femmes du Secteur Vivrier de C?te d'Ivoire comprising more than 350 SMEs led by women were invited in the discussions during the PPG phase and they have provided feedback during the Validation Workshop held in Abidjan in 26 January 2023. These groups will be consulted and included in the project implementation activities.

Additionally, the gender focal points of the project have been identified in the Ministry of Transport and the Ministry of Woman, Family and Child (Minist?re de la Femme, de la Famille et de l?Enfant). Therefore, gender dimensions will be considered in all decision-making processes. Opportunities for targeted capacity building are also foreseen through consultations with the Ministry of Woman, Family and Child. The ministry will also be involved in the selection of sites and groups of farmers.

The gender mainstreaming of this UNIDO project acknowledges that promoting gender equality and women?s empowerment have significant positive impacts on key drivers of poverty alleviation and social progress, such as sustained economic growth and inclusive industrial development. UNIDO?s mandate to promote inclusive and sustainable industrial development (ISID) relies on the advancement of gender equality and the empowerment of women. UNIDO addresses gender inequalities in industry and harnesses women?s full potential as economic agents of change and leaders thereby transforming economies and generating inclusive growth. One of the guiding principles of the project will be to ensure that both women and men are provided equal opportunities to lead, participate in, and benefit from the project (UNIDO Gender Policy 2019). The project has been developed considering the UNIDO guide on gender mainstreaming in energy and climate change projects. The project interventions will consider gender-mainstreaming activities during all stages of the project from formulation to evaluation following UNIDO Gender Policy. As a guiding principle, the project is designed to ensure both women and men are provided equal opportunities to participate and benefit from the project. In practical terms, this will be demonstrated in a multitude of ways:

- A gender analysis has been conducted and a draft gender mainstreaming strategy and gender action plan has been prepared. The document will be approved by the PSC during project inception. The gender action plan will be an integral part of the project M&E and ensure effective mainstreaming of gender dimensions to promote gender equality.
- Based on the gender-responsive ToRs, gender sensitive recruitment will be practiced at all levels where possible, especially in the selection of project staff, researchers and experts, as well as technical staff. Gender sensitive recruitment will be encouraged in instances where the project does not have direct influence. Existing staff will be trained and their awareness raised on gender issues, if they do not have this knowledge yet.
- Gender dimensions will be considered when data collections or assessments are conducted as part of project implementation.
- Gender dimensions will be considered in all decision-making processes.
- During project implementation, efforts will be given during stakeholder consultations towards focusing on gender equality and women?s empowerment issues, in particular during policy review and formulation.
- The differentiated needs and roles of women and men are identified with respect to the capacity building interventions of the project. For these purposes, women?s groups and associations, gender experts and/or other stakeholder concerned with gender and energy will be consulted. In that connection, the tools and guides developed will be gender responsive.
- Raise awareness on gender, disseminate information about gender dimensions, and gender mainstreaming in the sector.

Sources:
https://www.oecd-ilibrary.org/fr/transport/gender-and-transport_5kg9mq47w59w-en

https://www.unido.org/sites/default/files/2016-01/FINAL_Gender_Energy_NEXUS_Brochure_27Jan_0.pdf

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

Closing gender gaps in access to and control over natural resources;

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

Does the project?s results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

The project will promote investments and therefore it has a strong focus on developing projects, which are attractive for banks and private investors. Some of the investments will be developed as private sector projects or public private partnerships. In this context, UNIDO and the project partners will undertake important pre-feasibility work and provide matchmaking services in the financial structuring and promotion of investment projects.

The project will involve national private sector companies (such as A3E, COPADEN) working in policy and regulatory framework support activities to integrate their views from private investment perspective. Private sector engagement and partnership can create a fully integrated project, which involves investments on infrastructure and technology required to build an EV ecosystem. This will also create business environment for new green entrepreneurships, business opportunities and improved access to services and scope for technological innovation.

One of the essential requirements for e-mobility adoption is ensuring access to available, convenient, reliable and affordable access to charging infrastructure. The cost of charging infrastructure investment can be a major barrier for the uptake of EVs. The public charging infrastructure investment is required to kick-start the market, however without the investment from the private sector, the scale, and the speed of the shift to e-mobility will be restricted. Therefore, the private sector participation is key to the success of the project in closing the charging infrastructure investment gap. The project will disseminate the nationally generated evidence-based data on e-mobility to promote the replication of investments by the private sector (e.g. through ECREEE).

There is an essential role of the private sector to play in the project to ensure that its full potential is realized. Key elements concerning the role of private sector in the project include the planning of the demonstration sites, involving EV automakers, manufactures of electric 2 and 3 wheelers, services and

logistics management providers etc., construction of EV infrastructure, risk sharing (uncertainty and business opportunities) through identification of project risks, etc.

The project will strengthen the environment for engagement of financing institutions, promoting entrepreneurship among the identified communities to deliver new technologies for sustainable transport solutions. It will build the capacities of youth and women in managing the pilot demonstrations. The project incorporates lessons learned and best practices from successful international efforts in order to enable a transformative impact through the improvement of the transport sector to enhance the resilience of communities to climate-related impacts.

The project promotes funding sources and fiscal frameworks to advance sustainable transport solutions and initiatives and introduce innovative approaches. It will ensure that the principles of sustainability are respected when the government, local institutions and private sector organizations are planning for the participation of private capital through public-private partnerships and other approaches. The project will explore options for Public-Private Partnerships (PPP) with a role of the government to structure a deal in electrifying the government fleet. PPP is a long-term contract between a public party and a private party, for the development and management of a public asset or service, in which the private party bears significant risk and management responsibility through the life of the contract. In the project, infrastructure master planning nationally is critical for identifying opportunities for coordinated and complementary investments among public sector, private sector, and civil society partners.

Local vehicle assemblers may also invest in national and regional supply chains by manufacturing some parts locally. McKinsey?s Green Africa report, states that sub-Saharan Africa has many of the raw materials needed to develop a supply chain for at least the attractive cathode segment of batteries used in EVs. Replacing inefficient, polluting and expensive engines of two and three wheelers with electric ones that are powered by renewable energy through the deployment of the pilots can bring innovation in the country.

Moreover, the private sector will directly benefit from all project components, and will be directly engaged in Component 2. The private sector will be engaged during the implementation phase in enabling the demonstration of EVs to support productive activities in peri-urban and rural areas in C?te d'Ivoire. The project main beneficiaries are grouping of farmers, associations, enterprises, clusters, active in the agro-food sector, formed mainly by women and youth. The project will promote entrepreneurship among the identified rural communities to deliver new technologies for sustainable transport solutions. It will build the capacities of youth and women in these peri-urban and rural areas in managing the pilot technology demonstrations (EVs etc.).

Furthermore, the strengthened environment through enhanced institutional coordination (Government, Municipalities, Universities and Agencies), information and data sharing and market linkages will enable and incentivize private sector investment beyond the project lifetime. For instance, strengthened value chains for transports, improved air quality, and enhanced climate information can spur private sector investments in e-mobility.

Within the framework of its targeted executional services, UNIDO will collaborate with private sector stakeholders (such as CGECI, APEME, etc.) to spur private sector investments and promote the sustainable acceleration of e-mobility in the country. CGECI will involve local financial institutions (such as banks) who can play a prominent role in financing such initiatives. In designing the solutions, the approach is to engage communities and private sector at every level of planning and execution.

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

Risks	Risk Level	Risk description / Mitigation Actions
Political and institutional risk (Management priorities of the participating public and private sector organizations change over time in C?te d?Ivoire resulting in reduced participation or even termination of collaboration)	Medium	C?te d?Ivoire institutions and the private sector have shown ongoing and increasing interest in initiatives to promote sustainable transport, collaborating with GFEI under the GEF project, harmonized fuel and vehicle emission standards in the ECOWAS led by UNEP and Cocody Cit? Verte project led by Municipality of Cocody and UNEP. Thus, a major shift in priorities is not foreseen and the risk is considered low. Any potential risk will be mitigated by the possible signing of Terms of Reference contracts or agreements before the commencement of key activities. Where possible, participating organizations will be legally bound to participate until the activity?s completion.
Management risk	Medium	While the lead executing partner, the Ministry of Transport has a good capacity in managing infrastructure projects, its staff is less experienced in conducting an institutional development project. Therefore, UNIDO will act as a co-executing partner to provide technical support and international expertise to the project. Support will be offered to the pilot selections, encouraging the involvement of the private sector, promoting access to innovative and smart financial mechanisms as well as linking renewable energy services with productive uses and economic development. Moreover, the ECOWAS Regional Centre for Renewable Energy and Energy Efficiency (ECREEE) will also act as a co-executing partner to bring in international expertise and scale up the project at the regional level. Project Management will be conducted by a specific Project Management Unit (PMU) that will receive technical assistance and adequate budget to update and implement the project. The National Project Coordinator will provide senior staff for financial management. Where PMU does not have the necessary expertise, staff will be recruited.
Stakeholder engagement/coordination risk	Low	Project stakeholders on national level are expected to be supportive of the proposed project measures. UNIDO and the Ministry of Transport will maintain a continued dialogue with all relevant stakeholders, including government agencies, donors, private sector, relevant non-governmental organizations and local communities, through the project specific meetings (such as PSC), the technical committee and through regular institutional dialogues and forums (e.g. gender working group on mobility, etc.).

Technology Risk (The public resists change due to a lack of understanding, lack of infrastructure ?EVs- and perceived danger of the technology.)	Medium	A number of demonstration projects in the field of EVs and NMT have been initiated in C?te d'Ivoire (Bollor? e-buses and the NMT project in the Banco Park with 500 e-Bikes and in the Ebri? Bay in a joint Morocco-C?te d'Ivoire collaboration, electric three wheelers in Jacqueville), and the public and user?s reactions have been positive. In addition, UNIDOs close partnership with C?te d?Ivoire institutions will aim to mitigate any such risk.
Governance risk Such as contract management and procurement. Delays in the proposed improvements to institutional and regulatory framework by public institutions	Medium	As in all development projects, there is a risk of delay, particularly due to delays in procurement, and cost overrides due to exchange rate fluctuations or price increases. The Project Execution Partner will provide financial monitoring and ensure quick reaction times in project management to avoid delays. Close cooperation of the project partners in the Project Steering Committee (PSC) and the Technical Committee (TC) will be sought and the project document has indicated in detail the roles and responsibilities of each project partner.
Financial Risk (Incentive and financial support system are insufficient)	Medium	Close coordination with the private sector and financing institutions will be sought under Component 2 of the project to mitigate this issue. The development of a strong policy framework is a key part of the project?s sustainability strategy and financial incentives and support systems will play a key role in this. The Ministry of Transport will apply C?te d?Ivoire national rules and procedures notably for recruitment and procurement. The Planning, Statistics and Prospective Directorate (Direction de la Planification, des Statistiques, des Projets et de la Prospective - DPSPP) of the Ministry of Transport will lead the implementation of the project (Attached their declaration of compliance that will be shared at the contract signature). A Decree will be signed by the Minister of Transport to make official this nomination. They will implement the project with the technical support of the Ministry?s parastatal agency the Greater Abidjan Urban Mobility Authority (Autorit? de la Mobilit? Urbaine dans le Grand Abidjan ? AMUGA). This latter will act as the financial resource manager for the project. AMUGA worked and is working with international organizations, implementing projects funded by organization such as the World Bank. The decree instating AMUGA as well their latest audit document from Dec.2021 has been received. The Ministry of Transport shared as well their audit from 2019.An HACT is therefore not foreseen per see, but a self-assessment and additional financial review could be undertaken at the project inception while processing the actual execution agreement.

Uptake Risk (Uptake by other areas in Cote d?Ivoire and ECOWAS is limited due to lack of interest and incentives)	Low	Relevant public bodies? agreement will be secured in order to guarantee the project?s continuation after the end of the GEF funding period. The project?s sustainability strategy has been built in throughout the project design, ensuring buy-in and commitment of the various project partners. This is particularly in Component 2, where the project will collaborate with several municipalities and districts (Abidjan, Yamoussoukro, Bouak?, Korhogo, San P?dro and Odienn?) to support the activities in e-mobility and ensure that implementation is sustainable and effective solutions. This approach will ensure the project activities are not temporary and are closely integrated with national policies and priorities for regional expansion. Moreover, ECREEE has committed to support the capacity building activities and the scale up the project at the regional level as well as a dialogue has started between the Global Green Growth Institute (GGGI) and the West African Development Bank (BOAD) and they have committed to collaborate with the Green Climate Fund (GCF) to support the country in accessing climate finance.
Knowledge Risk (There is a risk of information gaps regarding expected future climate change impacts; business model; knowledge transfer in terms of capacity building for maintenance, etc.)	Low	Collaboration with consultants on climate will empower the National Polytechnic Institute F?lix Houphou?t-Boigny (INPHB), ECREEE, Ministry of Environment and Sustainable Development etc. to react to new scientific findings on climate change and impacts on e-mobility. The close collaboration with scientific partners will ensure that the National Polytechnic Institute F?lix Houphou?t-Boigny (INPHB) builds its mainstreaming on the best available scientific data.
Climate/Infrastructure Risk (Climate change negatively affects the infrastructure installations put in place by the project.) Please see special climate risk section below.	Low	Detailed environmental assessments will be conducted before infrastructure (e.g. charging stations) are built to mitigate this risk and ensure long-term success of project interventions. The risks associated with climate change are negligible for this project though potential risks due to extreme weather conditions will be addressed by ensuring that any infrastructure investment is climate-proofed.

Environmental and social risks (During construction of pilot infrastructure, unforeseen social and environmental risks may be discovered.)	Low	Please see ESMP for Environmental and social risks and mitigation measures. The project will update and implement the ESMP throughout the project.
Gender related risks (low representation and involvement of women)	Medium	This risk will be mitigated through specifically targeting women involved in the sector for participation in consultations on policy improvements. Disaggregated data on gender participation will be collected at all meetings and other events related to the project, and targeted invitations will be made for enhanced female participation as needed. The project will follow thorough gender responsive communication and ensure stakeholder involvement at all levels, with special regard to involving women and men, as well as civil society and non-governmental organizations promoting gender equality. This shall mitigate social and gender related risks, promote gender equality, create a culture of mutual acceptance, and maximize the potential contribution of the project to improving gender equality in e-mobility. As gender has been clearly mainstreamed throughout the project design, this will help mitigate any potential risks. Moreover, the UNEP team in Cote d?Ivoire has undertaken the drafting of a roadmap on women and transport. A meeting has been set on this thematic during the PPG phase. The recommendations of this work as well as the lessons learned from the project have been integrated to the rporpsoed gender action plam. They have among other supported the decision to consider two percentage for the participation of women during the project. At the inception phase, the Ministry of Woman, Family and Child as well as CSOs and private sector stakeholders will be consulted and a project working group on gender will be established with the support of the gender focal points pre-identified during the PPG phase.
COVID-19 Please see special section below.	Low	COVID-19 pandemic has had an impact on the economy. However, these impacts are expected to be short-term and will not affect the project?s long-term benefits. The assumptions are that the pandemic will fade with mass vaccination and a gradual normalization of economic and social activity.

Waste management risks (Pollution effects from the disposal of batteries from electric vehicles as well as from photovoltaic panels)	Low	The project will provide recommendations and guidelines on fine-tuning environmental policies and regulations that can mitigate the environmental impact from EV?s batteries. The project components address the problem of sustainability considering local ecosystems, so the realization of the project should effectively decrease the risk of environmental change. Even if the project is not an investment project per see, it will consider a value chain wherever possible with a specific focus on battery life cycle and waste management. The recommendations and guidelines on environmental management, re-use (e.g., second life as stationary batteries) and recycling of batteries will be incorporated in the feasibility studies of the pilot projects. Moreover, the training modules will include a range of environmental, social and technical topics such as future technology scenarios and environmental impact with a focus on battery lifecycle and technology waste management. Particular attention will be given to the collection, re-use and recycling of EVs. The project will also coordinate, exchange knowledge and learn from UNEP?s project ?Integrated, Sustainable and Low Emissions Transport in C?te d?Ivoire?. Component 1 of the global e-mobility project includes a Global Thematic Working Group on ?Electric vehicle charging, grid integration, renewable power supply and battery re-use, recycling and safe disposal?. This Working Group?s main objective will be to develop and make available knowledge materials that support governments in their ambitions for advancing a sustainable roll out of electric mobility, including policy instruments to ensure the sustainability of the battery supply chain and the end-of-life treatment of batteries.

Climate risk analysis

C?te d'Ivoire has been suffering from climate change, namely in the transportation sector and agriculture sector, for several decades and has been elaborating and implementing national plans and strategies to fight against global warming in various sectors for more than a decade.

Climate risks are recognized in several important sectors of the C?te d?Ivoire economy: coastal fisheries could see a 26 % reduction by 2050, substantial loss in surface area suitable for cocoa cultivation due to rising air temperatures, water vulnerability or stress, increased coastal erosion and loss of forest cover due to the use of woods for fire and dependence on charcoal. The future climate projections for C?te d?Ivoire by 2050 show temperature increase in the range +1.3 to 2.3?C, rainfall changes from -2 to +7 percent with increased frequency and intensity of heavy rainfall events, change in length of dry spells from -8 to +1 days and sea level rise from +18 to 45 cm.

The estimates from the World Bank suggest that the agriculture sector, human capital, and infrastructure will be impacted the most from climate change. The agricultural sector is mainly rain-fed and hence particularly vulnerable, with projected reductions in vegetation and decreased ecosystem productivity due to soil degradation, reduction of water availability and droughts between 2015-2100. The need for adaptation has been stressed in C?te d?Ivoire?s NDC targets. At the local level, the heavy rains during the raining season and the increasing exacerbated drought in the semi-arid region may affect the e-mobility infrastructure to be installed and the materials to be provided. By assessing these risks and setting up a sustainability plan, the project will provide mitigation and adaptation measures. These measures will not only benefit the project, but the local direct and indirect beneficiaries of the project by raising awareness about climate impact, training key stakeholders and providing setting up, to the extent possible, early warning systems. At the global level, as climate change worsens, the extreme weather events could disrupt supply chains. If the production is not done in Cote d?Ivoire, it will be difficult to source critical components to replace and repair the e-vehicles and charging infrastructure. It is therefore important to make the beneficiaries aware of these issues and envisage scaling up the project after its closure by manufacturing the products within the country. Climate change is likely to cause severe damage to the infrastructure sector in C?te d?Ivoire. Especially transport infrastructure is vulnerable to extreme weather events, yet essential for trading agricultural goods. Investments will need to be made into climate-resilient infrastructure.

Vulnerability to climate change of the targeted areas have been desk-researched. The project targets six different areas throughout C?te d?Ivoire: Abidjan, Yamoussoukro, Bouak?, Korhogo, San P?dro and Odienn? (including the special requirements of rural and peri-urban areas within these areas). Floods repeatedly hit the southern part of the country, notably Abidjan, one of the targeted city. Increased frequency of flooding and other extreme events could lead to frequent damage to infrastructure, inhibited facility access, and high repair costs, especially for low carbon transport systems. The other project targets may not be hardly affected by clogged drains and sewers during the raining seasons, as it is the case in Abidjan. Infrastructure equipment and technologies to be installed and purchased might be affected. Mitigations measure will be taken to have rain-proofed infrastructures and materials.

The project will also envisage cross-sectorial cooperation between the transport sector and energy sector and analyze the interdependencies with other sector and institutions in charge, for example of flood or drought management to set up measures. It can include for example early warning systems, adequate pumping system for the areas exposed to frequent flooding. The project will ensure that supported activities enhance climate resiliency and avoid unwarranted increases in greenhouse gas emissions. The incorporation of new technologies and activities demands specialized skills and knowledge. Local capacities must be created and/or improved to face the challenges posed by the modernization of transport and energy systems in view of increasing resilience to climate changes. Although the project focus area will be supported by capacity building initiatives, important knowledge gaps and barriers to institutional effectiveness remain, including lack of coordination, which often hinder effectiveness. Therefore, it is essential to consider how current and projected climate change could affect efforts to mitigate greenhouse gas emissions (mitigation). All project components are in line with the national plans for climate risk management/adaptations. The proposed measures and technological approaches fit with future climate scenarios. Mitigation measures, which will be incorporated into this project, include: 1) introduction of e-mobility-responsive to reduce the effect of CO2 emissions; 2) raising awareness on the long-term benefits of e-mobility; 3) promotion of new amendments to sector policies and regulations, such as e-mobility, incentive mechanism, etc., to reflect climate change

risks and to orient people towards nature friendly mobility. UNIDO engages, whenever appropriate, in innovative investments and technical assistance to support low-carbon investments and climate change mitigation and adaptation opportunities. UNIDO works with the project development team to ensure that supported projects enhance climate resiliency and avoid unwarranted increases in greenhouse gas emissions.

COVID - 19 risk analysis/opportunity analysis

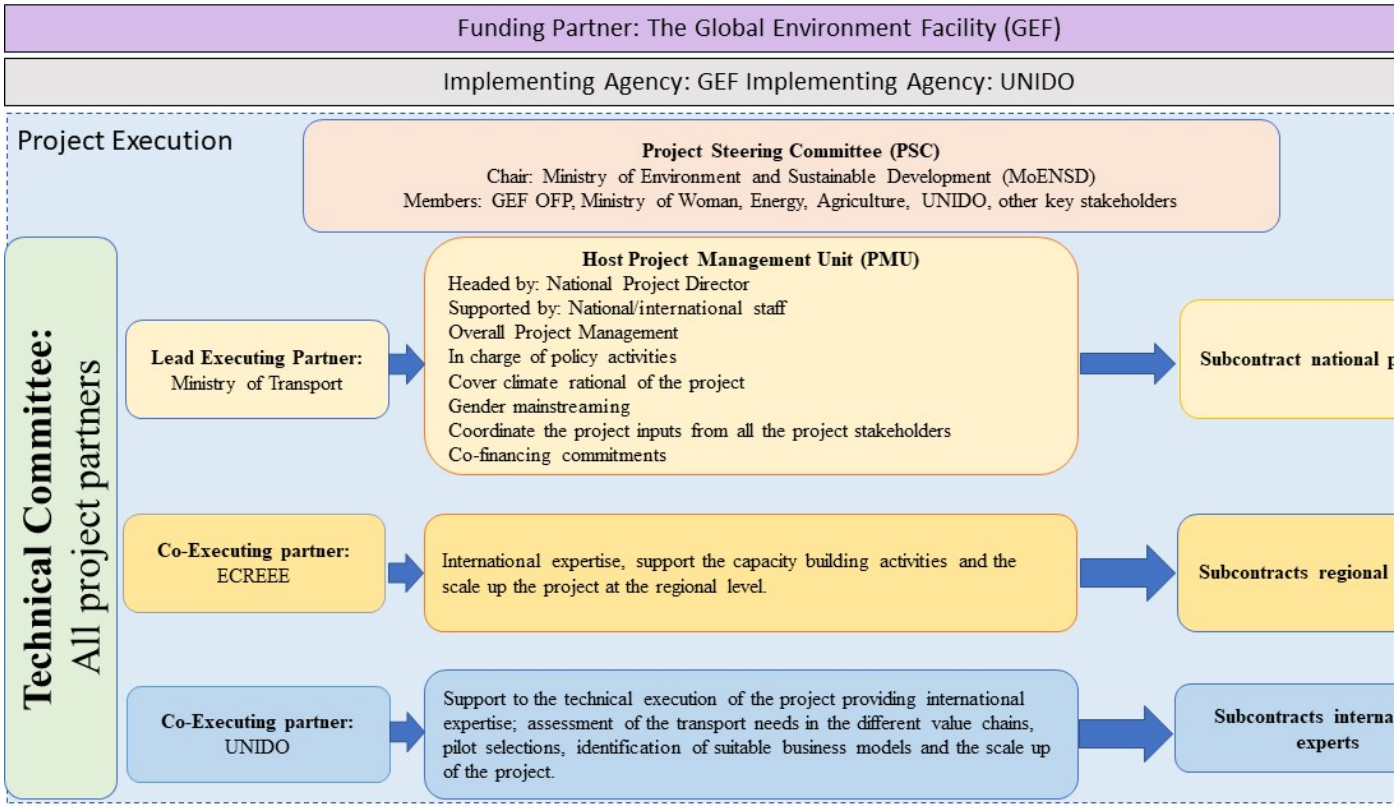
Risks	Rating (L/M/H)*	Mitigation Measures
Operational Risk ? On-going global restrictions due to global evolution of the pandemic remains	Medium/ High	If travel or group gatherings and meetings are not possible due to restrictions for people traveling from/to Cote d?Ivoire, or commuting around the country, virtual / on-line meetings will be conducted to the extent possible.
Technical expertise is not readily available due to the pandemic	Low	Necessary efforts will be made to identify alternative technical experts in case it is required (e.g., having a list of alternative expert s). Planning will be flexible enough to reschedule activities onsite that require specific expertise.
Possible re-instatement of COVID-19 containment measures limits available capacity or effectiveness of project execution/ implementation	Medium	The capacity of stakeholders, and especially the beneficiaries, for remote work and online interactions will be strengthened by securing access to commercially available conferencing systems. COVID-19 is not expected to pose a significant risk. The PMU will also be continuously monitoring the national restrictions and rules in order to foresee and plan ahead of potential changes in measures.
Some project supporters, co-financiers or beneficiaries may not be able to continue with project execution/ implementation	Low	The situation will be closely monitored by the PMU and the PEE in order to find alternate supporters or co-financiers, or to readjust the list of beneficiaries if needed.
Price increases for procurement of goods/services	Medium	The project team will undertake efforts needed to find alternative providers and make sure that competitive pricing is obtained.
New business opportunities created in response to COVID-19 related restrictions and measures	High	Response to COVID-19 restrictions, such as remote working arrangements and no-contact business modalities, will require solutions that can be turned into new business models. These opportunities will be analyzed at the national levels and shared with entrepreneurs. Additionally, based on spurred international trade due to COVID restrictions, this project will support the uptake of domestic markets to substitute missing products from global value chains.

New business opportunities to build back better for business continuity and economic recovery post-COVID-19	High	By design, the project engages the private sector to promote adaptation technologies, business models with resilience to climate change, and circular business practices.

6. Institutional Arrangement and Coordination

Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

The overall implementation structure of this GEF-funded project is illustrated as below:



UNIDO will be responsible for the implementation and coordination of the project-ensuring adherence to GEF standards and requirements. UNIDO will enter into a contractual agreement with the Ministry of Transport for the execution of services and activities under the project. During the PPG phase, further information was collected about this institution. The project will be carried out in close cooperation with other partners, relevant ministries, government agencies and municipalities.

Besides its implementation role, **as agreed with the Ministry of Transport and C?te d?Ivoire operational focal point and presented during the project validation meeting, UNIDO will provide**

targeted executional support to the project, providing international expertise. The e-mobility market in the country is at a very nascent stage and very limited local expertise is available. In particular, the focus of the project targeting the mobility needs of the productive use sectors is a rather new approach. The technical assistance services provided by UNIDO are expected to include: identification of specific sectoral transport needs for productive use in the identified rural and peri-urban areas and providing technical assistance for the market studies; provision of an international expertise in the selection of pilots, conducting feasibility studies, the development of viable business models (e.g. battery swapping) and monitoring the implementation of pilot sites; support in the assessment of the possibility of localizing value chains for the manufacturing and assembling of E-vehicles and spare part; ensuring alignment with the GEF Global E-Mobility Program and taking advantage of the international experiences and lessons learned as well as applying the developed guidelines and resources. Besides, ensuring cross-sectoral support at highest level through the integration of the project in the UNIDO Program for Country Partnership (PCP) with C?te d?Ivoire; ensuring complementarity, outreach and knowledge sharing with existing e-Mobility or related projects implemented and in pipeline within the country; provision of general technical guidance, playing a high-level international coordination role, as necessary, for the project implementation; support the development of an upscaling scheme at the regional level together with national key entities and the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE). UNIDO will encourage the involvement of the private sector, promoting access to innovative and smart financial mechanisms as well as linking renewable energy services with productive uses and economic development. The execution services provided by UNIDO are expected to include as well: assistance in the preparation of procurement and recruitment plans, assistance in the preparation of terms of reference and procurement packages, management of output deliverables.

The Ministry of Transport will act as the Lead Executing Agency of the project. The Ministry will coordinate the project inputs from all the project stakeholders, ensuring ongoing ownership of the project and that the project execution is operationally implemented in line with the GEF and UNIDO requirements as well as the national rules and regulations.

The Planning, Statistics and Prospective Directorate of the Ministry of Transport will lead the implementation of the project with the support of the Greater Abidjan Urban Mobility Authority (**Autorit? de la Mobilit? Urbaine dans le Grand Abidjan ? AMUGA**). This latter will support the co-ordination of the project activities, harmonize efforts with other projects such as GEF funded, UNEP implemented project titled ?Integrated, Sustainable and Low Emissions Transport in C?te d?Ivoire?.

The Ministry of Transport will nominate the **National Project Director (NPD)** to act as the government representative and the focal point for the **Project Management Unit (PMU)** as well as the **National Project Coordinator**. This later will be in charge of the day-to-day implementation, monitoring and reporting of the project to the PSC, the NPD, UNIDO and the GEF. The NPD shall have adequate authority and knowledge within the Government to get the necessary support from all local project partners to perform his/her duties under the project. The Lead Executing Agency will host the PMU and will be in charge of the policy activities, gender and youth mainstreaming throughout the project as well as co-financing the pilot projects. Moreover, the Lead Executing Agency will subcontract other national partners such as A3E and COPADEN, identified during the PPG phase to provide technical expertise to the project.

The ECOWAS Regional Centre for Renewable Energy and Energy Efficiency (ECREEE) will as well provide targeted executional support, bring in regional expertise, supporting the capacity building activities and the scale up the project at the regional level. The execution services to be provided by the ECREEE amounting USD 250,000 are hence expected to include: alignment with regional priorities and bringing regional expertise; provision of regional support for the capacity building and awareness raising activities; development of the regional scale up strategy.

ECREEE has launched the ECOWAS E-Mobility program, which aims to help member states implement strategies to increase the share of electric vehicles in their national vehicle fleet to meet mobility needs. The focus is particularly on two and three wheelers, which have a high potential for dissemination and use within ECOWAS, considering the competitive cost and technological maturity of these vehicles in comparison to technological advances in developed countries and China. For example, Battery Standards are essential to the regulations needed for the growing two and three wheelers market. Various countries and regions have established a body that sets EV battery standards. As such, ECREEE and ECOWAS Regional Electricity Regulatory Authority (ERERA) is envisaging establishing the West African Bureau of Battery Standards (WABBS). ECOWAS would mandate the WABBS to set and enforce regional mandatory and optional EV battery standards. They would follow international standards and consider the West African context. Nationally mandated bodies in the various ECOWAS countries shall ensure the dissemination of the standards set in their respective countries. Furthering the WABBS standardization work, ECREEE is envisaging proposing a Battery Market Regulation document/policy to the ECOWAS Commission to serve as a supplementary Act for the ECOWAS Trade Liberalisation Scheme (ETLS), setting battery importation standards/rules. The involvement of ECREEE as a co-executing partner will make sure that Cote d?Ivoire is aligned with these regional initiatives.

Project Steering Committee (PSC). Overall supervision, monitoring and guidance will be provided by a Project Steering Committee (PSC), which will meet on an annual basis (or as per agreement during the first meeting of the PSC). As per national stakeholder?s consultations, the PSC will be chaired by the Ministry of Environment and Sustainable Development (MoENSD).

The PSC will include representatives from the following ministries and institutions: Ministry of Mines, Petroleum and Energy (MMPE), Ministry of Agriculture and Rural Development (MINADER), Ministry of Woman, Family and Child , UNIDO, etc. The Ministry of Transport (MoT) through the PMU and co-executors such as ECREEE will act as ex-officio, presenting updates on the project implementation, sharing information the project progress, challenges, opportunities, and answering questions at the PSC request. Organizations sub-contracted by the Ministry of Transport such as A3E and COPADEN can attend the meeting as observer at the request of the PSC.

The PSC will approve the annual work plans and budgets, as well as the annual progress reports (e.g. the GEF project Implementation Report ? PIR). The PSC will act as an advisory mechanism to ensure the successful design and implementation of the project through providing operational guidance as well as overall buy-in by the national key counterparts.

A Project Management Unit (PMU) will be established by the Ministry of Transport and will execute the day-today activities and monitoring of the project. The organizational staff chart of the PMU will be

detailed at the inception phase, prior the first meeting of the PSC. Generally, the PMU will implement the following tasks:

? Develop the annual work plans and budgets and track progress;

? Monitoring of the project activities;

? Prepare the Project Implementation Reports (PIRs) for submission to UNIDO and GEF Secretariat;

? Execute the project activities in line with the established work plan, budget in close coordination with assigned executing partners and subcontractors;

? Ensure coordination and synergies with other relevant programs and projects under implementation;

? Coordinate and supervise the work carried out by project consultants/contractors;

? Ensure transparent financial reporting and accounting in line with international standards and safeguards, particularly with the GEF requirements;

? Ensure public relations and communicate project results, lessons learned and success stories;

? Ensure effective and timely reporting to the UNIDO Project Management Team.

A Technical Committee (TC) will be formed as needed to interact with stakeholders at institutional level and support the implementation of the project components. The TC will meet regularly during project implementation to identify technically and economically feasible opportunities for promoting e-mobility for productive use in the country. It will support the development of viable business models; propose financing opportunities, technical regulations, and standards for EVs and charging infrastructure. This committee will cover themes such as capacity building, renewable energy sources to the use of e2Ws and e3Ws, business development contributing to economic growth, green jobs creation and reduction of GHG emissions in the transport sector. Technical assistance and capacity building will be tailored to the Government of C?te d'Ivoire and relevant stakeholders.

An Evaluation Committee (EC) will be established if required by by the PSC and when required for the evaluation of call for bids. The EC shall receive project proposals and offers from call for bids, which will be evaluated, based on evaluation criteria identified. The criteria cover among others the following dimensions: geographical coverage (location, accessibility, and visibility), technical criteria (maturity of the project, energy efficiency, RE use, high occupancy, etc.), environmental benefits (e.g., GHG emission reduction), social (e.g., impact on women, youth and job creation), sustainability as well as financial dimensions. Several pilot projects have been identified at the PPG phase in collaboration with the national stakeholders. Among the identified integrated e-mobility renewable energy infrastructure projects, at least three of them will be prioritized for further technical assistance and financial support. The final evaluation and selection of pilots will be presented for endorsement to the PSC. Technical and financial feasibility studies will be undertaken to the final shortlisted pilot projects, including cost/benefit analysis, forecasting an expected return on investment, as well as outlining any financial risks in order to understand the economic benefits the project will drive.

Project Start. A Project Inception Workshop will be held within the first 2 months of project start involving those with assigned roles in the project organization structure. The inception workshop is crucial to build on the consultations in the PPG phase and concretize ownership of the project for the effective results and to plan the first-year work plan. In preparation for the Inception Workshop, a more detailed workplan will be developed (building on the one developed in the PPG phase and terms of references (ToRs) will be developed.

The Inception Workshop will address a number of key issues including: - Detail the roles, support services and complementary responsibilities of local stakeholders and the PMU; Discuss roles, functions and responsibilities within the project?s decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The terms of reference for project staff will be discussed as needed; - Based on the project results framework and workplan, verify and endorse the first annual work plan. Review and agree on the indicators, targets and their means of verification and re-check assumptions and risks; - Provide a detailed overview of reporting, M&E requirements; M&E work plan and budget should be agreed upon and scheduled; - Discuss financial reporting procedures and obligations, and arrangements for annual audit; - Plan and schedule meetings and verify and endorse the ToRs; roles and responsibilities of all project organization structures should be clarified and meetings planned; An Inception Workshop Report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

Semi-annual reviews: Will consist of: Summary of progress made during the most recent six-month period; based on the initial risk analysis submitted, the risk log shall be regularly updated, where needed. Risks become critical when the impact and probability are high.

Annual review: Project Implementation Reports (PIRs): These key reports are prepared to monitor progress made since project start and in particular for the previous reporting period. The PIR includes UNIDO/GEF requirements and includes, but is not limited to, reporting on the following: Progress made towards project objectives and outcomes - each with indicators, baseline data and end-of-project targets (cumulative); Project outputs delivered per project outcome (annual); Lessons learned/good practices; Other expenditure reports; Risk and adaptive management.

UNIDO will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the PSC may also join these visits.

End of project. An Independent Final Evaluation will take place three months prior to the final PSC meeting. This evaluation will be undertaken in accordance with UNIDO and GEF guidance. The final evaluation will focus on the delivery of the project?s results as initially planned (and as corrected after the mid-term evaluation, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The ToRs for this evaluation will be prepared by the UNIDO Evaluation Group. The Terminal Evaluation should also provide recommendations for follow-up activities. The GEF Focal Point will be involved in this Final Evaluation. At the end of the project implementation, the PMU shall develop the Terminal Report to be submitted to the PSC at least 2 weeks before the final PSC meeting. The Terminal Report should summarize the activities/achievements of the project

implementation, lessons learned and future up scaling potential, as well as relevant progress of the gender mainstreaming strategy and action plan.

Coordination with other relevant GEF financed initiatives: Project implementation will also be closely coordinated with other GEF projects under the climate change (CC) Focal Areas in C?te d'Ivoire. More specifically, the project will create synergies with the UNEP national child project ?Integrated, Sustainable and Low Emissions Transport in Cote d'Ivoire?, under the GEF Global Programme to Support Countries with the ?Shift to Electric Mobility?. The UNIDO led project will be complementary and closely linked to the aforementioned UNEP project.

Further to the UNEP project, the UNIDO project is supporting the economic activities (such as of the farmers and fish producers etc.) by providing sustainable transport solutions such as small format e-vehicles (electric two and three wheelers) in the peri-urban and rural areas within the target cities. The UNEP project will not support electric two and three wheelers (the UNEP project is focusing only in Abidjan). The project would benefit from Component 3 of the UNEP-GEF project i.e. "the Government of Co?te d?Ivoire adopts financial incentives and technical standards to promote investments in low-carbon electric mobility in public transport.

Additionally, the project will build on other GEF-UNIDO?s initiatives such as the project ?Promoting Renewable Energy-Based Grids in Rural Communities for Productive Uses in Co?te d?Ivoire?. The government and the wider renewable energy and development sectors can benefit from strengthened dialogue, experience sharing and communication with regard to leveraging renewable energy to secure improved energy access and spur socio-economic development.

Seeking to create synergies with the above GEF funded projects among others and an upcoming GCF project on e-mobility targeting cities in C?te d?Ivoire, the demonstration of electric 2 & 3 wheelers in the target areas and know-how development for a wider introduction of e-mobility in Co?te d?Ivoire will be executed by the Ministry of Transport. The Ministry of Transport is working with most of the aforementioned projects. It will therefore coordinate and collaborate with other relevant stakeholders in order to avoid potential areas of overlaps between the projects and ensure complementarity.

Coordination with other initiatives: The project with coordinate with UNIDO?s Country Partnership for C?te d?Ivoire (PCP) and further support the authorities of C?te d'Ivoire to achieve their development goals in line with inclusive and sustainable industrial growth. UNIDO supports the country?s government in its strategic vision of long-term industrialization and in its ambition to improve the competitiveness of the Ivorian industry by upgrading its industrial enterprises, supporting the quality approach, promoting consortia export and developing regional and global value chains.

Transfer of assets: Full or partial ownership of equipment/assets purchased under the project may be transferred to national counterparts and/or project beneficiaries during the project implementation as deemed appropriate by the government counterpart in consultation with UNIDO.

Legal Context: The present project is governed by the provisions of the Standard Basic Cooperation Agreement between the Government of the Republic of C?te d?Ivoire and UNIDO, signed and entered into force on 7 March 1996.

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assesments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

The project is aligned with C?te d'Ivoire national policies and priorities and directly responds to priorities as outlined in:

- The action ?improvement of mobility and development of low carbon transport systems? stipulated in C?te d'Ivoire?s ?Nationally Determined Contributions (NDC)? document;
- The national strategy against climate change which calls for the promotion of measures to mitigate the effects of climate change in all activity sectors;
- The roadmap established in 2019 for sustainable mobility in C?te d'Ivoire; under the supervision of the Ministry of Transport with stakeholders including communities, private sector, public partners and civil society organizations; and
- The objectives of the National Development Plan of C?te d?Ivoire, which aims at reaching 42% renewable energy in the energy, mix by 2030; including 16% for solar energy, biomass and mini hydropower.
- The Constitution of C?te d'Ivoire;
- C?te d'Ivoire?s Vision 2030;
- C?te d'Ivoire?s National Climate Change Strategy and Action Plan;
- C?te d'Ivoire?s National Policy on Climate Change;
- C?te d'Ivoire?s National Adaptation Plan (NAP);
- C?te d'Ivoire?s National Adaptation Programmes of Action (NAPA)
- C?te d'Ivoire?s Low Emission Development Strategy (LEDS);
- C?te d'Ivoire?s Nationally Appropriate Mitigation Actions (NAMA)

Additionally, the project in consistent with the priorities reflected in the UN Sustainable Development Cooperation Framework (UNSDCF) 2021-2025 in C?te d?Ivoire and the UN 2030 Sustainable Development Goals.

The project is consistent with the Government of C?te d?Ivoire?s key sustainable development goals including enhancing transportation system, food security and ending poverty and inequality. It promotes a paradigm shift through its integrated and holistic approach to enhancing sustainable transportation and mobility.

Moreover, C?te d'Ivoire has benefited from established funds under the United Nations Framework Convention on Climate Change (UNFCCC), which it signed in 1992 and ratified in 1995.

8. Knowledge Management. Elaborate the ?Knowledge Management Approach? for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project?s overall impact.

As part of the project?s knowledge management (KM) strategy, collection of baseline data and analysis of operational performance is key for long-term sustainability and understanding mobility needs in the target areas. The KM strategy is planned to be designed in partnership with the Ministry of Transport, COPADEN, A3E, the National Polytechnic Institute F?lix Houphou?t-Boigny (INP-HB), Chamber of Commerce and Industries (CCI-CI), the ECOWAS Regional Centre for Renewable Energy and Energy Efficiency (ECREEE), etc.
The project will generate knowledge and learning on new market development and the integration of multi-stakeholder interest including gender and intergeneration considerations. Technology and knowledge transfer will be the corner stone of the initiative as one of the specific objectives is the capacity building development for the stakeholders involved. The knowledge and technical products such as technical guidelines, capacity-building activities such as training of technical agencies, universities and local level organizations on climate-resilient technologies and practices make significant contribution to the implementation of relevant national policies.

The knowledge gained and experience from this project will be shared nationally, regionally and internationally; for example, through the partnership with ECREEE etc. The project will support the sustainability through the development of an enabling policy environment, capacity building within the relevant institutions and partners through incorporation of the training content into the existing learning and knowledge management structure.

The project will facilitate the flow of learnt lessons such as data and demonstration results, working policies and regulations, working business models, operational knowledge, working financial instruments etc. The project will generate a learning curve on e-mobility that can be transferred to other countries through the partner organizations such as COPADEN, A3E, and ECREEE etc.

Knowledge sharing will affect several institutes (such as the National Polytechnic Institute Houphouet Boigny) involved in this project for data gathering and analysis. In addition, the involvement in the consultation process of various stakeholders is a knowledge sharing and learning opportunity.

Capacity building and training on climate-risk informed planning, design, and implementation of climate-resilient practices will be more effective through these locally suited and community-owned enterprises. Interventions in capacity building, empowerment of communities, innovative approach for smart transportation and improved management of the land, the transportation and the mobility will increase resilience to climate change variability.

Furthermore, there is just draft idea on the policy reform on the transportation system in Cote d?Ivoire to integrate EVs. There is no local or governmental knowledge management mechanism that extracts lessons learned from recent interventions (even in other region like South Africa which has an extensive knowledge of EVs business) to integrate into a complete package of technology for the improvement, modernization, operation and maintenance for the transportation system. In addition, there is a limited community capacity to design integrated solutions, sustainably manage rural infrastructure and sustainable transportation with the integration of EVs.

Knowledge sharing including lessons learnt and best practices from relevant projects and initiatives. The project will collaborate and regularly exchange knowledge with other (donor-funded) transport and energy sector initiatives such as UNEP?s project on ?Integrated, Sustainable and Low Emissions Transport in C?te d?Ivoire?. It will share the knowledge through the establishment of the e-mobility coordination body, which will align e-mobility related policymaking processes. These knowledge management activities will enhance the impact of the project because they empower stakeholders to take informed decisions, create a strong sense of ownership by active participation in the conceptual work, anchor knowledge and skills in the country and ensure that best practices are shared regionally and internationally.

The project will facilitate the flow of lessons learnt such as data and demonstration results, working policies and regulations, working business models, operational expertise, working financial instruments etc. The project will generate a learning curve on electric mobility that can be transferred to other countries. Tools and methods for knowledge exchange, learning and collaboration, including knowledge platforms and websites, as well as plans for strategic communications. The activities of the project will be built on the baseline activities and support knowledge transfer among key stakeholders. The project will learn from the E-Mobility Global Programme and the knowledge products developed by the working groups will be shared and disseminated by the regional platform.

The key deliverables and timeline are outlined below:

Key Deliverables	Timeline
KM team is formed up	First 3 months of the project
KM Implementation plan is developed	1st half of the project
Project website is developed and launched	1st half of the project
Strategic communication plan for information exchange with the key organizations is developed	1st half of the project
The main outcomes of key meetings and conferences are reported as news piece in the project website	After key meetings and conferences
Main results and lessons-learned from the project are reported and disseminated	Continuous throughout the project

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

UNIDO acknowledges that information exchange and knowledge management (KM) are a substantial part of the project. UNIDO acknowledges that information exchange and KM are a substantial part of the project. The project will apply for its knowledge management several tools, which are partially integrated in the

activities and deliverables of the project components. The KM tools and products are based on experiences and best-practices approaches of UNIDO.

Internal knowledge management will be undertaken through coordination calls and meetings between the Ministry of Transport, PMU and the technical committee, COPADEN, A3E, INP-HB, ECREEE, annual meetings of the Steering Committee, etc. The PMU will develop a methodological approach to track activities, knowledge developed, and the impacts of its work. The results from the pilot projects will inform fact sheets and the lesson learned material.

UNIDO and partners will support through the participation on awareness raising activities, training sessions and will provide guidance on the development of the database and knowledge products.

The results of the pilot activities will be captured in knowledge product, e.g., fact sheets (see Deliverables for Output 2.1.2 ? Activity 2.1.2.2). The fact sheets will present the lessons learnt and main technical, environmental and economic characteristics. The sheets will be informed by project documentation (e.g. feasibility studies) summarizing the results in terms of e-mobility performance, GHG mitigation and sustainable development impact, if available in the initial phase already.

The knowledge products will focus on sharing information and results of the project and on low-carbon infrastructure solutions to relevant stakeholders and the public. This will be done through training sessions, workshops and multi-stakeholder meetings tailored to the needs of each stakeholder (local governments, project developers, investors and operators).

? The KM strategy will have the following components:

? Overview of existing lessons and best practices

? Plans to learn from relevant projects, programs, initiatives and evaluations

? Capture, assess and document information, lessons, best practice & expertise generated during the project implementation

? Tools and methods for knowledge exchange, learning & collaboration

? Strategic communications

All training material and knowledge management activities will be gender mainstreamed. This includes integration of gender dimensions into publications, for instance presenting sex-disaggregated data, gender

sensitive language in publications, photos showing both women and men, and avoid presenting stereotypes, as well as assuring that women, men and the youth have access to and benefit from the knowledge created.

Knowledge sharing including lessons learnt and best practices from relevant projects and initiatives. The project will collaborate and regularly exchange knowledge with other (donor-funded) transport and energy sector initiatives such as UNEP?s project on ?Integrated, Sustainable and Low Emissions Transport in C?te d?Ivoire?. It will share the knowledge through the establishment of the e-mobility coordination body, which will align e-mobility related policymaking processes. These knowledge management activities will enhance the impact of the project because they empower stakeholders to take informed decisions, create a strong sense of ownership by active participation in the conceptual work, anchor knowledge and skills in the country and ensure that best practices are shared regionally and internationally.

The project will facilitate the flow of lessons learnt such as data and demonstration results, working policies and regulations, working business models, operational expertise, working financial instruments etc. The project will generate a learning curve on electric mobility that can be transferred to other countries. Tools and methods for knowledge exchange, learning and collaboration, including knowledge platforms and websites, as well as plans for strategic communications. The activities of the project will be built on the baseline activities and support knowledge transfer among key stakeholders. The project will learn from the E-Mobility Global Programme and the knowledge products developed by the working groups will be shared and disseminated by the regional platform.

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Main results and lessons-learned from the project are reported and disseminated	Continuous throughout the project

9. Monitoring and Evaluation

Describe the budgeted M and E plan

Project monitoring and evaluation (M&E) will be conducted in accordance with established UNIDO and GEF procedures. The Ministry of Transport being in charge of the overall monitoring will follow as well national established procedures, seeking guidance and support from UNIDO if required. The overall objective of the monitoring and evaluation process is to ensure successful and quality implementation of the project by:

i. tracking and reviewing project activities execution and actual accomplishments;

ii. providing visibility into progress as the project proceeds so that the implementation team can take early corrective action if performance deviates significantly from original plans;

iii. adjusting and updating project strategy and implementation plan to reflect possible changes on the ground, results achieved and corrective actions taken.

iv. ensure linkages and harmonization of project activities with that of other related projects at national, regional and global levels.

All project partners and contractors are obliged to (i) make available studies, reports and other documentation related to the project and (ii) facilitate interviews with staff involved in the project activities.

At the same time, M&E will comply with the rules and regulations governing the M&E of UNIDO technical cooperation projects, in particular the UNIDO Evaluation Policy and the Guidelines for Technical Cooperation.

A detailed monitoring plan for tracking and reporting on project time-bound milestones and accomplishments will be prepared by the PEE and UNIDO at the beginning of project implementation and then periodically updated. By referring to the impact and performance indicators defined in the Project Results Framework, the monitoring plan will track, report on and review project activities and accomplishments.

The PEE will be responsible for day-to-day and local management of project activities execution, performance and the tracking of progress towards the achievement of milestones.

UNIDO will be responsible for oversight and tracking overall project milestones and progress towards the attainment of the set project outputs. The PEE will be responsible for narrative reporting to the GEF, and the preparation of Annual Project Implementation Reviews (PIR), in coordination with UNIDO.

Terminal evaluation (TE) will be prepared by an independent evaluator as established in the M&E Plan.

One mid-term review will be carried out and a final independent terminal evaluation at least one month before the completion of the project. UNIDO will arrange for the independent terminal evaluation of the project. The UNIDO project manager will inform UNIDO Evaluation Group at least 6 months before project completion about the expected timing for the Terminal Evaluation (TE). The UNIDO Evaluation Group will then manage the terminal evaluation in close consultation with the project manager.

All monitoring and evaluation documents, such as progress reports, terminal evaluation report, and thematic evaluations (e.g., capacity needs assessment), as well as publications reporting on the project, will include gender dimensions wherever adequate. Table below provides the tentative budget for monitoring and the two evaluations, which has been included in Output 4.1 of Project Component 4. UNIDO as the Implementing Agency will involve the GEF Operational Focal Point and project stakeholders in order to ensure the use of the evaluation results for further planning and implementation.

Table: Project?s Indicative Monitoring and Evaluation Work Plan

Type of M&E Activity	Responsible Partner	Budget (USD)	Co-financing (USD) (to be distributed as required during project execution)	Remarks	Timeframe
Inception Workshop (IW) and inception report including coverage of gender dimensions	PMU				Within first two months of project start up
M&E design and tools to collect and record data (performance indicators) including a survey to confirm baseline values for industry, manufacturers, policy makers, gender, etc.	PMU				Within first two months of project start up and mid project
Regular monitoring and analysis of performance indicators (technical, social, policy, environmental, gender)	PMU			It will be part of PMU activity	Regularly to feed into project management and Annual Project Review
Project Implementation Reviews (PIRs) including reporting on gender mainstreaming actions	PMU				Annually
Annual Project Review to assess project progress and performance including gender mainstreaming assessment	PMU				Annually prior to the finalization of APR/PIR and to the definition of annual work plans
Project Steering Committee (PSC) Meeting including at least 50% women	PMU, UNIDO PM and Project Steering Committee			It will be part of PMU activity	Annually to coincide with the Annual Project Review and ad hoc when urgent and important decisions need approval of SC

Type of M&E Activity	Responsible Partner	Budget (USD)	Co-financing (USD) (to be distributed as required during project execution)	Remarks	Timeframe
Gender responsive mid-term evaluation including survey to measure progress against baseline for investments, trainings and policy makers	UNIDO PM, independent external consultants hired by UNIDO. UNIDO Quality Monitoring Division (EVQQUA) in advising on TOR and selection of evaluators, Steering Committee and M&E specialists as required. PMU for data collection.	25,000		Indicative cost	Mid of project
Gender responsive final survey to measure progress against baseline for projects	UNIDO PM; PMU and M&E specialists as required			It will be part of PMU activity	At least two months prior to end of the project
Project gender responsive Terminal Evaluation	UNIDO Independent Evaluation Division (EVQ/IEV), PMU, PM UNIDO HQ and Project Steering Committee, independent external evaluators	25,000		Indicative cost	Evaluation at least one month before the end of the project; report at the end of project implementation
Visits to field sites	PMU			It will be part of PMU activity	Annually and on project completion
TOTAL indicative cost		**50,000**			

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

The project is expected to deliver multiple benefits at the national and local levels, including:

? Increased productivity for produce and fish providers, returning better incomes for them;

? Improved produce/fish quality through the addition of cold chain equipment, where applicable, also increasing incomes;

? Reduced GHG emissions compared with a continuation of business as usual;

? Improvements in local air quality;

? Increased transportation reliability and increased resilience; and

? Women and youth empowerment

At the national level, the shift to EVs will reduce the consumption of fossil fuels in Cote d?Ivoire and has a significant potential in supporting economic development. The project will enhance and promote the access for both women and men to safer, cleaner, and more efficient transport thereby support economic development by minimizing travel time and reliability of transport modes. The benefits at economic growth will be in improved energy efficiency in energy, employment prosperity and more competitive market. At the local level, the project will help create additional jobs and income opportunities through developing technical skills, enable business environment in the emerging sector of e-mobility, and thus eventually improve the livelihoods.

Besides contribution to climate action, improving the national and local air quality is a critical benefit that will be gained through adoption of EVs. Replacing internal combustion engine (ICE) vehicles with EVs will directly improve the local air quality in the target areas by removing tailpipe emissions of CO2, CO, PM2.5, NO2, SO2, Volatile Organic Compounds (VOC), Particular Matter (PM). In addition, the shift to e-mobility can reduce noise pollution since EVs have very quiet electric motors compared to ICE vehicles.

The project is expected to have a significant long-term impact on income and job creation in C?te d'Ivoire. E-mobility can allow or improve outcomes and enhance the value of other investments. In many cases, it will be a value adding component to other economic, social, tourism or environmental projects. Small-format electric vehicles such as electric two and three wheelers are becoming increasingly cost competitive compared to internal combustion engine (ICE) vehicles, and global sales are growing by about 14% per year. The project will facilitate the integration of green jobs, green growth, SMEs, sustainable finance and ensure that women, woman-owned businesses, and other vulnerable groups in the target areas are included.

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate	Medium/Moderate		

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

Risks	Risk Level	Risk description / Mitigation Actions
Political and institutional risk (Management priorities of the participating public and private sector organizations change over time in C?te d?Ivoire resulting in reduced participation or even termination of collaboration)	Medium	C?te d?Ivoire institutions and the private sector have shown ongoing and increasing interest in initiatives to promote sustainable transport, collaborating with GFEI under the GEF project, harmonized fuel and vehicle emission standards in the ECOWAS led by UNEP and Cocody Cit? Verte project led by Municipality of Cocody and UNEP. Thus, a major shift in priorities is not foreseen and the risk is considered low. Any potential risk will be mitigated by the possible signing of Terms of Reference contracts or agreements before the commencement of key activities. Where possible, participating organizations will be legally bound to participate until the activity?s completion.
Management risk	Medium	While the lead executing partner, the Ministry of Transport has a good capacity in managing infrastructure projects, its staff is less experienced in conducting an institutional development project. Therefore, UNIDO will act as a co-executing partner to provide technical support and international expertise to the project. Support will be offered to the pilot selections, encouraging the involvement of the private sector, promoting access to innovative and smart financial mechanisms as well as linking renewable energy services with productive uses and economic development. Moreover, the ECOWAS Regional Centre for Renewable Energy and Energy Efficiency (ECREEE) will also act as a co-executing partner to bring in international expertise and scale up the project at the regional level. Project Management will be conducted by a specific Project Management Unit (PMU) that will receive technical assistance and adequate budget to update and implement the project. The National Project Coordinator will provide senior staff for financial management. Where PMU does not have the necessary expertise, staff will be recruited.
Stakeholder engagement/coordination risk	Low	Project stakeholders on national level are expected to be supportive of the proposed project measures. UNIDO and the Ministry of Transport will maintain a continued dialogue with all relevant stakeholders, including government agencies, donors, private sector, relevant non-governmental organizations and local communities, through the project specific meetings (such as PSC), the technical committee and through regular institutional dialogues and forums (e.g. gender working group on mobility, etc.).

Technology Risk (The public resists change due to a lack of understanding, lack of infrastructure ?EVs- and perceived danger of the technology.)	Medium	A number of demonstration projects in the field of EVs and NMT have been initiated in C?te d'Ivoire (Bollor? e-buses and the NMT project in the Banco Park with 500 e-Bikes and in the Ebri? Bay in a joint Morocco-C?te d'Ivoire collaboration, electric three wheelers in Jacqueville), and the public and user?s reactions have been positive. In addition, UNIDOs close partnership with C?te d?Ivoire institutions will aim to mitigate any such risk.
Governance risk Such as contract management and procurement. Delays in the proposed improvements to institutional and regulatory framework by public institutions	Medium	As in all development projects, there is a risk of delay, particularly due to delays in procurement, and cost overrides due to exchange rate fluctuations or price increases. The Project Execution Partner will provide financial monitoring and ensure quick reaction times in project management to avoid delays. Close cooperation of the project partners in the Project Steering Committee (PSC) and the Technical Committee (TC) will be sought and the project document has indicated in detail the roles and responsibilities of each project partner.
Financial Risk (Incentive and financial support system are insufficient**)**	Medium	Close coordination with the private sector and financing institutions will be sought under Component 2 of the project to mitigate this issue. The development of a strong policy framework is a key part of the project?s sustainability strategy and financial incentives and support systems will play a key role in this. The Ministry of Transport will apply C?te d?Ivoire national rules and procedures notably for recruitment and procurement. The Planning, Statistics and Prospective Directorate (Direction de la Planification, des Statistiques, des Projets et de la Prospective - DPSPP) of the Ministry of Transport will lead the implementation of the project (Attached their declaration of compliance that will be shared at the contract signature). A Decree will be signed by the Minister of Transport to make official this nomination. They will implement the project with the technical support of the Ministry?s parastatal agency the Greater Abidjan Urban Mobility Authority (Autorit? de la Mobilit? Urbaine dans le Grand Abidjan ? AMUGA). This latter will act as the financial resource manager for the project. AMUGA worked and is working with international organizations, implementing projects funded by organization such as the World Bank. The decree instating AMUGA as well their latest audit document from Dec.2021 has been received. The Ministry of Transport shared as well their audit from 2019.An HACT is therefore not foreseen per see, but a self-assessment and additional financial review could be undertaken at the project inception while processing the actual execution agreement.

Uptake Risk (Uptake by other areas in Cote d?Ivoire and ECOWAS is limited due to lack of interest and incentives)	Low	Relevant public bodies? agreement will be secured in order to guarantee the project?s continuation after the end of the GEF funding period. The project?s sustainability strategy has been built in throughout the project design, ensuring buy-in and commitment of the various project partners. This is particularly in Component 2, where the project will collaborate with several municipalities and districts (Abidjan, Yamoussoukro, Bouak?, Korhogo, San P?dro and Odienn?) to support the activities in e-mobility and ensure that implementation is sustainable and effective solutions. This approach will ensure the project activities are not temporary and are closely integrated with national policies and priorities for regional expansion. Moreover, ECREEE has committed to support the capacity building activities and the scale up the project at the regional level as well as a dialogue has started between the Global Green Growth Institute (GGGI) and the West African Development Bank (BOAD) and they have committed to collaborate with the Green Climate Fund (GCF) to support the country in accessing climate finance.
Knowledge Risk (There is a risk of information gaps regarding expected future climate change impacts; business model; knowledge transfer in terms of capacity building for maintenance, etc.)	Low	Collaboration with consultants on climate will empower the National Polytechnic Institute F?lix Houphou?t-Boigny (INPHB), ECREEE, Ministry of Environment and Sustainable Development etc. to react to new scientific findings on climate change and impacts on e-mobility. The close collaboration with scientific partners will ensure that the National Polytechnic Institute F?lix Houphou?t-Boigny (INPHB) builds its mainstreaming on the best available scientific data.
Climate/Infrastructure Risk (Climate change negatively affects the infrastructure installations put in place by the project.) Please see special climate risk section below.	Low	Detailed environmental assessments will be conducted before infrastructure (e.g. charging stations) are built to mitigate this risk and ensure long-term success of project interventions. The risks associated with climate change are negligible for this project though potential risks due to extreme weather conditions will be addressed by ensuring that any infrastructure investment is climate-proofed.

Environmental and social risks (During construction of pilot infrastructure, unforeseen social and environmental risks may be discovered.)	Low	Please see ESMP for Environmental and social risks and mitigation measures. The project will update and implement the ESMP throughout the project.
Gender related risks (low representation and involvement of women)	Medium	This risk will be mitigated through specifically targeting women involved in the sector for participation in consultations on policy improvements. Disaggregated data on gender participation will be collected at all meetings and other events related to the project, and targeted invitations will be made for enhanced female participation as needed. The project will follow thorough gender responsive communication and ensure stakeholder involvement at all levels, with special regard to involving women and men, as well as civil society and non-governmental organizations promoting gender equality. This shall mitigate social and gender related risks, promote gender equality, create a culture of mutual acceptance, and maximize the potential contribution of the project to improving gender equality in e-mobility. As gender has been clearly mainstreamed throughout the project design, this will help mitigate any potential risks. Moreover, the UNEP team in Cote d?Ivoire has undertaken the drafting of a roadmap on women and transport. A meeting has been set on this thematic during the PPG phase. The recommendations of this work as well as the lessons learned from the project have been integrated to the rporpsoed gender action plam. They have among other supported the decision to consider two percentage for the participation of women during the project. At the inception phase, the Ministry of Woman, Family and Child as well as CSOs and private sector stakeholders will be consulted and a project working group on gender will be established with the support of the gender focal points pre-identified during the PPG phase.
COVID-19 Please see special section below.	Low	COVID-19 pandemic has had an impact on the economy. However, these impacts are expected to be short-term and will not affect the project?s long-term benefits. The assumptions are that the pandemic will fade with mass vaccination and a gradual normalization of economic and social activity.

Waste management risks (Pollution effects from the disposal of batteries from electric vehicles as well as from photovoltaic panels)	Low	The project will provide recommendations and guidelines on fine-tuning environmental policies and regulations that can mitigate the environmental impact from EV?s batteries. The project components address the problem of sustainability considering local ecosystems, so the realization of the project should effectively decrease the risk of environmental change. Even if the project is not an investment project per see, it will consider a value chain wherever possible with a specific focus on battery life cycle and waste management. The recommendations and guidelines on environmental management, re-use (e.g., second life as stationary batteries) and recycling of batteries will be incorporated in the feasibility studies of the pilot projects. Moreover, the training modules will include a range of environmental, social and technical topics such as future technology scenarios and environmental impact with a focus on battery lifecycle and technology waste management. Particular attention will be given to the collection, re-use and recycling of EVs. The project will also coordinate, exchange knowledge and learn from UNEP?s project ?Integrated, Sustainable and Low Emissions Transport in C?te d?Ivoire?. Component 1 of the global e-mobility project includes a Global Thematic Working Group on ?Electric vehicle charging, grid integration, renewable power supply and battery re-use, recycling and safe disposal?. This Working Group?s main objective will be to develop and make available knowledge materials that support governments in their ambitions for advancing a sustainable roll out of electric mobility, including policy instruments to ensure the sustainability of the battery supply chain and the end-of-life treatment of batteries.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
ESMP e-mobility in CIV_17	**CEO Endorsement ESS**	
ES_Screening_Template_SAP_ID_220103_IVC -E-Mobility	**Project PIF ESS**	

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Project Strategy	Objectively verifiable indicators (quantified)	Baseline	Target-deliverables at end of the project	Sources of verification
Project objective	To accelerate the adoption of an integrated renewable energy-based electric transport system, to reduce greenhouse gas emissions and support economic activities in peri-urban areas in C?te d'Ivoire	as provided below and in the project baseline	Direct emission reduction is expected to be 19,490 tCO2eq and indirect emission reduction is expected to be 273,760 tCO2eq (GEF Core Indicator #6). Beneficiaries (GEF Core Indicator #11): Total 64,100 20,530 female 43,570 male	Independent terminal evaluation GEF project tracking tool
Component 1. Strengthening the institutional framework and financial mechanisms to promote electric mobility in Cote d?Ivoire.				
Outcome 1.1	**1.1** Legislation and financial mechanisms are strengthened to promote electric mobility with renewable energy solutions	Institutional and governance framework challenges: lack of sustainable transport policies; lack of investment in sustainable transport infrastructure and modes of transport	An enabling environment for the introduction and uptake of e-mobility in C?te d'Ivoire is developed Coordination and capacities of the main government stakeholders and local experts are raised (including at least 30% women) The local testing infrastructure for EVs is strengthened through the support of the adoption of international standards for EVs in C?te d'Ivoire.	Gender responsive policy drafts Number of electric mobility gender mainstreamed set of recommendations of policies recommendations developed (a) and implemented (b) Gender disaggregated and mainstreamed minutes of the meetings

Output 1.1.1	**1.1.1**National regulatory mechanisms promoting integrated renewable energy powered electric mobility in an inclusive manner (supporting productive use activities and the special requirements of peri-urban and rural areas) are developed and proposed to the government for adoption **Activities** **1.1.1.1** Conduct strategic analysis of the legal challenges, opportunities, and barriers to shift to e-mobility in C?te d'Ivoire **1.1.1.2** Conduct public-private dialogue (PPD) events on the low-carbon e-mobility **1.1.1.3** Develop a draft regulatory report including a set of policy recommendations on e-mobility policy and its contribution to C?te d?Ivoire?s NDC with a focus on mobility for productive uses and the governmental fleet renewal **1.2**	Weak coordination between stakeholders at the national and local levels	A gender mainstreamed strategic analysis of the legal challenges, opportunities, and barriers to shift to e-mobility in C?te d'Ivoire is developed At least three Public-private-partnerships (PPD) are organised (30% women participation and 5% women led companies/organisations invited). The PPD is promoted through an engagement framework with the private sector (including A3E, COPADEN). The project has ensured that mechanisms are available to support inclusive multi-stakeholder initiatives and has coordinated and shared knowledge with other development organizations (such as UNEP) to harmonize efforts and realize development results. A draft regulatory report including a set of recommendations on e-mobility policy and its contribution to C?te d?Ivoire? NDC [1], and including recommendations on gender mainstreaming, (with a focus on mobility for productive uses and the governmental fleet renewal) is prepared and submitted to the government	Minutes of meetings Outcome reports and stakeholders list List of participants in meetings (gender disaggregated) Policy proposal recommendations and implementation guidelines Draft regulatory revision plan

Output 1.1.2	**1.1.2** A national funding mechanism to incentivize the shift to electric mobility is developed and submitted to the government for adoption at the national level Activities **1.1.2.1** Develop a gender-neutral proposal for the establishment of a financial mechanism for financially challenged parties to ease the transition to e-mobility **1.1.2.2** Conduct gender mainstreamed training session on e-mobility (50% women participation) **1.1.2.3** Conduct one training on gender smart climate finance (50% women participation) **1.1.2.4** Develop policy recommendations including implementation guidelines to manage the financial mechanism	Lack of integrated policies and regulatory framework on low-carbon e-mobility and renewable energy	Gender-sensitive proposal for the establishment of a financial mechanism to ease the transition to e-mobility is developed At least one gender mainstreamed training session on e-mobility is organized (30% women participation) At least one workshop on gender-smart climate finance model is organized (50% women participation) A suitable institution such as the Fonds de Development des Transports Routiers (FDTR ? Road Transport Development Fund) is identified to manage the financial mechanism and gender responsive guidelines are provided.	Minutes of policy workshops Minutes of meetings with the stakeholders

Output 1.1.3	**1.1.3.** A sectorial EV roadmap (technical regulations, standards for EVs and charging infrastructure) linked to value-adding economic activities is developed Activties **1.1.3.1** Conduct relevant technical studies to support the Draft Roadmap for Sustainable Transport in Cote D?Ivoire: a) Conduct a study on how e-mobility and renewable energy (e.g., electric three-wheelers with power-refrigerated cool boxes charged by mini-grids) can create transformational opportunities for the identified communities. b) Prepare a proposal on the development of technical guidelines and standards in support of the e-mobility policy for identified relevant sectors and social aspects such as gender dimensions in transport.	This output will support the Draft Roadmap for Sustainable Transport in Cote D?Ivoire. [2]2	At least three Technical studies are conducted to support the Draft gender mainstreamed Roadmap for Sustainable Transport in Cote D?Ivoire, to assist gender responsive policy and standard development A gender-mainstreamedstudy on how e-mobility and renewable energy can create transformational opportunities for the identified communities is conducted. The study has included in the analysis the needs of women, youth and children and has integrated the views of women associations, organizations that promote gender equality and women empowerment A gender mainstreamed proposal on the development of technical guidelines and standards in support of e-mobility policy for identified relevant sectors is prepared taking into account social aspects such as gender dimensions in transport	Study Minutes of the meetings Draft sectorial EV Roadmap
Component 2. Demonstration of e-mobility technologies and charging infrastructure				

Outcome 2.1	**2.1.** Viable e-mobility technology demonstrations are operationalized, engaging women and young entrepreneurs in the target areas to de-risk investments	Insufficient evidence-based data on e-mobility technology investment in C?te d'Ivoire. Some relevant demonstration pilot projects for e-mobility are being introduced	Shortlisted projects are made investment ready Pre-feasibilities and feasibility studies prepared Selected pilot technologies are installed and implemented	Gender mainstreamed feasibility studies: technical and financial Technology implementation gender mainstreamed report; gender mainstreamed dissemination materials

Output 2.1.1	**2.1.1:** Provide tailored technical assistance and investment guidelines on potential uses of integrated e-mobility technologies focusing on creating opportunities for green businesses (e.g., sustainable transportation along agro-food value chains) and decent jobs for youth and women Activities **2.1.1.1** Prepare pre-feasibility and technical design including environmental, energetic, social and gender dimensions with focus on renewable energy-EV integration based on the best international experience. **2.1.1.2** Provide technical/investment guidelines on the topics of community and private sector engagement and investment mobilization. **2.1.1.3** Provide technical assistance (e.g., support the full financial and technical feasibility studies) for at least three projects.	Documents not in place, currently under consultations within the Government	Six pre-feasibility studies for integrated e-mobility technology demonstration projects with a focus on renewable energy-EV integration and incl. gender dimensions are prepared Three full technical gender responsive investment guidelines are prepared, including at least three business models Technical assistance is provided for at least three projects. At least three awareness raising-consultations are organised. Stakeholders are engaged using participatory concepts and methodologies , ensuring that environmental and social considerations (e.g., women, youth and other vulnerable groups) are incorporated into technology project?s design with a no harm approach. At least one women association/organization is involved in each of the stakeholder consultations. A workshop with relevant financial sector representatives (e.g., IFIs, national banks) is conducted (30% women participation and 10% women-led companies)	Design and technical assessment documents of the pilot projects (feasibility studies, technical reports, procurement plan, technology delivery plans) Project presentations Minutes of the meetings and the list of attendants (gender disaggregated)

Output 2.1.2	**2.1.2:** Low-carbon e-mobility infrastructure technologies implemented and operationalized to demonstrate environmental and economic benefits as well as replicable business models Activities **2.1.2.1** Installation of e-mobility infrastructure technologies **2.1.2.2** Develop key-fact sheet on the technology projects and disseminate	Some baseline initiatives are introduced in C?te d'Ivoire	At least three selected pilot sites benefit from gender responsive investment support for demonstration purpose. They are guided by the financial mechanism set up by the project and linked with the identified financing institution. The technologies are operationalized At least three technology implementation reports incl. gender dimensions are prepared At least three gender-responsive dissemination materials (e.g., pilot project factsheets) are developed and shared through stakeholders` events (local actors, ministries and private sector network) A gender-responsive short promotional video of the technology projects is developed and disseminated	Technology implementation reports including: - Public charging infrastructure built (units, kW) - Investments into electric vehicles and charging infrastructure (USD) - Renewable power generation capacity added (kW) - Number of newly registered vehicles by mode (incl. two & three wheelers) if relevant Photos, videos Dissemination materials
Component 3. Capacity building and awareness raising				
Outcome 3.1	**3.1.** National capacities and awareness are enhanced to accelerate the adoption of e-mobility (with a focus on electric two and three wheelers in peri-urban and rural areas)		At least 1200 actors are trained and benefit from awareness raising activities (at lteast 30% women) Scale-up plan developed (e.g. through the partnership with ECREEE etc.)	Trainings conducted List of participants (gender aggregated) Case studies and examples of local government activities

Output 3.1.1	**3.1.1** Capacity building through technical trainings of local market actors in e-mobility to provide the new skills needed in the shift to e-mobility with a focus on youth and women Activity **3.1.1.1** Conduct capacity-building events through technical trainings of local market actors in e-mobility to provide the new skills needed in the shift to e-mobility with a focus on youth and women.	Insufficient capacities/lack of evidence-based data	One gender-responsive training needs assessment report, that also include training needs of youth. One gender aminstreamed training curricula on sustainable mobility AT least three workshops organized for local market actors on e-mobility. The workshops are expected to increase the capacities of about 150 participants in the shift to e-mobility (at least 50% women and 30% youth participation)	List of participants (gender disaggregated) Minutes of the meetings report Training materials Case studies and examples of local government activities

Output 3.1.2	**3.1.2** Workshops and awareness raising activities for policy-makers and change makers on integrated e-mobility and renewable energy and quality infrastructure are conducted Activities **3.1.2.1** Conduct workshops for policymakers on integrated e-mobility and renewable energy and environmentally sound management of end-of-life batteries **3.1.2.2** Conduct trainings to support the National Polytechnic Institute Houphouet Boigny (INPHB) to study the mobility needs in C?te d'Ivoire, test EVs, specific technical requirements of e-mobility and the possibility of developing business models	Insufficient capacities/lack of evidence-based data	At least four gender mainstreamed workshops/ awareness raising are conducted for about 200 policymakers (at least 30% women) on integrated e-mobility,renewable energy and environmentally sound management of end-of-life batteries. At least one trainings is conducted by ECREEE to support INPHB to study the mobility needs in C?te d'Ivoire and test EVs. The Training curricula includes gender dimensions and the report is gender disaggregated.	Assessments Studies List of participants (gender disaggregated) Minutes of Meeting Report Training material List of attendants (gender disaggregated) Meeting minutes

Output 3.1.3	**3.1.3** Assessment of opportunities for localizing value chains of Electric vehicles and renewable powered charging stations. Activities **3.1.3.1** Develop an assessment study to investigate the opportunities for localizing value chains of electric vehicles (including two and three wheelers) and RE powered charging stations (including battery manufacturing) **3.1.3.2** Scaling-up strategy document at the country and regional level	No standards adopted for EVs There are only a few companies manufacturing electric two and three wheelers for the African market, and none of the big global manufacturers has yet integrated vehicles that are tailor made to the needs of the African market. No manufacturing or assembling of electric vehicles is carried out in Cote d??voire.	Two studies reports investigating the opportunities for localizing value chains of electric vehicles (including two and three wheelers) and RE powered charging stations (including battery manufacturing) in collaboration with INBHP and ECREEE. These studies have investigated local value-added options and the use of new mobility concepts with the active participation of local partners (farming communities, agricultural colleges, cooperative societies, agricultural service centres, etc.). The studies are gender-responsive and consider lessons learned from the two successful initiatives of suppliers of electric two and three wheelers locally manufactured in Rwanda (made by start-up Ampersand) and in Kenya (Case of Opibus and Kibo)[3]3 Once scaling-up strategy document at the country and regional level prepared through collaboration with ECREEE, INBHP and other relevant actors.	Assessment prepared Study prepared Scaling up strategy developed List of participants (gender aggregated) Minutes of Meeting Report Training material List of attendants (gender disaggregated) Meeting minutes
Component 4. Monitoring and evaluation				

Outcome 4.1	**4.1** Adequate monitoring of all project indicators in line with GEF and UNIDO requirements	**N/A**	The project activities continuously monitored against the project targets and timeline Gender action plan and ESMP implementation training delivered to project management The data below is collected during the project for all activities: - # and proportion (30%) of women who participate in capacity-building workshops and activities - # and proportion (30%) of women employed by project office at a professional level and jobs created (gender-disaggregated) All the progress reports include the progress on the implementation of the Gender Analysis and Action Plan	Progress reports MTR TE
Output 4.1.1	**4.1.1** Project monitoring and GHG monitoring scheme Activities **4.1.1.1** Conduct regular monitoring of the project and reporting to the GEF **4.1.1.2** Develop Monitoring, Review and Verification (MRV) system	**N/A**	Regular monitoring of the project and reporting to the GEF MRV is developed	Project Implementation Report (PIR) Draft MRV

Output 4.1.2	**4.1.2** The project is evaluated in the mid-term and final stages independently Activities **4.1.2.1** Conduct gender responsive mid-term review evaluation **4.1.2.2** Conduct gender responsive independent terminal project evaluation at the end of the project	**N/A**	Gender responsive mid-term review evaluation report conducted Gender responsive terminal evaluation report is conducted by third-party independent experts	Mid-term review document (MTR) Terminal evaluation report (TE)

[1] The objective of C?te d?Ivoire?s Nationally Determined Contribution is to increase renewable energy in the energy mix by 42%, intensify and mechanize agricultural production, reduce greenhouse gas (GHG) emissions, and sustainable management and recovery of waste.

[2] https://www.climate-chance.org/en/urban-transport-the-ivorian-state-adopts-a-roadmap-for-sustainable-mobility/

[3] https://www.weforum.org/agenda/2022/05/electric-motorbikes-rwanda-ampersand/

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:

Activities	Verification at CEO endorsement submission	Budgeted Amount	Amount Spent to Date	Amount Committed
Stakeholder engagement activities during PPG (consultations, workshops, inception workshop, validation workshop)	Done. Consultation with all the relevant stakeholders conducted. Inception workshop and validation workshop organized and the outcomes are integrated into project design.	2,000	2,000	0

Validating the collection baseline data on relevant sectors/technologies and ongoing/planned initiatives, policies	Completed and integrated into project document	2,000	2,000	0
Development of the Environmental and Social Management Plan (ESMP) outlining the relevant risks as well as the mitigation measures for the project	Completed. ESMP is developed and shared along with the submission package.	3,000	3,000	0
Development of Gender Analysis Action Plan	Completed. Gender Analysis Action Plan is developed and shared along with the submission package.	5,000	5,000	0
Description of the project implementation/execution modalities and agencies (including drafting ToRs for contractual arrangements on the role of executing agency).	Done. ToRs for national execution is developed and the internal comments are integrated.	2,000	2,000	0
Development of detailed ToRs and approach for private sector participation in the purchase of e-mobility infrastructure (in consultation with financing partners)	Done. The project will provide TA assistance to e-mobility projects based on the results of the pre-feasibility studies that will be developed by the project execution entity and stakeholder consultations.	2,000	2,000	0
Initial pre-feasibility study to compare location, optimization and appropriate business models for the development of e-mobility infrastructure.	Done in close consultations with relevant stakeholders such as COPADEN, Group A3E etc.	5,000	0	5,000
Consolidation of all inputs into the CEO Approval Document as per GEF template	Done.	2,000	2,000	0
Obtaining co-financing letters from donors, NGOs, agencies and government through consultations	Completed. All the co-financing letters are collected.	1,500	1,500	0

Integrate pending comments from PIF stage	Done. Government feedback is integrated into project design.	2,000	2,000	0
Stakeholder consultations to verify the CEO approval document and finalization of project document and its annexes.	Done. The project team conducted inception and validation workshops along with bilateral meetings with national stakeholders.	5,000	5,000	0
Formal validation of the CEO approval document, UNIDO internal review and submission to GEF Sec; preparation for project start.	Completed	5,000	3800	1200
	Total	50,000	43,800	6,200

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.

Country	Coordinates
C?te d?Ivoire	Latitude: 5.392125 Longitude: -4.080845

It should be highlighted that the final selection of the pilot sites will occur during project implementation phase and the project document will be updated accordingly once the project pilot demonstration sites are finally selected for technical and investment support.

Geographical Location for E-Mobility Technology Demonstration Projects in:

Abidjan: 5.3600? N, 4.0083? W
Banco National Park: 5?23?N 4?3?W
Jacqueville: 5.2060? N, 4.4234? W

Yamoussoukro: 6.8276? N, 5.2893? W
Kossou Dam: 4.7579? N, 6.6424? W

Bouak?: 7.6905? N, 5.0391? W

San P?dro: 4.7579? N, 6.6424? W
M?agui: 5?24?N 6?34?W
Soubr?: 5.7866? N, 6.5890? W

Korhogo: 9.4669? N, 5.6143? W

Odienn?: 9.5189? N, 7.5572? W

GEO LOCATION INFORMATION

The Location Name, Latitude and Longitude are required fields insofar as an Agency chooses to enter a project location under the set format. The Geo Name ID is required in instances where the location is not exact, such as in the case of a city, as opposed to the exact site of a physical infrastructure. These IDs are available on the GeoNames? geographical database containing millions of placenames and allowing to freely record new ones. The Location & Activity Description fields are optional. Project longitude and latitude must follow the Decimal Degrees WGS84 format and Agencies are encouraged to use at least four decimal points for greater accuracy. Users may add as many locations as appropriate. Web mapping applications such as OpenStreetMap or GeoNames use this format. Consider using a conversion tool as needed, such as:https://coordinates-converter.com Please see the Geocoding User Guide by clicking here.

Location Name	Latitude	Longitude	Geo Name ID	Location & Activity Description
Cote d Ivoire - Abidjan	5.31	-4.01		

ANNEX E: Project Budget Table

Please attach a project budget table.

Appendix A: Indicative Project Budget Template

Expenditure Category	Detailed Description	Component (USD)				Sub-Total	M&E	PMC	Total (USD)	Responsible Entity (Executing Entity receiving funds from the GEF Agency)[1]
		Compo-nent 1	Component 2		Compo-nent 3					
		Outco-me 1.1	Outco-me 2.1	Outco-me 2.2	Outco-me 3.1					
Sub-contract to executing partner	Subcontract to MoT - Contractual services - Company	137,698				137,698			137,698	MoT
Sub-contract to executing partner	Subcontract to MoT - Equipment			612,251		612,251			612,251	MoT
Sub-contract to executing partner	Subcontract to MoT - National Consultants /	30,000	61,800		55,500	147,300			147,300	MoT
Sub-contract to executing partner	Subcontract to MoT - Dissemination material			10,586		10,586			10,586	MoT
Sub-contract to executing partner	Subcontract to MoT - Training, workshops, meetings				60,000	60,000			60,000	MoT
Sub-contract to executing partner	Subcontract to ECREEE				250,000	250,000			250,000	ECREEE
International Consultants	International consultants for limited TA	35,000	33,000		33,000	101,000			101,000	UNIDO
International Consultants	International evaluator					0	25,000		25,000	UNIDO
Contractual Services – Company	Subcontract for technical assistance		75,000			75,000			75,000	UNIDO
Local Consultants	Subcontract to MoT - Project Coordinator					0		64,700	64,700	MoT
Local Consultants	Subcontract to MoT - Gender Focal Point					0		20,000	20,000	MoT
Local Consultants	National Technical Expert					0		55,000	55,000	UNIDO
Local Consultants	National Evaluator					0	20,000		20,000	UNIDO
Travel	Travel to project sites / meetings	5,000	5,000		4,000	14,000	5,000	5,000	24,000	UNIDO
Office Supplies	Subcontract to	5,000				5,000			5,000	MoT
Grand Total		212,698	174,800	622,837	402,500	1,412,835	50,000	144,700	1,607,535	

[1] In exceptional cases where GEF Agency receives funds for execution, Terms of Reference for specific activities are reviewed by GEF Secre

Budget per entity

Per Entity	Budget
Ministry of Trans	1,057,535

UNIDO breakdown

Yearly Breakdown

YEAR 1			Component (USD)														
Expenditure Category	Activity	Detailed Description	Component 1			Component 2		Component 3			Component 4		Sub-Total	M&E	PMC	Total (USD)	Responsible Entity
			Outcome 1.1			Outcome 2.1		Outcome 3.1			Outcome 4.1						
			Output 1.1.1	Output 1.1.2	Output 1.1.3	Output 2.1.1	Output 2.1.2	Output 3.1.1	Output 3.1.2	Output 3.1.3	Output 4.1.1	Output 4.1.2					
Contractual services	1.1.1.1	Conduct strategic analysis of the legal challenges, opportunities, and barriers to shift to e-mobility in	28,198										28,198			28,198	MoT
	1.1.1.2	Conduct public-private dialogue (PPD) events on the low-carbon e-mobility	10,000										10,000			10,000	MoT
	1.1.1.3	Develop a draft regulatory report including a set of policy recommendations on e-mobility policy and its contribution to Côte d'Ivoire's NDC with a focus on	40,000										40,000			40,000	MoT
	1.1.2.1	Develop a gender-neutral proposal for the establishment of a financial mechanism for financially challenged parties to ease the transition to		20,000									20,000			20,000	MoT
	1.1.2.2	Conduct gender mainstreamed training session on e-mobility (50% women participation)		10,000									10,000			10,000	MoT
	1.1.3.1	Conduct relevant technical studies to support the Draft Roadmap for Sustainable Transport in Cote D'Ivoire:			20,000								20,000			20,000	UNIDO
	2.1.1.1	Prepare pre-feasibility and technical design including environmental, energy, social and gender dimensions				20,000							20,000			20,000	UNIDO
	2.1.1.2	Provide technical/investment guidelines on the topics of community and private sector engagement and				40,000							40,000			40,000	MoT
	3.1.2.1	Workshop for policymakers on integrated e-mobility and renewable energy and environmentally sound							10,000				10,000			10,000	MoT
	PMC	Project Coordinator											0		16,200	16,200	MoT
	PMC	Gender Focal Point											0		5,000	5,000	MoT
	PMC	Technical expert											0		15,000	15,000	UNIDO
sub-total			78,198	30,000	20,000	60,000	0	0	10,000	0	0	0	198,198	0	36,200	234,398	
grand total			78,198	30,000	20,000	60,000	0	0	10,000	0	0	0	198,198	0	36,200	234,398	

YEAR 2			Component (USD)														
Expenditure Category	Activity	Detailed Description	Component 1			Component 2		Component 3			Component 4		Sub-Total	M&E	PMC	Total (USD)	Responsible Entity
			Outcome 1.1			Outcome 2.1		Outcome 3.1			Outcome 4.1						
			Output 1.1.1	Output 1.1.2	Output 1.1.3	Output 2.1.1	Output 2.1.2	Output 3.1.1	Output 3.1.2	Output 3.1.3	Output 4.1.1	Output 4.1.2					
Contractual services	1.1.1.2	Conduct public-private dialogue (PPD) events on the low-carbon e-mobility investments	5,000										5,000			5,000	MoT
	1.1.2.3	Conduct one training on gender smart climate finance (50% women participation)		16,000									16,000			16,000	MoT
	1.1.2.4	Develop policy recommendations including implementation guidelines to manage the financial		15,500									15,500			15,500	MoT
	1.1.1.3	Develop a draft regulatory report including a set of policy recommendations on e-mobility policy and its	20,000										20,000			20,000	MoT
	1.1.3.1	Conduct relevant technical studies to support the Draft Roadmap for Sustainable Transport in Cote D'Ivoire:			20,500								20,500			20,500	UNIDO
	2.1.1.1	Prepare pre-feasibility and technical design including environmental, energy, social and gender dimensions				15,300							15,300			15,300	UNIDO
	2.1.1.2	Provide technical/investment guidelines on the topics of community and private sector engagement and				35,300							35,300			35,300	MoT
	2.1.1.3	Provide technical assistance (e.g., support the full financial and technical feasibility studies) for at least				44,700							44,700			44,700	UNIDO
	3.1.1.1	Conduct capacity building events through technical trainings of local market actors in e-mobility to						25,000					25,000			25,000	MoT
	3.1.2.1	Conduct workshops for policymakers on integrated e-mobility and renewable energy and environmentally							10,000				10,000			10,000	MoT
	3.1.2.2	Conduct trainings to support the National Polytechnic Institute Houphouet Boigny (INPHB) to study the							80,000				80,000			80,000	ECREEE
	4.1.2.1	Independent mid-term review conducted											0	20,000		20,000	UNIDO
	PMC	Project Coordinator											0		16,200	16,200	MoT
	PMC	Gender Focal Point											0		5,000	5,000	MoT
	PMC	Technical expert											0		15,000	15,000	UNIDO
sub-total			25,000	31,500	20,500	95,300	0	25,000	90,000	0	0	0	287,300	20,000	36,200	343,500	
grand total			25,000	31,500	20,500	95,300	0	25,000	90,000	0	0	0	287,300	20,000	36,200	343,500	

YEAR 3			Component (USD)														
Expenditure Category	Activity	Detailed Description	Component 1			Component 2		Component 3			Component 4		Sub-Total	M&E	PMC	Total (USD)	Responsible Entity
			Outcome 1.1			Outcome 2.1		Outcome 3.1			Outcome 4.1						
			Output 1.1.1	Output 1.1.2	Output 1.1.3	Output 2.1.1	Output 2.1.2	Output 3.1.1	Output 3.1.2	Output 3.1.3	Output 4.1.1	Output 4.1.2					
Contractual services	1.1.1.2	Conduct public-private dialogue (PPD) events on the low-carbon e-mobility investments	5,000.00										5,000.00			5,000.00	MoT
	2.1.1.3	Provide technical assistance (e.g., support the full financial and technical feasibility studies) for at least				19,500.00							19,500.00			19,500.00	UNIDO
	2.1.2.1	Installation of e-mobility infrastructure technologies					452,251.00						452,251.00			452,251.00	MoT
	3.1.1.1	Conduct capacity building events through technical trainings of local market actors in e-mobility to						30,000.00					30,000.00			30,000.00	MoT
	3.1.2.1	Conduct workshops for policymakers on integrated e-mobility and renewable energy and environmentally							10,000.00				10,000.00			10,000.00	MoT
	3.1.2.2	Conduct trainings to support the National Polytechnic Institute Houphouet Boigny (INPHB) to study the							70,000.00				70,000.00			70,000.00	ECREEE
	3.1.3.1	Develop an assessment study to investigate the opportunities for localizing value chains of electric								50,000.00			50,000.00			50,000.00	UNIDO
	PMC	Project Coordinator											0.00		16,200.00	16,200.00	MoT
	PMC	Gender Focal Point											0.00		5,000.00	5,000.00	MoT
	PMC	Technical Expert											0.00		15,000.00	15,000.00	UNIDO
sub-total			5,000.00	0.00	0.00	19,500.00	452,251.00	30,000.00	80,000.00	50,000.00	0.00	0.00	636,751.00	0.00	36,200.00	672,951.00	
grand total			5,000	0	0	19,500	452,251	30,000	80,000	50,000	0	0	636,751	0	36,200	672,951	

YEAR 4			Component (USD)														
Expenditure Category	Activity	Detailed Description	Component 1			Component 2		Component 3			Component 4		Sub-Total	M&E	PMC	Total (USD)	Responsible Entity
			Outcome 1.1			Outcome 2.1		Outcome 3.1			Outcome 4.1						
			Output 1.1.1	Output 1.1.2	Output 1.1.3	Output 2.1.1	Output 2.1.2	Output 3.1.1	Output 3.1.2	Output 3.1.3	Output 4.1.1	Output 4.1.2					
Contractual services	1.1.1.2	Conduct public-private dialogue (PPD) events on the low-carbon e-mobility investments	2,500										2,500			2,500	MoT
	2.1.2.1	Installation of e-mobility infrastructure technologies					160,000						160,000			160,000	MoT
	3.1.1.1	Conduct capacity building events through technical trainings of local market actors in e-mobility to						17,500					17,500			17,500	MoT
	2.1.2.2	Develop key-fact sheet on the technoology projects and					10,586						10,586			10,586	MoT
	3.1.3.2	Scaling-up strategy document at the country and regional level								100,000			100,000			100,000	ECREEE
	4.1.2.2	Independent terminal evaluation on the project conducted at the end of the project											0	30,000		30,000	UNIDO
	PMC	Project Coordinator											0		16,100	16,100	MoT
	PMC	Gender Focal Point											0		5,000	5,000	MoT
	PMC	Technical Expert											0		15,000	15,000	UNIDO
sub-total			2,500	0	0	0	170,586	17,500	0	100,000	0	0	290,586	30,000	36,100	356,686	
grand total			2,500	0	0	0	170,586	17,500	0	100,000	0	0	290,586	30,000	36,100	356,686	

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat

or the Trustee) in the Document Section of the CEO endorsement. The Agencys is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).