Part I: Project Information

Name of Parent Program

Global Programme to Support Countries with the Shift to Electric Mobility.

GEF ID

10278

Project Type

MSP

Type of Trust Fund

GET

CBIT/NGI

CBIT **No**

NGI **No**

Project Title

Support the Shift to Electric Mobility in Burundi

Countries

Burundi

Agency(ies)

UNEP

Other Executing Partner(s)

Ministry of Trade, Transport, Industry and Tourism

Executing Partner Type

Government

GEF Focal Area

Climate Change

Sector

Transport/Urban

Taxonomy

Focal Areas, Climate Change, Climate Change Mitigation, Renewable Energy, Energy Efficiency, Technology Transfer, Sustainable Urban Systems and Transport, Influencing models, Strengthen institutional capacity and decision-making, Deploy innovative financial instruments, Demonstrate innovative approache, Transform policy and regulatory environments, Convene multi-stakeholder alliances, Stakeholders, Civil Society, Community Based Organization, Non-Governmental Organization, Academia, Communications, Behavior change, Education, Awareness Raising, Public Campaigns, Private Sector, Capital providers, Financial intermediaries and market facilitators, Large corporations, SMEs, Individuals/Entrepreneurs, Type of Engagement, Partnership, Information Dissemination, Consultation, Gender Equality, Gender results areas, Access to benefits and services, Participation and leadership, Gender Mainstreaming, Sex-disaggregated indicators, Beneficiaries, Capacity, Knowledge and Research, Knowledge Generation, Innovation, Knowledge Exchange, Capacity Development

Rio Markers

Climate Change Mitigation

Principal Objective 2

Climate Change Adaptation

No Contribution 0

Biodiversity

No Contribution 0

Land Degradation

No Contribution 0

Submission Date

4/17/2023

Expected Implementation Start

1/1/2024

Expected Completion Date

12/31/2027

Duration

48In Months

Agency Fee($)

69,812.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
CCM-1-2	Promote innovation and technology transfer for sustainable energy breakthroughs for electric drive technology and electric mobility	GET	775,688.00	4,430,700.00
		Total Project Cost($)	**775,688.00**	**4,430,700.00**

B. Project description summary

Project Objective

To reduce GHG emissions from urban road transport and facilitate the transition to sustainable urban passenger mobility in Burundi with a focus on electrification.

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing ($)
Component 1. Institutionalization of low-carbon electric mobility	Technical Assistance	1. The government establishes an institutional framework and adopts a gender-sensitive strategy for the promotion of low-carbon electric mobility	1.1: A national intersectoral e-mobility coordination platform is established 1.2: A national gender-sensitive electric mobility strategy is developed and formally proposed. 1.3: Key stakeholders are trained in the EV Global Programme activities and through private sector engagement (national and regional workshops, trainings and thematic working groups) and awareness is raised among key stakeholders on electric mobility	GET	154,720.00	99,700.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing ($)
Component 2. Short term barrier removal through low-carbon e-mobility demonstrations	Investment	2. The electric 3-wheelers? demonstration provides evidence of technical, financial and environmental sustainability, enabling public and private stakeholders to plan for scale-up of low-carbon electric mobility	2.1: A comprehensive feasibility study and a demonstration plan are completed for a pilot of at least 25 electric 3 wheelers as feeder services to regular PT in Bujumbura, including charging infrastructure and a monitoring, reporting and verification (MRV) system 2.2: The demonstration of at least 25 electric 3W in Bujumbura is implemented, including professional training delivered 2.3. The results of the pilot are validated with key stakeholders and are widely disseminated	GET	357,300.00	121,500.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing ($)
Component 3. Preparing for scale-up and replication of low-carbon electric mobility	Technical Assistance	3. The government adopts regulations, technical standards and fiscal and other policies and endorses financing schemes to accelerate the introduction of electric vehicles in Burundi	3.1: Fiscal policies, regulatory schemes and technical standards are developed and formally proposed to incentivize the uptake of electric mobility 3.2. Business models, financial schemes and procurement guidelines for electric vehicle fleets and charging stations are delivered	GET	71,800.00	3,760,500.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing ($)
Component 4. Long-term environmental sustainability of low-carbon electric mobility	Technical Assistance	4. The government adopts end-of-life management regulations for e-vehicles & batteries and endorses recommendations on renewable energy integration to support long-term environmental sustainability of electric mobility in Burundi	4.1: Analysis of current management of vehicles at their end-of-life completed, with recommendations based on international best-practice 4.2: Updated legislation on end-of-life vehicle (ELV) management, including electric vehicles and their batteries, delivered to the government for adoption and business models validated with interested stakeholders 4.3: Recommendations on renewable power for electric vehicle charging are prepared and submitted to the government for integration within its renewable energy policy	GET	73,680.00	50,500.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-Financing ($)
Monitoring and Evaluation	Technical Assistance	5. Project is effectively monitored and evaluated	5.1 Monitoring and evaluation products are delivered (see section 9 and Annex J)	GET	47,671.00	
			Sub Total ($)		**705,171.00**	**4,032,200.00**

Project Management Cost (PMC)

GET	70,517.00	398,500.00
Sub Total($)	**70,517.00**	**398,500.00**
Total Project Cost($)	**775,688.00**	**4,430,700.00**

Please provide justification

N/A

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($)
Recipient Country Government	Ministry of Trade, Transport, Industry and Tourism	In-kind	Recurrent expenditures	180,700.00
Recipient Country Government	Ministry of Environment, Agriculture and Livestock	In-kind	Recurrent expenditures	55,000.00
Recipient Country Government	Municipality of Bujumbura	In-kind	Recurrent expenditures	65,000.00
Recipient Country Government	Ministry of Hydraulics, Energy and Mines	Public Investment	Investment mobilized	4,000,000.00
GEF Agency	UNEP	Grant	Investment mobilized	130,000.00
			Total Co-Financing($)	**4,430,700.00**

Describe how any "Investment Mobilized" was identified

Investment mobilized: The Ministry of Hydraulics, Energy and Mines will support the project by providing the electrical power necessary for the operation of mobility charging infrastructure to ensure e-mobility market scale up. The amount corresponding to this power is valued at approximately 4 million US dollars? worth of public investments for the 4 years of the project duration. Indeed, the Ministry of Hydraulics, Energy and Mines is engaged in public investments for the construction and commissioning of four national and regional hydro-power projects (RUSUMO Falls of 80MW with 26MW for Burundi, KABU 16 (20MW), JIJI-MULEMBWE (49MW), RUZIZI III of 206 MW with 68 MW for Burundi), corresponding to a total investment of USD 1,417 million, out of which USD 685 million for Burundi only. These hydroelectric projects will increase the production of renewable energy in Burundi and will be sufficient to supply the RE power needs induced by GEF electric mobility, with an estimated consumption of 5.08 GWh by the GEF project towards its completion in year 2027 (i.e. 0.59% of the minimum production capacity of the four new public investment hydroelectric projects mentioned above), as well as its scaling up for the deployment of electric mobility in the country beyond the life of the project. The amount of co-financing for the GEF project can be estimated at a minimum of 0.59% of the investment associated with these four projects, i.e. approximately 4 million US dollars. In addition, investment is mobilized by UNEP through the implementation of the grants provided by (1) the Federal Government of the Republic of Germany as part of the project ?Integrating electric 2&3 wheelers into existing urban

transport modes in developing and transitional countries? (US$ 80,000, implemented by UNEP and executed by Ministry of Trade, Transport, Industry and Tourism); and (2) Climate Work?s Opportunity Fund through the Drive Electric Campaign contributing to e-mobility sensitization and policy development in Burundi (US$ 50,000, supported by UNEP and executed by the Burundian NGO Association pour la Protection de l?Environnement (ENVIRO-PROTEC). These will materialize over the first 12 months of the project?s implementation.

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($)
UNEP	GET	Burundi	Climate Change	CC STAR Allocation	775,688	69,812	845,500.00
			Total Grant Resources($)		**775,688.00**	**69,812.00**	**845,500.00**

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 ($)

4,500

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNEP	GET	Burundi	Climate Change	CC STAR Allocation	50,000	4,500	**54,500.00**
			Total Project Costs($)		**50,000.00**	**4,500.00**	**54,500.00**

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)	0	116804	0	0
Expected metric tons of CO?e (indirect)	0	272068	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)				
Expected metric tons of CO?e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

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)		116,804		
Expected metric tons of CO?e (indirect)		272,068		
Anticipated start year of accounting		2037		
Duration of accounting		15		

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)		1,363,932,127		

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)

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		4,844		
Male		3,358		
Total	0	8202	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

The direct beneficiaries of the project include four main categories: participants in training activities, participants at global programme activities, staff involved in the operation of electric vehicles during the demonstration (drivers and maintenance) and the users of the services provided by electric vehicles during the demonstration. For the latter, it is assumed that the share of female users of public transport services in Bujumbura is 60% which, lacking detailed data, is consistent with the information provided by the study conducted in 2018 by the MoTTIT on urban mobility in Bujumbura . For the other categories of beneficiaries, the project has set a target to involve at least between 15% and 50% of female participants, depending on the scope of the activity (Annex M).

Part II. Project Justification

1a. Project Description

1a. Changes in project design

Describe any changes in alignment with the project design with the original child project concept note (i.e. changes in component, outcome or output wording, changes in GEF funds allocation per component/outcome, changes in co-finance commitments and allocation per component/outcome, etc.).

Concept note	**CEO endorsement document**	**Rationale**
Component 1: Develop legal, regulatory and institutional framework to support electric mobility uptake in Burundi	Component 1. Institutionalization of low emission electric mobility	There is no fundamental change in this component as overarching objective in the Concept and CEO endorsement document is the institutionalization of low emission electric mobility in Burundi through set-up of coordinating body, development and adoption of national electric mobility strategy and building capacities in institutions.
Component 2: Demonstration of electric motorcycles and cars and establishment of measurement, reporting & verification (MRV) framework	Component 2. Short term barrier removal through low emission electric mobility demonstrations	The main changes in the description of the demonstration are as follows: ? There is no demonstration of electric motorcycles and cars. The demonstration is now focusing on 3Ws providing feeder services to public transport. ? Further decarbonization of public transport is targeted in the CEO endorsement document demonstration study via utilization of electric 3Ws serving as critical first and last mile connectivity. ? Linking of electric 3W services and regular bus services is facilitated by the design of improvements at some bus stops within the demonstration corridor.

Concept note	CEO endorsement document	Rationale
Component 3: Preparation of scale-up and replication of electric mobility	Component 3. Preparing for scale-up and replication of low emission electric mobility	There is no fundamental change in this component as overarching objective in the Concept and CEO endorsement document is seeing to the scale-up and replication of electric mobility in Burundi.
Component 4: Promotion of long-term sustainability of electric mobility	Component 4. Long-term environmental sustainability of low emission electric mobility	There is no fundamental change in this component as overarching objective in the Concept and CEO endorsement document is ensuring environmental sustainability of low emission electric mobility in Burundi.
GHG emission reductions Total estimated greenhouse gas emission reductions: 240,978 tCO_2 Direct: 157,232 tCO_{2e} Indirect: 83,746 tCO_{2e}	GHG emission reductions Total estimated greenhouse gas emission reductions: 388,872 tCO_2e. Direct: 116,804 tCO_2;. Indirect: 272,068 tCO_2e.	A more detailed estimate of GHG emission reductions has been undertaken, including the vehicle categories of 2&3Ws, buses and light duty vehicles (LDV). The concept note included the demonstration of electric LDVs (taxis) and motorcycles, whereas the project focuses on electric 3W taxis instead. This explains the reduction in direct GHG emission savings. The project approach puts more effort in the improvement of public transport operations and replication with a focus on public transport minibuses and buses. Such electrification of transport however results in higher indirect GHG emission savings.

CHANGES TO CO-FINANCING COMMITMENTS

Co-financing Total: USD 3,125,100	Co-financing Total: USD 4,430,700	Co-financing has increased mainly due to a higher amount of investment mobilized through the Ministry of Hydraulics, Energy and Mines and the contribution of UNEP.

1b. Project Description

1) Global environmental and/or adaptation problems, root causes and barriers that need to be addressed

Global environmental problem:

A global transition to low- and zero- emission mobility is essential to meet international climate commitments, including the 2015 Paris Climate Agreement. Currently, the transport sector is globally responsible for approximately one quarter of energy-related carbon dioxide emissions and is expected to grow to one-third by 2050. In addition, the transport sector is a leading contributor to short-lived climate pollution, especially black carbon.

The global vehicle fleet is set to double by 2050, and almost all this growth will take place in low- and middle-income countries. By 2050 two out of three cars will be found in developing countries. This means that achieving global climate targets will require a shift to zero emissions mobility in all countries, including low- and middle-income ones.

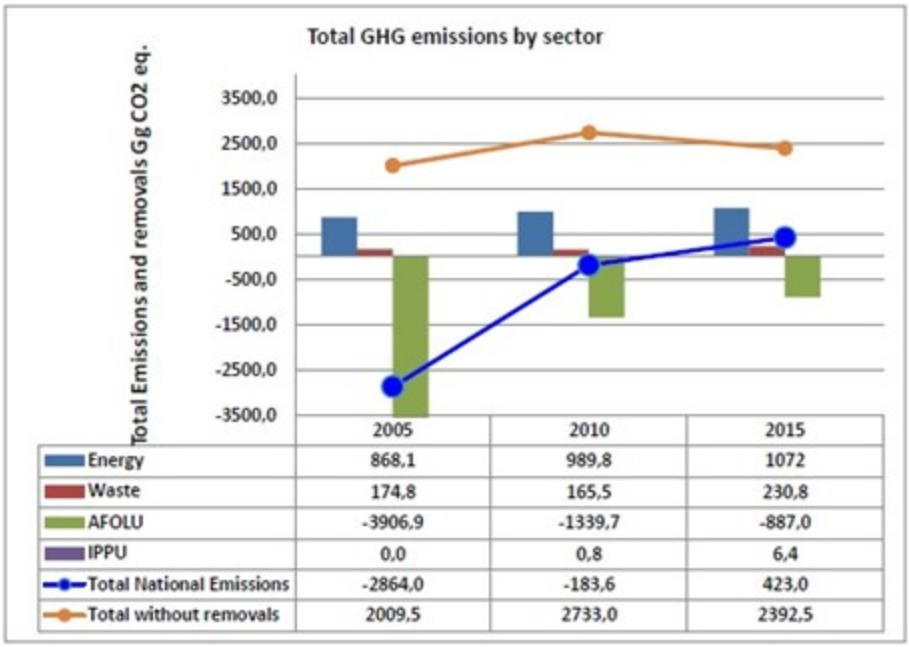
Facing multiple challenges, local and national governments in low- and middle-income countries struggle to address the mobility needs of their population, particularly in large cities. The insufficiency of the governments? response encourages the proliferation of under-regulated or even informal urban transport services[1][1], with poor environmental performance, safety records and working conditions. The role of two-wheeler (2Ws) and three-wheeler (3Ws) vehicles is particularly controversial in this regard, as their characteristics and use are hardly consistent with sustainable mobility principles. However, the transition to mobility systems based on regular public transport and soft modes requires to strengthen the institutional framework, infrastructure investments and financial support to operators. In the absence of these resources, 2Ws and 3Ws become a reasonable bridging solution to provide affordable mobility in congested urban areas, and the use of low- and zero-emission vehicles can at least reduce its environmental footprint; furthermore, action in this area can strengthen public and private operators, enabling them to join the effort to establish a sustainable transport system.

Energy-dependence, especially on fossil fuels, is a crucial barrier for development and sustainability. And even more so in landlocked countries such as Burundi, in which volatile international oil prices are coupled with high transportation costs. As the transport sector typically claims the lion?s share of fossil fuel consumption, its electrification provides a promising strategy to reduce dependency, especially in countries with favourable natural conditions (availability of hydro, sun or wind) for low-carbon electricity generation.

Root causes and barriers:

Burundi is a landlocked country at the heart of Africa?s Great Lakes Region. With a population estimated in 2020 at 11.89 million and a GNI per capita of USD 270, Burundi is one of the poorest countries in the world. In 2020, the World Bank estimated the country?s Gross Domestic Product at US$ 3.258 billion. Although the share of urban population is low (13.7%), years of conflict have encouraged rapid migration of the population from rural areas to cities, so that urbanization is growing at one of the fastest rates in the world (around 5.6% in 2020)[2][2].

Burundi produced its last GHG inventory in 2019, for the completion of its Third National Communication, providing data until 2015 (Figure 1). In accordance with the national inventory, Burundi was an emission sink in the past (2000 and 2010), due to its relatively low emissions and the strong removal capacity of its forestry and land use subsectors[3][3]. However, this removal capacity has significantly decreased, and total net emissions with removals were only slightly positive (423 kt CO_{2e}) in 2015, in spite of a 12.5% decrease in the emissions without removal in 2015 compared to 2010 (2,393 kt CO2e and 2,733 respectively). This decrease was due to the social and political unrest and negative GDP growth (-3.9%) in 2015.



	2005	2010	2015
Energy	868,1	989,8	1072
Waste	174,8	165,5	230,8
AFOLU	-3906,9	-1339,7	-887,0
IPPU	0,0	0,8	6,4
Total National Emissions	-2864,0	-183,6	423,0
Total without removals	2009,5	2733,0	2392,5

Figure 1: GHG emissions in Burundi (Source: TCNCC, 2019)

Alternative estimates of Burundi?s GHG emissions can be found in the JRC?s Emissions Database for Global Atmospheric Research (EDGAR) and in the World Bank?s database. Both estimates are higher than the values provided in the national inventory (4,648 kt and 3,550 kt, respectively). At any rate, per capita emission in Burundi would be aligned with most other low-income countries: just 0.23 tCO_{2e}/inhabitant in accordance with the data of the inventory.

Future growth trends in greenhouse gas (GHG) emissions are presented in the Third National Communication. It considers that GHG emissions in the energy sector would increase until 2030, doubling 2010 values: from 172 kt CO2 to 345 kt CO2. It is worth keeping in mind that these absolute values (as well as per capita values) remain comparatively low in the global context. The main sources of emissions increase are economic growth (for which the recession in the years close to 2015 resulted in some emission reduction), deforestation (mainly during 2005-2010) and the conversion of forest and savannah land into crop to cope with population growth in rural areas. The Third National Communication included several mitigation and adaptation measures in the energy and transport sectors, such as the development of new hydropower plants, the electrification of isolated sites by solar photovoltaic systems, the development of an annual road maintenance program, the rehabilitation of the road network to adapt it to changes in climate, the promotion of public transportation and the extension of traffic lanes for the promotion of non-motorized rolling stock. The Nationally Determined Contributions (2020), submitted in 2021, took over the same mitigation actions in both sectors, providing some additional details.

The road transport sector has followed a trend similar to that of total emissions, with 2015 emissions at 71 kt CO2 or 14% lower than its 2010 peak (83 kt CO2e). EDGAR also provides disaggregated values

for the transport subsector, which are higher than those provided by the national inventory although following a similar trend: 141 kt in 2005, 103 kt in 2010 and 106 kt CO2e in 2015. EDGAR also provides CO2 emission estimates until 2019 (not for other GHGs), showing an average annual increase of 3.1% since 2015. This is consistent with the information available on the vehicle fleet, which has been growing since the mid-2010s (see the Baseline section below for more details).

The sustained political and economic crisis in the country has strongly affected the transport sector. Road infrastructure is scarce and cannot adequately provide accessibility in rural and urban areas alike. Furthermore, most of it is in poor condition, with 50% of the main network needed urgent resurfacing and repairs and as much as 80% of the municipal network significantly deteriorated[4][4]. The renewal of the vehicle fleet was all but frozen during the years of economic and financial turmoil, and has only modestly restarted in the last years, mainly through the import of used vehicles from developed countries. Passenger mobility is primarily served by public transport (with a modal share of 58% of the trips in Bujumbura), but lack of financial resources has moved operators to rely on vans and minibuses with limited capacity, contributing to traffic congestion, and to postpone fleet renewal well beyond the reasonable vehicle?s technical lifespan. Lacking governmental subsidies, public transport is hardly affordable for a significant part of the population and has difficulties to drive on poorly maintained secondary roads and streets, which has facilitated the quick development since the early 2000s of taxi services by two wheelers (2Ws, known as *taxi-motos*) as an affordable informal alternative, contributing to congestion and traffic hazards. In the last 5 years, taxi services provided by three-wheelers (3W) have emerged as an attractive alternative in Bujumbura (followed by other cities), providing more comfort and safety to passengers than 2Ws while being able to circulate on secondary roads poorly suited to vans and minibuses. The Nations Transport Strategy 2018-2027, and a recent study completed by the Ministry of Trade, Transport, Industry and Tourism (MoTTIT) for Bujumbura sets a roadmap to integrate the different public transport services, calling for the implementation of BRT corridors, the introduction of full-size buses in the main lines and the need to rely on 3W services as feeders, linking neighborhoods with poor road conditions to the main roads served by regular bus lines. A first step in this direction is the ban implemented in February 2022 preventing the access to the city center to 2Ws and 3Ws (see baseline section for details)[5][5]. These trends are similar to those experience and many other large African and Asian cities and metropolitan areas. Among their consequences, it is worth highlighting that transport operators get trapped in a ?race to the bottom? in the use of low-capacity second-hand internal combustion engine (ICE) vehicles, with high specific emissions per passenger, and that the public endures low quality services, with long waiting times at stops and crowded and uncomfortable vehicles. Transition strategies towards sustainable mobility share many traits in all these cities, based on the provision of higher quality public transport services, through the formalization of operators, the coordination of the different public transport services and the setting up of some kind of planning, coordinating and supervising authority, and mobilizing public and private resources to invest in public transport infrastructure and equipment. In a context of limited financial capacities and a tendency to use vehicles well beyond their theoretical lifespan, it is crucial to avoid the lock-in in outdated ICE technologies, and to facilitate the adoption of the carbon-free technologies that are quickly becoming available and economically competitive.

Many front-running cities have targeted the 3W segment in their electrification strategies for a number of reason: the availability of a reasonable variety of models and manufacturers, the relatively small difference in the price of electric 3W compared to conventional ones, the quick growth of 3W services and the potential of 3W to improve the door-to-door mobility experience in combination with regular bus lines, as a transitional stage before moving forward towards the expansion of regular bus lines to provide accessibility to more neighbourhoods within the city.

Furthermore, many of these countries have limited or no oil resources, and transport electrification becomes an attractive path to reduce their dependency. In the case of Burundi, all the oil products consumed in the country are imported. Inland transportation to reach the country (usually through Tanzania) makes oil supply unreliable (with frequent shortages) and expensive. Annual consumption of oil products has increased since 2015, reaching 83 ktoe in 2018 (30% above 2015 level), with transport accounting for 69% of total consumption (up from 62% in 2015)[6][6]. These conditions make a strong case for reducing oil dependency.

The deployment of sustainable e-mobility solutions in Burundi faces a multiplicity of barriers, largely similar to those in other large African cities, which can be grouped into four categories: institutional (national and local governmental structures insufficiently adapted to foster sustainable mobility innovations), technical & cultural (insufficient access and exposure to technical innovations in sustainable mobility), market-related (regulatory and financial frameworks not adapted to the introduction on technical innovations) and environmental quality management (insufficient integration of environmental considerations in key transport management practices like end-of-life vehicle management and GHG-footprint of transport energy). The problem tree is presented in the figure below.

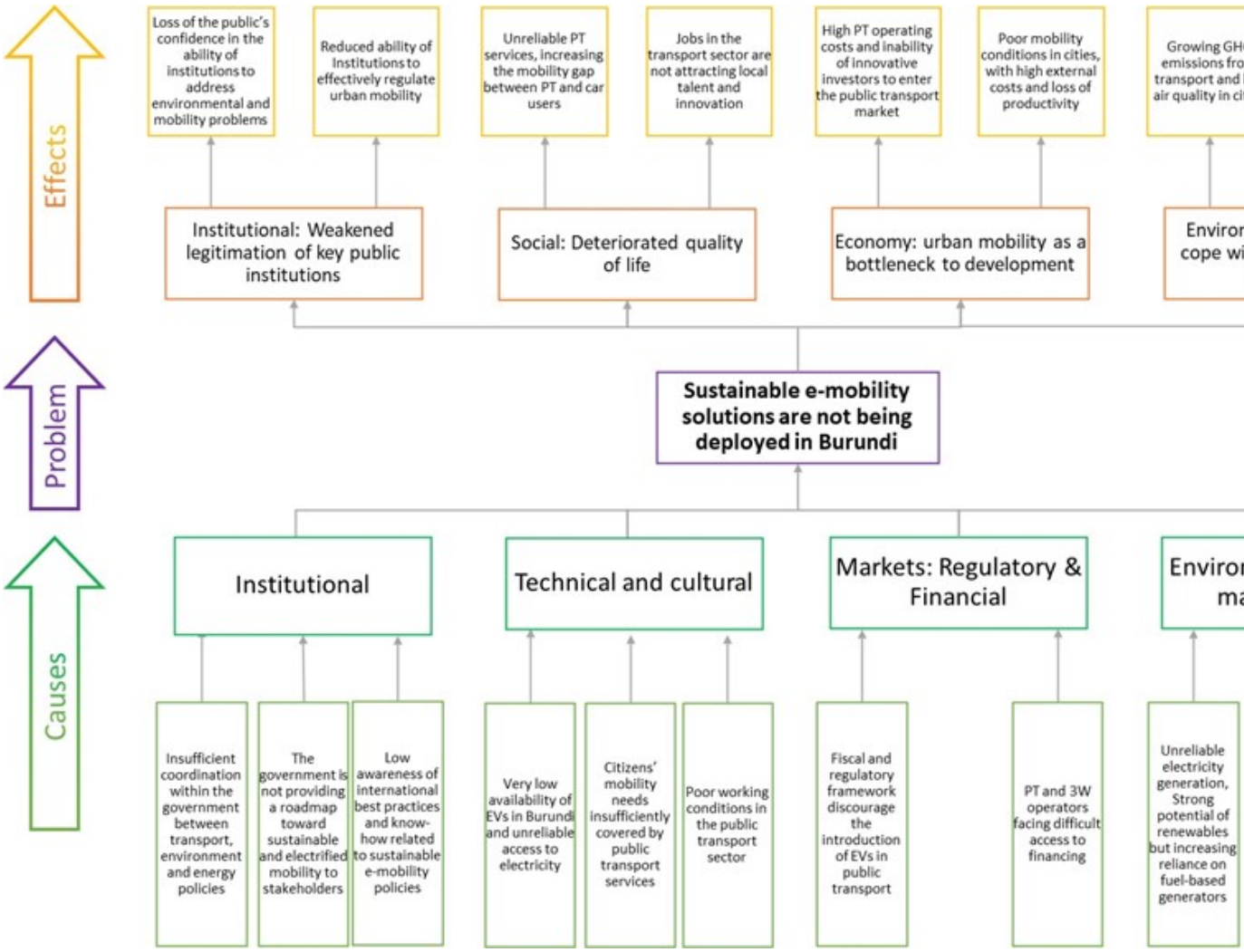


Figure 2: The problem tree

The following ones can be highlighted as the main **institutional barriers:**

(1) Insufficient coordination within the government between transport, environment and energy policies. The experience of the current National Transport Strategy illustrates the weakness of sectoral planning, particularly in what refers to implementation, monitoring and reporting, and the insufficient interaction among ministries and other governmental institutions to establish synergies. The Burundian government has taken some valuable steps (e.g. the appointment of gender and environmental focal points in some ministries) to improve coordination, but these remain insufficient to fully integrate environmental and social objectives within sectoral policies.

(2) Stakeholders in the transport and electricity sectors cannot rely on the existence of a roadmap toward sustainable and electrified mobility provided by the Burundian government. Additionally, the degree of actual implementation of plans and strategies in these sectors has been low in the past,

probably due to the pervasive effects of the political and economic turmoil during the past decade. For example, the ambitious plans for the expansion of electricity generation prepared in the past decade[7][7] did not materialize due to political unrest and economic crisis; more recently, the recommendations set up in the 2018 National Transport Strategy and the report on transport in Bujumbura[8][8] have scarcely been implemented yet. This has been exacerbated by the COVID pandemic. For example, the crucial area of road fleet renewal (a key issue considering the age and conditions of the fleet after years of economic distress) has not received sufficient attention in the government?s policies[9][9]. In the absence of reliable leadership and guidance by the government on the future of mobility local stakeholders are hesitant about looking into technological innovations such as Evs.

(3) Low exposure to and awareness of international best practices and know-how related to sustainable e-mobility policies. In a context of international isolation and political unrest, transport policies lost priority within the action of the national governments and conditions significantly deteriorated (as illustrated by the decline of OTRACO?s fleet and activity described in the baseline section). With the support of international financial institutions[10][10] the government is becoming more aware of the current international consensus on questions such as the importance of dedicating public resources to public transport as the backbone of urban mobility or walking and cycling infrastructure. Deeper interaction with countries within the region and in other parts of the world will be required for the government to undertake the effective implementation of sustainable mobility measures and overcome its insufficient involvement in the past, which has resulted in, low quality of public transport services (average waiting times of 28 minutes, crowded and uncomfortable vehicles, etc.) and a disproportionately large environmental footprint due to the absence of state-of-the-art technologies and practices. This is even more relevant in a context of rapid growth and only partially planned expansion of Bujumbura, which is resulting in ever higher mobility demand.

The main technical and cultural barriers are the following ones:

(1) Very low availability of EVs in Burundi and unreliable access to electricity. Although some car dealers (e.g from Nissan) confirm their capacity to import EVs in case there is a demand, they have not trained staff, and the fact is that there are no EV registered in Burundi yet. To the difficulties and probably higher costs any early adopter would face, there are the additional barriers of unfavorable fiscal treatment (due to their higher label price) and concerns about charging, as access to electricity (and generally speaking to all forms of energy) remains difficult in Burundi. Burundi being a small and low-income market for vehicles, it can only attract the interest of global EV manufacturers if the whole East Africa region becomes interested in electrification. The fact that in other countries in the region, such as Rwanda, Kenya, Uganda and Tanzania electric vehicles are already being introduced in the 2W, 3W and car segments provides a valuable opportunity for action now. Maintenance and repair capacities (as well as availability of spare parts) are growing in parallel to EV availability in these

countries. Electricity availability is also likely to improve not only due to national projects, but also to the transnational hydroelectric projects under construction in the region.

(2) Citizens? mobility needs are insufficiently covered by public transport services throughout the country and particularly in urban areas. This is felt more dramatically in Bujumbura, due to the size and quick growth of its metropolitan area. Since the turn of the century and even more so during the years of political and economic turmoil, this has generated a trend to flee formal regulated bus transport services and look for affordable alternatives, provided by the informal sector (particularly 2W *taxi motos*) with high external costs (i.e. 2W are highly polluting, contribute to traffic congestion and significantly increase the rate of traffic accidents; even more so in the case of Burundi, with many drivers lacking any driving training and public authorities lacking effective control on the technical conditions of the 2W used) and low investment and innovation capacity.

(3) Like in many other developing countries, the passenger transport sector, especially in Bujumbura, is characterized by poor and stressing working conditions, with drivers having to pay a fixed daily amount to the vehicle owner (in minibuses, taxis, 3W and 2W alike) and collecting the fares from the passengers they can get (i.e., fully absorbing the commercial risk of the operations). Vehicle owners are small investors with very limited capacity to efficiently manage their assets and no medium- or long-term strategies. Transport legislation[11] is still reflecting the liberalization and deregulation approach dominant in the 1990s, leading to the proliferation of small operators difficult to be controlled by the weak local and national services in charge of their supervision. These conditions discourage innovative investors and educated workers from entering the sector, and all but eliminates prospects to make progress in quality and efficiency.

The main **market-related barriers** are the following ones:

(1) The existing fiscal and regulatory framework favors the importing of used ICE vehicles and discourage the introduction of Evs in Burundi, to be used in public transport or elsewhere (see description in the baseline section, page 16). There are no sufficient barriers to discourage the importation of polluting second-hand vehicles, and custom duties discourage the importation of more expensive technologies.

(2) Public transport operators (PTOs, including those of 3Ws) face difficult access to financing, which constrains them to follow low-capital business strategies. With the exception of the public company OTRACO (also in a difficult financial position), they own small fleets, and are grouped in cooperatives (ATRABU for minibuses, ATUBU for 3Ws and COAMOTABU for 2Ws), which cannot provide any financial support (see baseline section, pages 17-18 for details) such difficult access to financing is due not only to the difficult financial situation in the country, but also to the perception of the financial sector of transport as a high-risk low-skilled sector to invest in.

The main barriers related to the **management of environmental quality** are the following ones:

(1) Unreliable electricity generation, potentially prone to rely on fossil fuels. Political and economic turmoil substantially delayed the completion of the ambitious hydraulic projects under development, and supply has struggled to meet the growing demand, including in the capital. The short-term response has been to rely on fuel generators, as the investments needed are lower and can be placed closer to demand, not require investments to upgrade the distribution grid. The government is now relaunching projects to make use of the strong potential for further development of hydropower generation, but, in spite of the government?s growing efforts to increase the country?s electricity generation capacity from all sources, most of these projects will still require some years to materialize. This calls for not only looking into grid-based power supply to charge EVs but to also consider solutions such as off-grid distributed generation and the use of battery swapping technology (batteries can be removed from the vehicle and charged during daytime) to charge electric fleets.

(2) Sustainable waste management insufficiently developed for vehicles at their end-of-life and for batteries. As waste management is still at an early stage of development in Burundi, and the succinct regulation contained in the Environmental Code[12][12] has not been sufficiently developed by secondary legislation, the introduction of new technologies, such as electric vehicles and their batteries, will create additional challenges to the already weak system of management of vehicles at their end of life. In fact, there is no relevant legislation on end-of-life vehicle scrappage, and many vehicle wrecks remain abandoned in the public space in the capital and other places, after small workshops have removed all the parts that could possibly be re-used[13][13]. The situation in the management of electric and electronic waste (e-waste) is slightly better: the GLICE[14][14] initiative (glice.bi) opened a dedicated center in 2014 (treating also biomedical and plastic waste), but the lack of secondary regulation and limited awareness among consumers has limited its impact. Lacking adequate equipment, for the time being GLICE is constrained to export the collected e-waste.

E-mobility is recognized worldwide as a necessary and even central element of sustainable mobility in future. Specifically, if deployed in public or privately operated mass transport and taxi fleets, the low operational costs in combination with the steadily falling prices of electric vehicles can constitute a way forward to significantly reduce costs of mobility in the future, while reducing dependency on expensive petroleum fuel imports and generating increased local revenue at the same time. It is difficult to see how urban mobility can improve in Burundi any time soon without setting the basics for large-scale deployment of e-mobility solutions. Affordable urban mobility solutions increasingly rely on e-mobility technologies, and their absence have significant negative institutional, social, economic and environmental effects to be expected, as illustrated in the Problem Tree Figure 2:

? The main negative institutional effect is to miss an opportunity to plan for better mobility in Burundi. Mobility is a basic instrument to cover many basic needs, and e-mobility is seen in a growing number of countries as an opportunity to improve the mobility offer by reducing cost and increasing

environmental, health and social benefits at the same time. As other countries in the region and in the rest of the world are addressing electrification, failure to do so in Burundi is likely to result in lagging behind with regards to economic and social development and deterioration of the public?s confidence in the ability of institutions to properly address their basic mobility problems. Such loss of confidence could result in the further expansion of informal mobility alternatives making it more difficult to effectively implement sustainable transport, particularly in urban areas like Bujumbura.

? The main negative social effect is a deteriorated quality of life, as illustrated by unreliable public transport services and an increasing mobility gap between the majority of the population and the minority that can afford private cars and taxis; it is also illustrated by the poor working conditions in the transport sector, which are unlikely to attract local talent and innovation. The introduction of E-mobility could facilitate fleet renewal and the reconsideration of public transport as a convenient option even for those that could afford a car or taxi.

? The main negative economic effect is the bottleneck that poor urban mobility conditions represent to economic development, as illustrated by high operating costs in public transport compared to tariffs, the inability of innovative investors to enter the public transport market and poor mobility conditions in cities, with high external costs and loss of productivity. E?mobility can intervene as a game-changer, with lower and more predictable operating costs, more value added in the country, and the appeal of a new technology able to attract young talent and open-minded investors.

? The main negative environmental effect is the inability to cope with local and global challenges, such as low air quality in cities and growing GHG emissions from transport and national waste management systems unprepared to deal with electric vehicles at their end of life.

2) Baseline scenario and any associated baseline projects

This section describes four aspects of the baseline scenario: it starts with the general baseline framework (socio-economic trends and government?s strategies), followed by in-depth description of the two policy sectors addressed by the project (energy and transport) and concluding with the identification of the main on-going and planned projects in the country in the energy and transport sectors.

Baseline scenario: socio-economic trends and government?s strategies

The official statistics estimate that the population in the capital city is almost equally distributed between the central core (*Mairie de Bujumbura*) and its surroundings (province Bujumbura rural), with a total of 1.47 million inhabitants or almost 12% of the country?s population; this share would remain constant in the future, as the official estimates do not consider further rural emigration. The official population estimates consider a growth rate slowly declining from the current 2.2% to 1.8% in

2030[15][15]. The UN Population Division estimates a significantly lower population in the capital in 2020 (1.01 million), probably due to the exclusion of some of the municipalities in Bujumbura Rural Province; this would represent 8.5% of the country?s population. However, the UN considers that this share would increase in the future, reaching 11% by 2030 or 1.76 million inhabitants and continuing growing at a quicker pace than the rest of the country afterwards.

Burundi?s development has been hampered by recurrent political crises. The last one broke out in April 2015, seriously affecting the progress made in prior years. It caused a shortage in funding for infrastructure projects in the country from both public and private sources. This was further exacerbated by a near total collapse of external aid in 2016 as major donors, including the European Union (EU), withdrew funding in response to the constitutional crisis. Similarly, foreign direct investment (FDI) inflows remained close to zero in 2016 and 2017 (compared to US$ 82 million in 2014).

After facing a difficult economic situation over the last six years, with fiscal and balance of payments difficulties, the development prospects in Burundi were moderately optimistic prior to the global COVID pandemic; GDP grew by 1.8% in 2019, but the economy contracted by 0.3% in 2020, inflation rose to 7.3%, the current account deficit increased to 14.7% and the exchange rate between the Burundian Franc (BIF) and the USD fell by 3.8%. With the worst of the pandemic seemingly under control, a slow economy recovery followed, attaining 2.0% in 2021 and forecasted at 3.0% in 2022[16][16].

Burundi is one of the most densely populated countries in Africa, with a population growth that routinely outpaces economic growth, leading to a pervasive rise in the poverty rate. Rural areas currently claim almost 90% of the total population, mainly made up of young people without training and employment. The UNDP?s Vision 2025 for Burundi identifies high population growth and low urbanization levels as critical barriers for the country?s development and calls for a proactive policy of ?villagization? and urbanization in order to raise the rate of urbanization to 40%. Urban inefficiencies such as low densities and uncontrolled urban expansion undermine the link between urbanization and economic growth and the effective provision of services. Therefore, Burundi will need to make large investments in its cities to improve the levels of services and to support economic growth; improvements in accessibility and transportation services will be particularly important to achieve this. As low densities are a barrier for the introduction of efficient mass transport, the promotion of better regulated use of clean and electric 2&3Ws can bridge mobility gaps while addressing environmental and safety concerns.

The country?s development strategy is set up in the National Development Plan (Plan National de Development du Burundi, PND 2018-2027). The development of the energy and transport sectors are both identified as crucial for the future of the country. In both cases, the weakness of the planning and implementation systems, the lack of financing options to develop infrastructure and the limited capacities of the companies active in these sectors are identified as key challenges.

The conditions of women in Burundi improved after the adoption of a National Gender Plan in 2012, e.g., with the facilitation of equal access to free schooling to boys and girls, a higher share of women in national and local decision-making bodies and the adoption of a gender-based violence law in 2016. Such progress slowed down since 2015 due to growing political unrest but has recovered in the last months (see Gender Equality Section for further details).

Baseline scenario and policies for the energy sector

In 2018, Burundi had a total power generation capacity of about 82.1 MW, of which 63.65 MW were based on local power generation and distribution through the REGIDESO network, 16.5 MW were based on imports through inter-connections to DRC and 2.0 MW were based on off-grid capacities[17][17]. Historically, Burundi has had a very low electrification rate, although the situation is slowly improving. In 2012, just 6.5% of the population had access to the electricity grid, with strong disparities among rural (1.2%) and urban areas (58.5%). Almost all (95%) of the electricity consumed was used in Bujumbura[18][18]. In 2019, access to electricity had somewhat improved, almost tripling to 3.1% of the rural population and marginally improving to 62.7% of the urban population, and with most (95 %) of the electricity consumed still used in Bujumbura[19][19]. Although the government implemented some reforms in the energy sector with the 2015 Electricity Law (including the creation of regulatory institutions), this did not suffice to attract the expected private investments due to the political crisis in 2015 and the subsequent collapse of external aid and foreign direct investment until 2017. Since then, electricity supply increased based on the importation of power and implementation of gasoil generators to cope with a growing demand. Electricity imports have grown during this period by 23.4% and accounted for 31.5% of the total annual electricity available in 2018[20][20]. This electricity is imported from Ruzisi I and Ruzisi II hydropower plants in the Democratic Republic of Congo. Most of the Burundi?s local electricity production still comes from hydropower, however its share decreased from 97% of total production in 2015 to 72% in 2018, with the difference being generated using gasoil gensets. In total, this has allowed to serve an additional electricity demand of 40.5% between 2015 and 2018, with about 40% of this growth covered by imported zero-carbon hydro power and 60% of this growth covered by polluting gasoil gensets. This trend will need to be inversed to sustain clean and efficient power supply in Burundi.

Solar PV just provided 1 GWh or 0.4% of the total production in 2018 and 8 GWh or 2.4% in 2019 and wind power generation, which provided 1 GWh in 2015 has been discontinued[21][21]. In spite of its low development, prospects for solar PV generation are good, as average solar insolation is 4-5 kWh/m2/day; this is particularly promising for rural areas, considering that large parts of the country are not connected to the grid.

Given the fact that still more than 80% of the power supplied to consumers in Burundi comes from renewable sources (including domestically generated and imported), the average carbon intensity of grid power is very low, estimated at about 145 g CO2 per kWh[22][22].

The Energy Strategy and Action Plan (prepared in 2013) guides the sector policy and includes objectives regarding the recovery and expansion of the energy sector[23][23]. This is an ambitious energy strategy developed in 2012, intending to expand the electricity grid and to increase the share of renewables (hydroelectric plants and PV solar panels) in electricity generation, including off-grid and micro-grid solutions. There are 6 hydroelectric projects in different stages of progress, including the ambitious transnational projects in Rusumo Falls (80 MW) and Ruzizi III (147 MW), as well as a participation in the Ethiopian Renaissance Dam megaproject (expected to provide a total of 6,450 MW of which 200 MW would correspond to Burundi). In addition to the Energy Strategy and Action Plan, the EU-funded project *Sustainable Energy for All* (SE4All)[24][24] provided a Production Master Plan to the country, recommending *inter alia* the installation of 204 MW of solar photovoltaic by 2040. According to this plan, the power mix by 2040 would be such that 58% of the energy would be produced by hydroelectric units, 20% by biomass units, 13% by solar units and 9% by thermal units. The investment required to realize this Production Master Plan through 2040 totals EUR 1,717.7 million.

Concerning the interconnection of the Burundian electrical system with neighboring countries, the Rusumo Falls (80 MW) unit is expected to be commissioned by the 2nd or 3rd quarter of year 2023[25][25] (98.5% project completion has been reported by end of January 2023) and the Ruzizi III unit (147 MW) is expected to be commissioned by 2025[26][26]. These shared power plants are located in Tanzania and Congo, and power will be transported via 220 kV lines to the consumption centers of Burundi. It needs to be noted, that the 26 MW of the Rusomo Falls powerplant provisioned to Burundi and expected to go on-line by the end of 2022 will increase Burundi?s current power capacity (local, import and off-grid) by one third. The Ruzizi III power plant, planned for commissioning in 2025, will add another 60MW to Burundi?s power generation capacity, equaling 75% of today?s total capacity. It can therefore be stated with quite some confidence that Burundi?s power capacity (local and import) will be doubled in the next three to five years, purely based on hydro.

An overview of the main energy generation projects envisaged by the GoBI is provided in the table below.

Project	Power	Cost (USD)	Financing	Location
Hydraulic projects				
KABU (Kaburantwa) 16	20 MW	80,000,000 USD	Exim Bank India	Cibitoke (Burundi)
Projet Ruzibazi	15 MW	70,000,000 USD	China	Rumonge (Burundi)

Project	Power	Cost (USD)	Financing	Location
Jiji-Murembwe	49 MW	247,000,000 USD	AfDB, EIB, EU, World Bank	Bururi (Burundi)
Rusumo Falls	80 MW (26 of which for Burundi)		World Bank. African Development Bank (AfDB)	On Rusumo river. Regional project involving Burundi, Rwanda and Tanzania
Ruzizi III	147 MW	Project under preparation	WB, EIB, AfDB, KfW, AFD	On Ruzizi river. Regional project involving Burundi, Rwanda and Democratic Republic of Congo (DRC)
Panda Project	4 MW	Domestic financing under preparation	Burundi	Bubanza
Solar projects				
Giga Watt	7.5 MW	17,000,000 USD	Private	
Solar Project NYAKIRIZA	-	100,000,000 USD	World Bank	Rural areas in Burundi
Project MUCOWITERAMBERE	-	12,000,000 USD	European Union	Distribution of solar panels and pumps
International hydraulic projects				
Renaissance Dam	6,450 MW (200 MW for Burundi)	-	-	Ethiopia.

Table 2: Electricity generation projects

Planning for off-grid expansion is still at its infancy. The World Bank is launching several technical assistance activities to help the Government of Burundi (GoBI) establish off-grid expansion planning capacity, under ESMAP[27][27]-funded activities: Burundi Off-grid Electrification Options Project (concept stage prepared in 2019), Regional Multi-Tier Framework (MTF) surveys in Africa, and the Geospatial Electrification Planning in the Africa Region. An assessment of off-grid options will be carried out, to inform a rural plan focusing on the following aspects: (i) strategic objectives and targets, in line with the Burundi National Development Plan, alongside strategic pillars to define: (ii) institutional and regulatory framework; (iii) implementation roadmap; (iv) investment/financing prospectus, and (v) M&E framework. As part of the activity, building on results from MTF and geospatial mapping, a database for the energy sector would be established, providing capacity building to the Ministry of Energy and the Rural Electrification Agency on data aggregation and updating, with the creation of a GIS unit.

The Institutional framework is set by the Electricity Law of 2015, and the key stakeholders are Ministry of Hydraulic, Energy and Mines (MHEM, responsible for developing and implementing the energy sector policies, administering sector planning, and supervising state electricity enterprises), REGIDESO (*R?gie de Production et de Distribution de l?Eau et de l??lectricit?*, a state-owned national electricity and water production and distribution company, with a monopoly on electricity supply, transmission, and distribution in urban and rural areas) and AREEN (*Autorit? de R?gulation des Secteurs de l?Eau Potable et de l?Energie*, in charge of control, regulation and monitoring of the electricity sector). Additionally, ABER (Agence Burundaise de l??lectrification Rurale) is an agency responsible for the development and implementation of rural electrification programs and projects.

It can be concluded that e-mobility is a strategic option for the country to decrease its dependence on imported fuel with high transportation costs but needs to be coupled to a consistent strategy to expand the Burundian electricity sector. Current data shows that big differences with regards to power supply can be observed between the capital and rural areas. While introduction of initially low numbers of electric vehicles and in particular light eVs such as e-2&3Ws can rely on power supply using a grid connection in the capital (especially in case vehicles are charged during day-time with stable power supply), off-grid applications shall be the option of choice to introduce e-mobility in rural areas. Furthermore, given the low (average) carbon content of grid power in Burundi, immediate GHG emission reductions will be observed. However, detailed analysis with regards to GHG footprint of power supply during peak hours and night-time shall be conducted to better estimated real savings.

Baseline scenario and policies for the transport sector

Due to Burundi?s landlocked status, the need for easy and unconstrained trade and exchanges is critical for Burundi?s development. Apart from small inland navigation flows on the Tanganyika Lake (which could strongly increase for goods transport, should the exchanges with the Democratic Republic of Congo and other riverain countries increase), passenger mobility and goods transportation in Burundi rely almost exclusively on roads. The road network is in urgent need of major upgrading (e.g. just 1,646 km of the 5,211 km of the classified roads have bitumen pavements, and at least half of the network will need rehabilitation in the next 10 years, just 160 km of municipal roads are paved and almost 80% of the local (municipal and agricultural) networks are in poor condition[28][28]).

Although strong population growth would be expected to result in high growth trends in inland transportation demand, such growth has been limited by an uncertain economic environment and by the poor conditions of transport services (a result of limited quality of urban and interurban road infrastructure, an old road fleet and weak financial capacities of transport companies (National Transport Strategy, NTS, p.144).

The Burundi National Strategy for Planning and Management of the Transport Sector and Action Plan (*Strat?gie Nationale en mati?re de Planification et Gestion du Secteur des Transports et Plan d'Action 2018-2027*, or National Transport Strategy, NTS 2018 ? 2027) recognizes that the transport sector is at

the heart of economic development and is considered as one of the main priorities of the government. The NTS calls for specific interventions in urban transport, including setting up a regional authority to organize mobility (AROM[29][29]) in Bujumbura, the provision of a long-term transport plan in greater Bujumbura, improvements of the urban road network, the consolidation of a financing system for urban roads, the organization and formalization of transport companies and the development of public transport in the provincial capitals. A more detailed action plan on urban transport is provided by the study conducted in 2018 on mobility in the municipality of Bujumbura. However, the GoBI does not have the resources to fully implement the actions and recommendation proposed in the Strategy and in the Urban Transport Study, and many of them are lagging behind the original proposed schedule for implementation.

The government is implementing several projects and the World Bank has approved in September 2022 a donation for a large project (Transport Resilience Project in Burundi, USD 120 million[30][30]) to improve the conditions of the road network, including 25 km of the southern access corridor to Bujumbura (RN-3) and two large avenues in the capital (boulevard Ndadaye- 1.4 km- and boulevard Mwambutsa- 2.2 km). The RN-3 (Route Nationale 3) provides access to the center of Bujumbura from its southern districts. In the two avenues selected in the capital, the project intends to improve road safety and traffic conditions for non-motorized modes. The project consists of five components. Component 1 (?climate resilient road rehabilitation and social services?, estimated USD 75 million) is dedicated to the rehabilitation of RN3 between Bujumbura and Gitaza (25 km, USD 53 million), and the two avenues in Bujumbura (Boulevard Mwambutsa, 2.2 km and Boulevard Ndadaye, 1.8 km), and it also includes measures to to improve social facilities with a gender perspective); component 2 (?non-motorized transport and road safety improvements?,estimated USD 9.5 million) focuses on the protection of pedestrians and cyclists and particularly women, with an emphasis on capacity-building; component 3 (?institutional strengthening for climate-resilient road infrastructure and logistics planning, estimated USD 28.5 million) provides institutionalization and capacity building activities with a focus on logistics to support the implementation of the National Transport Strategy; component 4 (?project implementation support?, estimated USD 7.0 million) provides support to project implementation. Finally, component 5 (?contingent emergency response component?) provides for urgent interventions. Project?s component 1 includes the setting up of safe public transport stops along RN-3 and other improvements, which could include the deployment of charging infrastructure and parking space for electric 3Ws, increasing the synergies with the electric-mobility project.

The vehicle fiscal system includes one-time custom duties, one-time registration and annual circulation tax. The ad valorem custom duty applies a rate of 5% to 15% (depending on the engine size) to gasoline and diesel vehicles; other vehicles (which would eventually include electric vehicles) are burdened by the higher (i.e. 15%) rate; on top of that, there is an additional *anti-pollution* tax applied to imported vehicles with an age of 10 or more years (BIF 2,000,000, some USD 1,000). The registration tax includes the delivery of the plate (BIF 25,000 for motorcycles and 40,000 for other vehicles) and the vehicle registration certificate (BIF 12,500 for motorcycles and BIF 20,000 for other vehicles). The annual circulation tax (*vignette* or raxe *annuelle routi?re*) applies to all vehicles and varies in

accordance with the engine capacity[31][31]; on top of that, vehicles providing for-hiring services are additionally charged with an annual tax (*taxe forfaitaire pour les v?hicules ou motos exer?ant le transport r?mun?r?*). There are finally the taxes to complete the periodic (quarterly, biannually or annually depending on the use of the vehicle) roadworthiness tests. In summary, compared to other countries in the region the tax burden to import, register and use a vehicle in Burundi is comparatively low. It is notable that Burundi is a right-hand side driving country. However, the majority of cars are imported through East Africa, and therefore are fitted for left-hand side driving. This means that the majority of vehicles actually has the steering wheel ?on the wrong side?, which adds a significant road safety risk.

There are no forecasts regarding the motorization trends, but past trends indicate that the number of newly registered vehicles per year has remained constant since 2015. The vehicle fleet remains small and dominated by old second-hand vehicles imported from abroad, many of them in a dubious state and with high emissions[32][32]. Fleet growth remains slow, as the economy has not fully recovered from the 2015 political crisis: the total registration of vehicles peaked in 2016 and has dropped since then. For private vehicles, values have stabilized after the 2016 peak just below 5,000 registrations per year; for motorcycles[33][33], there was a peak in 2014 and a 20% drop afterwards, with ups and downs between 3,000-5,000 motorcycles registered per year. An estimate of the current fleet is presented in the table below, based on the study made by ISTEEBU[34][34] (the Burundian Institute for Statistics and Economic Studies) in 2013, and assuming that 7% of the buses, 10% of the cars and 20% of the motorcycles (including 3Ws) are renewed each year. More than one third of the motorcycles are officially registered to provide transport services.

Vehicle type	**2013**	**2015**	**2017**	**2019**	**2020**
Motorcycles (including 3W)	28,697	28,212	25,778	24,678	26,357
Private cars	36,059	39,827	43,742	44,607	46,162
Buses / Coaches	3,990	4,492	4,827	4,611	4,471
Others	10,621	24,151	21,796	19,671	18,687
Total	***79,367***	***92,682***	***96,143***	***93,567***	***95,677***
Motorcycles for public transport service	9,980	10,227	8,962	8,934	7,147

Table 3: Road fleet in Burundi (Source: ISTEEBU)

Urban passenger mobility in Bujumbura is identified by the NTS as one key challenge, due to the insufficientmongizednn and coordination of the services of the public and private operators and the lack of appropriate facilities (such as public transport stops). The public company, OTRACO[35][35], provides interurban and urban passenger transport services, but relies on an old 12-m bus fleet donated by international cooperation decades ago and lacks the financial resources for its renewal. OTRACO?s declining role is illustrated in table 4. It renewed most of its fleet in 2011, and since then its fleet has

diminished as vehicles were not replaced; a similar trend can be noted for the number of drivers, the passengers served and the revenues. As the role of OTRACO has decreased, private companies are now providing most of the urban and interurban passenger transport services; struggling to keep operations running as fares hardly cover their operating costs[36][36] and have difficulties to renew their fleets. With the exception of a handful of private companies operating full-size 60 pax buses (like MEMENTO or VOLCANO), most of the private operators just own one or two small vans (like Toyota *Hiace*, 18 pax) or minibuses (like Toyota *Coaster,* 26-30 pax) and lack management and financial know how and capacities. The situation is eve more fragmented in the 2&3Ws categories, with 7,308 licenses for 2W taxi services and 1,721 licenses for 3Ws in Bujumbura (October 2021). Basic urban transport infrastructure, especially for sustainable modes (including public transport stations and stops, sidewalks for pedestrians) are non-existent or in poor condition. Unlike other countries in the region, transport fares are regulated by the state and capped at a flat rate per trip according to the mode.

	2011	**2015**	**2019**	**2021**
Total fleet	102	91	53	41
Drivers	NA	84	50	35
Passengers (total)	1,396,458	1,667,085	421,289	NA
Passengers (urban)	420,295	193,871	92,282	NA
Operating costs (Billion BIF, current)	6.399	3.684	3.870	NA
Revenue from fare collection	6.590	3.700	3.919	NA

Table 4: Key operation figures from OTRACO

Transportation is therefore identified as a major challenge for the country?s development in the National Development Plan (2018-2027) and the NTS, including the improvements of the sector?s governance. The NTS suggests updating the general principles of the transport policy (as stated in the 2009 Law on Inland Road Transport), in order to integrate the environmental dimension, and to stress the citizens? right to affordable and inclusive transport services, as well as the adoption of a collaborative and participatory approach to transport policy, through a National Transport Council. It states four global objectives for the national transport policy: consolidation of economic development, addressing the mobility needs of the poorest layers of the population (a pro-poor policy), strengthening the integration of Burundi in its regional space and developing an environmentally friendly transport policy. At the urban level, it calls to establish a public transport authority and a long-term urban transport plan in Bujumbura, and to improve basic infrastructure (bus stops and stations, signals, parking spaces, etc.) as well as traffic conditions. It also calls for the regulation of the urban transport market, including informal passenger transport operators.

In accordance with the household survey conducted in November 2017[37][37], residents in Bujumbura made an average of 1.9 trips per day. As 13.8% of the persons in the sample declared not to have travelled, the average number of daily trips considering only those persons who travel is 2.23. These are relatively low values for a metropolitan area over 1 million inhabitants, indicating a strong growth potential, should the conditions of mobility supply improve.

Urban mobility in Bujumbura is dominated by minibuses (46.8% of modal share), walking (26.9%) and buses (12.1% of modal share). Taxi services by bicycles are estimated to have a share of 4% of transport demand; a similar share is provided by moto-taxis (4%); 3W taxis (touk-touks) were estimated to have a modal share of 1% and anecdotal information indicates that their share has substantially grown since then. The government has intended to regulate these services, requiring registration and regular technical inspections, and excluding them from access to the city centre in order to avoid further traffic pressure and congestion. The ban on access to the city center has been extended to 3W taxis since the beginning of 2022. Private cars just account for 5.2% of the trips.

Bus services follow a radial system consisting of 22 radial lines, all of them with one of their terminals in the city center. This is consistent with the structure of the city of Bujumbura: a central area concentrating most of the services surrounded by many neighborhoods which follow one another in spiral. The quality of bus and minibus services is low, with long queues and waiting times at stops (from 21 to 40 minutes in average, depending on the district), leading to average travel times (waiting time included) of 44 to 71 minutes. A survey undertaken in 2021 on the 22 public transport lines serving the city showed a total of 631 vehicles providing the service, of which 33% were in poor technical condition. Due to the poor quality of bus and minibus services, an array of different on-demand transport options has emerged including moto-taxis, v?lo taxis (both raising concerns about their safety) and more recently, three-wheeler taxis (*touk-touk*)[38][38]. 3W taxis are typically owned by small investors (with fleets of just one or two vehicles) and rented to drivers, that operate them at their own financial risk, but there are also a small number of operators with larger fleets. They offer affordable transportation (although more expensive than minibus and bus services), serving neighbourhoods with roads poorly adapted to motorized traffic. Currently, the conventional 3W market is dominated by the TVS King, which is a 200ccm gasoline engine powered 3W with four seats ? the driver and three passengers. The selling price of a new vehicle is about 3,200 to 3,400 USD.

Whereas these trends in the supply side to prefer smaller and more flexible vehicles increase the environmental footprint of the urban transport system, it can also offer a pathway for transitioning towards sustainability for various reasons: it provides affordable mobility without the use of old cars and it also provides employment opportunities and an entry gate to investors, which could eventually evolve towardsmongizedd transport companies operating bigger vehicles. 2&3W taxis also provides feeder services to the main public transport lines. The study of the Ministry of Trade, Transport, Industry and Tourism (MoTIT) and the consultancy firm GCES[39][39] (2018) envisages an integrated public transport system in which each means of transport would play a well-defined role: ?large capacity buses would be used on major routes for the movement of large numbers of people. The minibuses would serve outlying areas where large buses do not arrive. Tricycles and two-person motorcycles would be used for moving people on penetrating back roads while bicycles would be used primarily for moving people within neighborhoods. An appropriate arrangement of parking lots and bus stops is a condition for the success of this intermodality?. As the road network and other infrastructure improves, larger buses would progressively become more attractive for operators, and would take part of the services currently served by vehicles of lower capacity.

Based on these principles, the GoBI banned the accession of 2W and 3W taxis to the centre of Bujumbura, starting in February 2022. Information from ATUBU on vehicle sales shows that the interest of operators is moving from 2Ws to 3Ws for a number of reasons including higher capacity, and lower consumption. Furthermore, the dimensions of 3W vehicles make drivers more compliant with traffic rules, reducing the risks of accidents and making them a safer option for operators.

The project is aligned with the vision of the public transport system established in the 2018 study and strengthens this vision with the contributions that can be made by electric vehicles. It envisages the use of electric 3W taxis as feeder services, linking peripheral neighbourhoods with the regular bus lines operating on the main metropolitan corridors, and progressively replacing 2W taxis.

The main legal framework for road transport is constituted by law n? 1/04 of February 17, 2009 relating to internal road transport and law n? 1/26 of November 23, 2012 relating to the road traffic code. *Inter alia*, it establishes the priority of public transport and the responsibility of the government to organize it, and it liberalizes the provision of transport services (including fares). It also acknowledges the provision of public transport services by motorcycle (*taxi-moto*). It also states the need to establish working conditions in the transport sector through collective agreements. There are no specific regulations addressing urban public transport. It is also worth noticing that there are no regulations concerning the management of vehicles (and materials and components such as oil, batteries or tires) at their end of life. Another key piece of legislation is the Road Traffic Code (loi n?1/26 du 23 novembre 2012 portant Code de la Circulation Routi?re). This basic legislation has not been sufficiently developed through the necessary regulations and measures.

Women in urban areas strongly rely on public transport services for their mobility needs and suffer from the poor adaptation of the services to their mobility patterns as well as from exposure to harassment and violence against women. The transport sector remains strongly dominated by men, offering limited employment opportunities to women (see Gender Equality Section for further details).

Key baseline projects

The table below shows the main ongoing or planned projects in Burundi with some relevance to this project. It includes the World Bank?s Transport Resilience Project (TRP), approved in September 2022 and expected to be launched in 2023. This project will provide significant improvements in key sections of the road network in Bujumbura, and will strengthen the government?s capacities in the transport sector. These actions will greatly facilitate the implementation of the project?s demonstration in Bujumbura, by building technical capacities in the transport sector and providing better infrastructure conditions in the areas served by the demonstration, including PT stops and eventually the provision of parking stops for 3Ws and additional public charging stations.

The hydroenergy projects in Jiji and Mulembwe will significantly contribute to the provision of reliable electricity in the country. These projects are being co-financed since 2014 by EIB, the EU, the World Bank and the AfD.

Also relevant is the WB?s project on solar energy in rural areas, as it would create more favourable conditions for the use of electric mobility in rural areas, a topic that is not directly addressed by the project?s demonstration but which will be explored within its component 3 (see section below).

The WB?s *Cash for Jobs* project is providing different tools and platforms for capacity building and access to economic opportunities; these contributions will be valuable to optimize the impact of the project?s activities in job training in the EV sector.

Project and funder	**Description**	**Duration**	**Relevance for project**	**Budget** **M USD**
World Bank. Transport Resilience Project (P172988, in the pipeline)	This project is designed to provide efficient, safe and climate resilient road connectivity along the main corridor linking landlocked Burundi with Tanzania, and to strengthen the institutional capacity to sustainably plan, develop, and preserve climate resilient road assets. It includes a focus on public transport and soft modes in Bujumbura.	NA (foreseen to start in fiscal year 2023)	It will significantly improve road infrastructure conditions in some areas of Bujumbura, as well as institutionalization of public transport operations and charging infrastructure for eVs.	120

Project and funder	Description	Duration	Relevance for project	Budget M USD
World Bank: Cash for Jobs Project (P175327)	The objective is to strengthen management capacity, scale up safety net programs, and promote productive inclusion and access to jobs	2022-2026	There are potential synergies in the area of job training in eVs	150
World Bank: Solar Energy in Rural Communities (P164435)	The objective is to expand access to energy services for households, enterprises, schools and health centers in rural areas of Burundi	2020-2026	There is potential to explore the use of eVs in rural areas within the project?s exit strategy.	100

Project and funder	Description	Duration	Relevance for project	Budget M USD
AfDB, EIB, EU, World Bank: Hydroenergy Jiji Mulembwe (P-BI-FA0-100)	This project is Burundi?s largest post-conflict investment. It will help to almost double the installed capacity of the power supply system. The project will concern the development of two hydropower plants and the construction of infrastructure required for electric power transmission and distribution.	2014-2023	This project increases the electricity supply for Bujumbura and other areas.	247
AfDB & WB: Rusumo Falls Hydroelectric Project	Joint project equally shared by Burundi, Rwanda and Tanzania in the border between the last two countries, with a total power of 80 MW	2012-2022	This project increases electricity supply in Burundi.	WB: 340 (power plant. AfDB: 128 (transmission lines)

Project and funder	Description	Duration	Relevance for project	Budget M USD
Ruzizi III Energy Limited with loans from WB, EIB, AfDB, KfW, AFD : Ruzizi III Hydroelectric Project	On Ruzizi river. Regional project involving Burundi, Rwanda and Democratic Republic of Congo (DRC). 147 MW		This project increases electricity supply in Burundi.	

Table 5: Key ongoing and planned baseline projects

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Box 1?- Baseline trends on electromobility in the East African Region

E-mobility progress in the East African region

E-mobility progress in neighboring Rwanda provides a useful experience for this project in Burundi. Rwanda has already implemented a package of incentives for importing EVs, including zero import duties and zero VAT for EVs and electric vehicle supply equipment (EVSE). Services to EVs, such as charging are also VAT-free; furthermore, a differentiated power tariff for commercial EV chargers has been set at USD 0.1 / kWh.

One of the most advanced energy providers for EVs in Africa, Ampersand, is active in Rwanda. Ampersand provides electric motorcycles with swapping batteries, offering moto-taxi drivers immediate power by swapping batteries. (https://www.ampersand.solar/).

Rwanda presented a NAMA support project (NSP) focusing on electric mobility to the 7th call of the NAMA Facility (an international funding initiative supported by several donors (the German Ministry of Environment (BMU), the British Department for Business, Energy and Industrial Strategy (BEIS), the Danish Ministry of Energy, Utilities and Climate and Danish Ministry of Foreign Affairs (EFKM) and the European Commission), and the proposal was selected in April 2021 to enter the Detailed Preparation Phase. The proposal ?Rwanda - Accelerating the Deployment of E-Mobility Through the Deployment of Electric Motorcycle Taxis (E-Motos) and E-Buses? aims to catalyse the deployment of e-motorcycles by effectively substituting motos with e-motos in Kigali, thereby decarbonising the most popular and affordable means of public transportation in the city. Beyond that, the NAMA Facility funding is planned to be recycled to support the Rwandan government in procuring e-buses, stimulating further decarbonisation of the public transport system in the country.

A similar NAMA support project in Kenya: ?Kenya - Small Vehicles E-mobility? was selected by the NAMA Facility through its Ambition Initiative Call (round one) and is now completing its Detailed Preparation Phase. The NSP?s overall goal is to accelerate the transition towards e-mobility to achieve reductions in transport sector emissions, as well as create green jobs and industrial growth in the assembly and manufacturing of e-vehicles. The NSP will therefore focus on facilitating the penetration of e-2Ws and e-3Ws in peri-urban and rural areas to help the market reach a take-off point for an irreversible transformation. By 2028, the NSP is expected to reach a penetration rate of e-2Ws and e-3Ws to reach 15% of the annual sales and vehicle registrations, with local assembly of 80% of e-2Ws and e-3Ws sold in the domestic market.

Sources: https://www.nama-facility.org/projects/rwanda-accelerating-the-deployment-of-e-mobility-through-the-deployment-of-electric-motorcycle-tax/. https://www.nama-facility.org/projects/kenya-small-vehicles-e-mobility/.

3) Proposed alternative scenario with a description of project components, outcomes, outputs and deliverables

The objective of the project is to reduce GHG emissions from urban road transport and facilitate the transition to sustainable urban passenger mobility in Burundi with a focus on electrification. The

project?s strategy considers two key dimensions of sustainable mobility: on one hand, the facilitation of the transition towards electrification in the whole transport sector; on the other hand, the introduction of eVs in the urban public transport system, in synergy with the government?s efforts to improve the quality of service. Technology and a focus on public transport users? experience (particularly vulnerable groups) are therefore at the core of the project. This strategy needs to be consistent with the challenging socioeconomic conditions in Burundi (demographic pressure, political unrest and low levels of economic and human development). The project aims at empowering the municipalities (starting by Bujumbura) and the national government to adopt electric mobility solutions that can make a difference even in the challenging Burundian context; it also supports key private stakeholders, such as vehicle dealers and importers or transport operators to become familiar with this new technology and seize the economic opportunities it provides. Such enabling conditions are supported by the project through building capacities and implementing low-cost actions that can subsequently be followed in the future by the implementation of ambitious investments in low-carbon electric-drive technologies and efficient urban public transport, such as the deployment of high-capacity systems serviced with e-buses, fleet renewal with a focus on low-carbon technologies and the enhancement and adaptation of the public space to sustainable mobility practices.

While keeping its focus on electric drive technologies and electric mobility (CCM-1-2), the project?s strategy is consistent with the recent governmental studies on urban mobility in Burundi[40]40. These studies provide a comprehensive assessment of urban mobility challenges in Bujumbura (and in other urban areas in Burundi), stressing the challenges of low quality of public transport services, pervasive traffic congestion in spite of low motorization rates, and lack of appropriate space and infrastructure for all sustainable transport modes, among others. Both studies provide a similar roadmap with a focus on institutional reforms, the formalization and strengthening of public transport operators, multimodal coordination among transport services (buses, minibuses, 3Ws and 2Ws) and the renewal of public transport fleets.

The Theory of Change (ToC Figure 5) addresses the four barriers identified in the problem tree described in the previous section and takes into consideration the challenging socio-economic and political context in Burundi while developing the project strategy. The project?s strategy addresses:

i. the institutional barrier through a mixed approach that empowers and supports not only the public administration (top-down) but also the relevant stakeholders[41][41] (bottom-up) through the provision of institutional and policy support as well as local-level engagement and awareness raising for the promotion of sustainable low-emission transport systems. It also promotes women?s participation in policymaking processes and increases the share of women at decision-making positions. This approach is consistent with the conclusions of the government?s studies mentioned above in creating the enabling conditions in which the

private sector and the civil society at large can become more engaged in the provision of urban mobility services, a sector that is currently prone to marginality, helping in its transition towards sustainability and gender-responsiveness;

ii. the technical and cultural barriers leading to skepticism towards electrification and other sustainable mobility measures through the design and completion of a demonstration in those areas more suitable to provide short-term results and to regain the interest of investors and decision-makers in the urban mobility sector. The project facilitates access to electric vehicles in a low-cost segment that is rapidly expanding in Bujumbura: 3-wheelers providing feeder services from certain neighborhoods to the main public transport corridors. The project also provides support to the municipality of Bujumbura and the national government?s efforts through the WB?s Transport Resilience Project to implement some of the recommendations identified in the studies mentioned above, which should result in additional improvements in the quality and financial viability of public transport operations. The project strategy also addresses the cultural barriers related to the insufficient coverage of mobility needs, particularly for women and other vulnerable social groups through awareness-raising and networking activities aiming at increasing the support of the public and influential stakeholders to sustainable mobility options, building upon the comfort and security gains provided by the project?s technical contributions;

iii. current market barriers through its support to a national e-mobility network to empower a variety of stakeholders to work together on transport improvements and EV commercial opportunities. Relevant stakeholders to mobilize in such network include vehicle dealers and the local vehicle industry, fleet managers (with an initial focus on public transport operators, but opened to other sectors) and local financial and insurance institutions. This bottom-up approach is expected to expand the impact of the project?s demonstrations, to support the effective implementation of the national e-mobility strategy and to accelerate the design and implementation of feasible financial mechanisms to support the acquisition of electric vehicles by fleet operators;

iv. the new environmental challenges raised by electrification in the transport sector, such as the additional recycling and waste management needs raised by the new equipment (most notably lithium batteries and charging devices) or the potential impacts and synergies of off-grid electricity generation systems. These environmental challenges will be considered within the broader framework of management of transportation waste, and in particular of vehicles at their end of life;

The project intends to navigate the challenging socioeconomic context in Burundi combining a bottom-up approach[42]42 with significant top-down actions at the institutional level (e.g. through the development of a national e-mobility strategy, and the proposal of regulatory changes in the transport sector). The strategy is firmly aligned with those of key international donors and financial institutions working in the country in the improvement of urban and interurban road infrastructure, the promotion of mass transit and the support to e-mobility, low-carbon emission approaches and alternative mobility

options. The approach is illustrated in the figure below: the project provides guidelines and strategy (outcome 1), demonstrations (outcome 2) and upscaling (outcome 3). To mainstream the project outcomes, it is expected that socio-economic conditions in Burundi will improve, so that:

i. national and local governments will dedicate financial resources to the maintenance and improvement of their streets and public spaces putting pedestrians, cyclists and public transport users at the center;

ii. operators of 3Ws and other fleets will get easier access to financing in order to renew their fleets in a context in which eVs become increasingly available at more affordable prices.

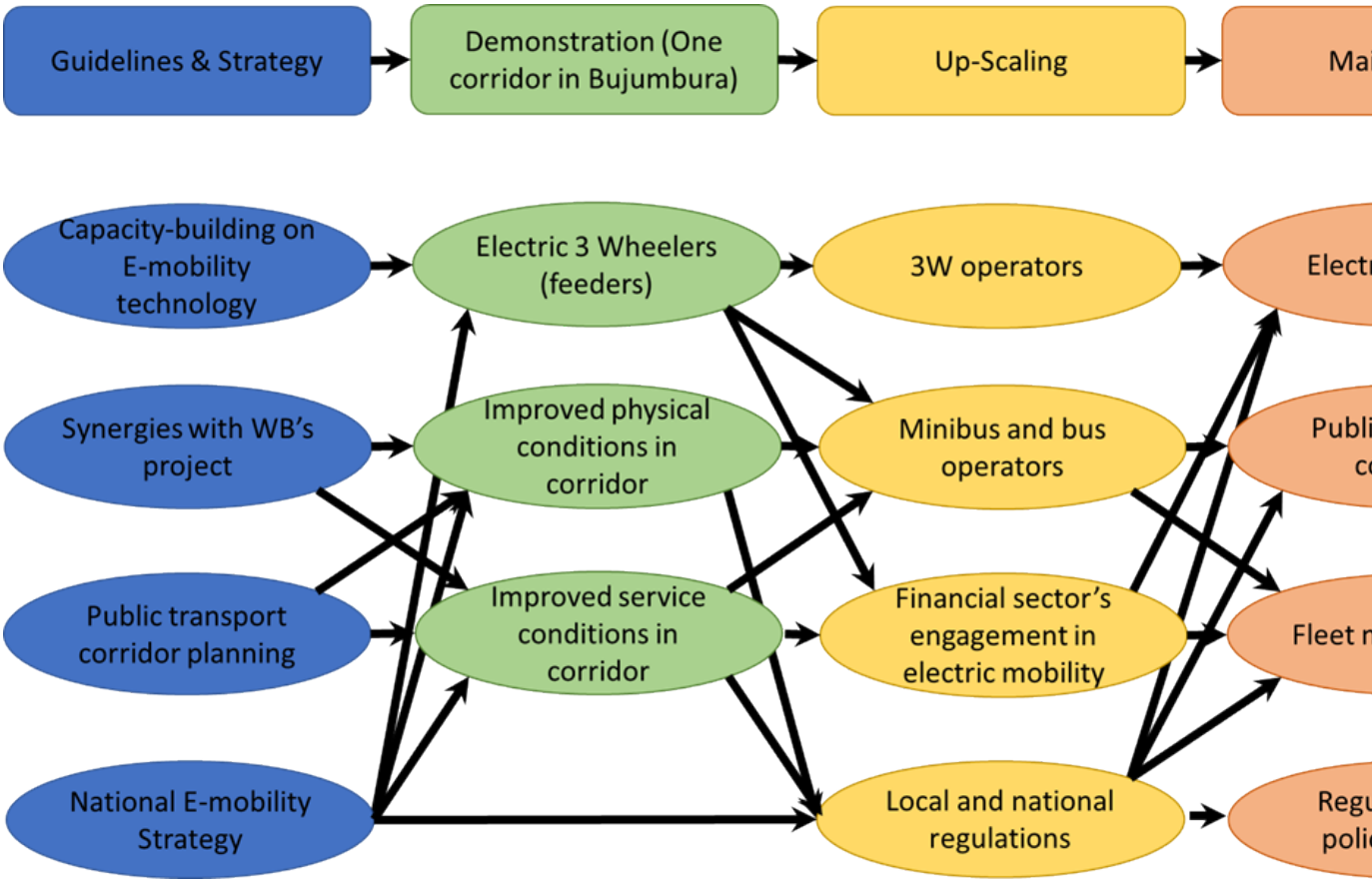

Figure 3: Project mainstreaming strategy

Component 1 of the project envisages the deployment of e-mobility based on: i) the top-down preparation of a National E-mobility Strategy-which will provide the general framework for the GoBI?s national policy in this area; ii) building of capacity and raising awareness to facilitate electrification, and taking the improvement of urban public transport as a flagship action to raise

interest and support from key stakeholders and the public, necessary for a subsequent quick deployment of electric vehicles in Bujumbura and the rest of the country; and iii) Institutionalization of e-mobility through the implementation of a national inter-ministerial coordination body.

Component 2 seeks for the implementation of an e-mobility demonstration project, which is expected to accelerate the transition to low-emission urban mobility by proofing technical, operational and financial viability of electric 3W taxis. The demonstration with the municipality of Bujumbura and 3W operators is expected to provide evidence of the reliability and low operating costs of electric vehicles and their contribution to the improvement of public transport quality, empowering key players (local municipalities, fleet managers and public transport operators) to scale up their investments, through self-managed processes to transition towards electric mobility. The current poor quality of sustainable transport modes in Bujumbura and other cities ? electrified or not ? needs to be improved with the guidance of consistent quality roadmaps associating public transport and paratransit and through experience gained piloting the new technology. Furthermore, public transport operators and public and private and public car fleet managers are unlikely to make use of innovative electric technologies without proof of concept.

Component 3 seeks for long-term barrier removal through new tax and regulatory frameworks to incentivize the use of electric vehicles and to enable the development of business providing services such as EV charging. These incentives are expected to improve public transport conditions in Bujumbura and shall lower the perceived investment risk in the transport sector to attract the interest of financial institutions to invest in transport operations.

Component 4 seeks to improve long-term sustainability for the future expansion of EVs, generating wider support to more sustainable operational practices and regulatory conditions in which the environmental advantages of EVs can be fully appreciated. On one hand, the project intends to improve end-of-life vehicle (ELV) management in Burundi, with a focus on the management of used EV batteries; on the other hand, the project intends to strengthen coordination of transport with the sectoral policies in energy and urban planning, so that the electrification transition is consistent with the deployment of renewables and urban codes facilitate the deployment of the charging infrastructure.

The project?s strategy includes the mobilization of civil society organizations and especially those supporting gender equality, as a key support for effective implementation. This will also facilitate the effective integration of gender dimensions in the project, as women are better represented within CSOs than in other projects? stakeholders such as municipalities, bus operators or institutions and corporations with large car fleets.

The project aligns its sustainability and exit strategy with the EV market transition design provided by the e-mobility programme (figure below). It is a first step towards mainstreaming of eVs making them competitive in all market segments, while embedding the effort within the national and local governments? actions to improve and expand the public transport system and to modernize the country?s fleet.

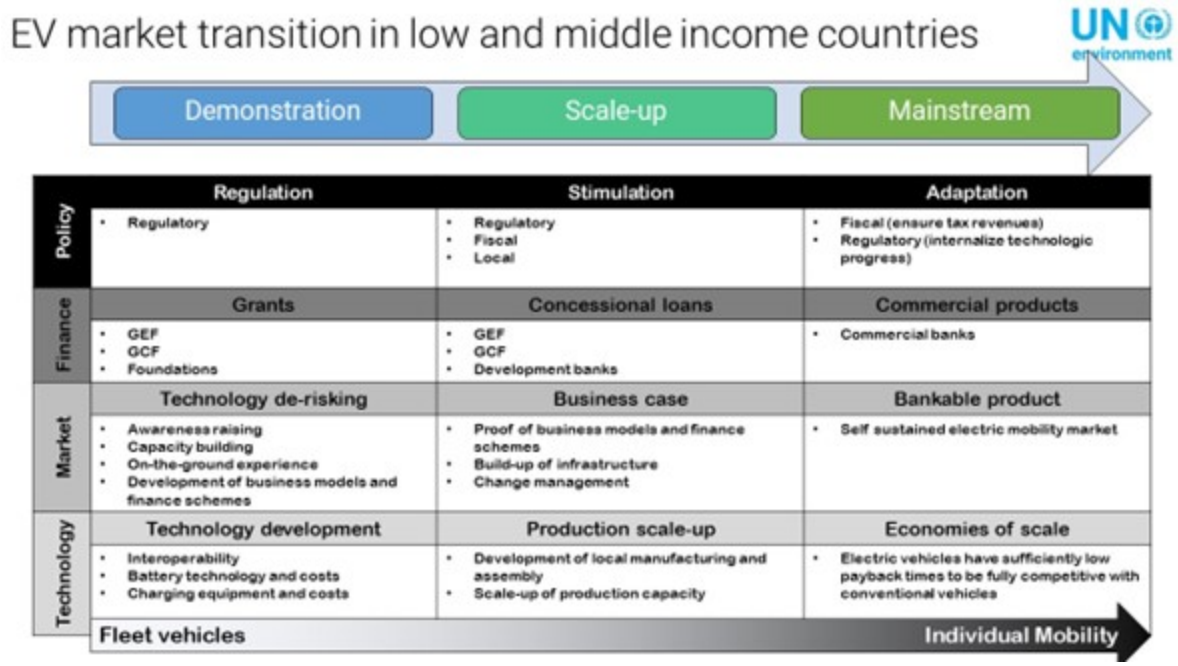

Figure 4: E-mobility strategy (Source: UNEP, Global E-Mobility Programme Framework Document)

The overall result of the project is aiming at the reduction of GHG emissions and the improvement of urban mobility based on sustainable modes, reducing the mobility gap between the majority of the population (including vulnerable social groups) and a minority of car users, and supporting public transport (PT) operators and other fleet managers to make better use of their fleets with lower environmental footprints.

The project?s leading partner within the government is the Ministry of Trade, Transport, Industry and Tourism (MoTTIT). The MoTTIT is responsible of transport infrastructure and policies, including urban mobility, and is therefore in a central position to work together with Bujumbura and other municipalities in the facilitation of public transport and other means of sustainable mobility. MoTTIT is also responsible for vehicle registration, and can therefore lead a national fleet renewal process fostering electrification. The project contributes to the energy policies of the government, under the responsibility of the Ministry of Hydraulics, Energy and Mines (MoHEM), which is also relevant in the adaptation of the electricity system to cope with future EV charging needs. The project also contributes to the climate change mitigation strategy led by the Ministry of Environment, Agriculture and Livestock (MoEAL). MoTTIT is also the key partner, together with the Ministry of Infrastructure, Equipment and Social Housing (MoIESH) of the WB in the implementation of the USD 120 million[43][43] Transport Resilience Project, approved in September 2022. This project foresees several road improvements, including some urban sections in Bujumbura.

Other key stakeholders to be empowered by the project include public transport operators and car fleet managers, CSOs that are actively engaged in environmental and mobility issues such as *Propret?,*

Environnement et Sant? (PES), Association des Femmes Entrepreneurs du Burundi (AFAB) and *Collectif des Associations et ONGs Feminines du Burundi (CAFOB)*, to adopt or promote gender-responsive sustainable mobility practices and to foster universal accessibility, besides transitioning towards electrification. This will be sustained through participation in the working groups envisaged in the project?s governance, the adoption of participatory co-design practices in the preparation of the demonstration and the support of social, gender and environmental expertise in the key project activities.

In the following, the four components of the project will be described in further detail.

Component 1: Institutionalization of low-carbon electric mobility

This component addresses the institutional barrier, providing a strengthened environment to support the promotion of sustainable transport systems with a focus on electric technologies through the establishment of a National E-Mobility Coordination Platform, the development of a National E-Mobility Strategy and capacity building of key stakeholder provided by the Africa Support and Investment Platform.

The project expects to build strong cooperation within the national and local governments and with civil society organizations through a newly established National E-Mobility Coordination Platform. The primary purpose of this platform is to monitor and provide guidance to the implementation of all project activities, and to establish a collaborative environment for the validation and submission to the government for approval of a National E-Mobility Strategy and fiscal and regulatory reforms making it possible to authorize urban transport services provided by electric 2 and 3 wheelers (2W and 3W).

The project builds upon in-kind co-financing contributions from MoTTIT and MoEA in their respective areas of competence to support the development of the Strategy and to strengthen the institutional framework in the provision of public transport, electricity generation from renewables and implementation of the mitigation measures envisaged in Burundi?s Nationally Determined Contributions (NDC). It also builds upon in-kind co-financing contributions from the municipality of Bujumbura to better manage and supervise the provision of public transport services in the city, and the investment mobilized by UNEP from projects financed by the Government of Germany and the Climate Work?s Opportunity Fund.

Under this component, some changes in legislation will be identified, and included in the National E-mobility Strategy with the necessary general guidance for their approval and implementation.

The enhanced institutional environment will facilitate the implementation of top-down initiatives to inform the national government?s future policy (to be enshrined in a national e-mobility strategy), whereas the participatory approach in this component will empower key private and public stakeholders (such as public transport operators, municipalities and institutions and companies managing large vehicle fleets) to adopt sustainable mobility practices, including electrification options, on a voluntary basis, offering a clear way forward to those stakeholders eager to seize the opportunities linked to transport innovations: in the case of car fleet managers, the cost and environmental footprint reductions that eVs and innovative fleet management can provide; in the case of public transport operators, the passenger increase expected from higher service quality; in the case of municipalities, the improved mobility conditions and the reduction in traffic pressure due to the facilitation of sustainable mobility means.

Outcome 1: The government establishes an institutional framework and adopts a gender sensitive strategy for the promotion of electric mobility

This outcome is achieved through the delivery of the following project outputs:

Outputs:

? *Output 1.1: A national intersectoral e-mobility coordination platform is established.*

This output contributes to improve the level of institutional coordination among transport, energy and climate change policies within the government. The new coordination platform is initially established as a working group reporting to the Project Steering Committee (PSC); the mandate, composition and terms of reference of the working group will be prepared by the Chief Technical Advisor (CTA) with UNEP?s support. The working group is expected to be subsequently formalized as an institutional entity by the GoBI by the mid-term of the project?s lifespan. It will monitor and supervise the preparation of the National E-Mobility Strategy and will coordinate the strategy?s actions to be implemented by the different stakeholders; in particular, it will seek for consistency among the government?s policies on transportation, energy, sound environmental management (i.e. waste) and climate change. After approval by the coordination platform, the draft national e-mobility strategy will be submitted to the government for official approval. At the request of the PSC, the working group could also provide advice and support to the implementation of the other project?s components.

The working group is expected to engage all the governmental departments with direct or indirect competences in e-mobility (such as MoEAL, MoTTIT, MoHEM), the municipality of Bujumbura and other local governments as well as international donors (such as WB, AfDB, EU), the private sector (associations of car dealers, transport operators and workers), experts (University of Burundi) and civil society (e.g. African Gender Promotion), facilitating networking and knowledge-sharing among those interested in e-mobility. The mechanisms for selection of platform members, the channels to facilitate

the public?s involvement and to disseminate the national strategy (consistent with communication activities for other components of the project) and the workplan for the continuation of the platform?s activities after project completion will be submitted by the CTA to the GoBI for adoption. The coordination platform members will meet every three months and their activities will facilitate awareness-raising in the country, and the implementation of the National E-Mobility Strategy; the coordination platform will also supervise management and dissemination of the knowledge produced during the project (output 1.3). Key non-governmental stakeholders to be involved include car dealers and importers, transport operators, large fleet managers, academia and civil society (including those active in gender equality). Additionally, this output includes regular coordination with the World Bank in order to align the project with the activities of its Transport Resilience Project aiming at strengthening the transport institutional and operational framework in Bujumbura.

This output includes the deliverables presented in the table below:

#	**Deliverable Description**
1.1.1	Draft Terms of Reference, operating modalities and Workplan for the national e-mobility coordination platform, with identification of all participating ministries, public and private stakeholders
1.1.2	Quarterly E-mobility Platform meetings (minutes for each platform meeting)
1.1.3	Stakeholder consultation strategy (including a gendered approach) presented for approval
1.1.4	Formal approval of the national e-mobility platform by the GoBI, including a workplan and its sustainable operation after project completion
1.1.5	Biannual coordination meetings with the WB?s Transport Resilience Project team to monitor progress in urban mobility actions in Bujumbura

Table 6: Deliverables included in output 1.1

? *Output 1.2: A national gender-sensitive electric mobility strategy is developed and formally proposed.*

This output intends the address the current gap in the government?s plans in what refers to electric mobility. The strategy will provide the much-needed strategic framework for the action of the government, the public and the private sector and the individuals until 2035, so that all stakeholders can take their decisions concerning e-mobility with a reasonable confidence about the future environment. It will also serve as a valuable support to the implementation of the Nationally Determined Contributions recently submitted to the UNFCCC secretariat[44][44]. To produce this national strategy, the project will build upon the different documents already prepared for the government in recent years, such as the National Development Plan, the National Transportation Plan and the Energy Generation

Plan, so that the introduction of EV is consistent with the expansion of renewables. As the expansion of renewables is a key enabling condition to obtain significant GHG emission savings from e-mobility, the project intends to develop a national charging network scheme closely coordinated with the geographical deployment and expansion of renewable electricity generation (D1.2.2; as this is a critical issue for Burundi, so that e-mobility becomes a resource rather than a burden to the electricity grid, additional recommendations on renewable power for EV charging will be delivered at the end of the project, see output 4.3, taking on board the lessons learnt). Based on this network scheme, the strategy will be developed in four stages, all of which open to the participation of stakeholders and to mainstreaming a gendered approach, as established in the stakeholder consultation strategy (D.1.1.3). It is the responsibility of the CTA, with the support of the selected consultants, to facilitate a gendered approach throughout the whole planning process. The first stage will undertake a detailed study on the current characteristics, use and renewal patterns of the national fleet, including gendered-data on its ownership, operation and use and identification of gendered-related barriers and the identification of the constrains to establish a reliable public charging network, consistent with the country?s plans on renewables and electricity generation and provision. The second stage, to be completed and endorsed by the Project Steering Committee (PSC) by month 18, will provide a gender analysis of current trends in women?s mobility needs and motorization rates, as well as employment trends in the transport and energy sectors and a gender action plan (validated with local gender experts and policy makers) to properly integrate women?s promotion and social development within the future strategy. Based on these studies and the contributions from relevant stakeholders (through the coordination platform and other participatory channels), the third stage will establish feasible scenarios for electrification of the different vehicle categories and segments, integrating the guidelines of the gender analysis and action plan. During the fourth stage, the scenarios will be assessed (including the expected impacts on women?s mobility needs, motorization rates and access to employment and entrepreneurial opportunities in the transport sector), and the selected scenario will serve as a basis to produce a long-term vision of the role of EVs in a low carbon energy sector, their contribution to gain resiliency in combination with decentralized renewable energy generation and their potential to reduce dependency on fuel-generated electricity power;. Besides the relevant governmental departments, this output will mobilize a wide variety of public and private stakeholders (electricity providers and professionals, car-dealers and maintenance professionals, fleet managers, financial sector), as well as political stakeholders, civil society associations and the public within a collaborative policy design approach; co-design and validation activities will be included in some of the coordination platform meetings (output 1.1), as this platform will steer the strategy drafting process. As a gender-sensitive policy document, the strategy will make the most of the opportunities offered by electrification to facilitate safe, convenient and affordable women?s mobility in Burundi and to support the access of women to the new employment and entrepreneurial opportunities offered by electric vehicle technology (see Gender Equality Section for details). The e-mobility strategy will follow an approval process requiring the coordination of three ministries (MoTTIT, MoHEM, MoEAL) preparing the final document with the project?s support and submitting it to the Cabinet of Ministers for adoption. The public electric utility, REGIDESO[45][45] is expected to play a key role in the preparation of the strategy, as the main electricity generator and distributor in Burundi. Finally, the national strategy will provide recommendations for a regulatory and operational framework to integrate 3W services within urban

public transport systems, as a key entry point for electrification, and a necessary requirement for a successful demonstration in component 2; this could include provisions for updating the information public transport operators are required to regularly provide to public authorities about their daily operations, as a tool to improve the national and local governments? supervising capacities; the recommendations on regulations will also address gender-sensitive aspects in the operation of public transport services. Besides the relevant governmental departments, this output will mobilize public transport and taxi associations and unions, as well as consumers? associations and other non-governmental organizations (NGOs). The expected deliverables to be prepared within this output are presented in the table below.

#	**Deliverable Description**
1.2.1	Gender-sensitive feasibility analysis of fleet electrification (focus on 2-3Ws, public transport, institutional and corporate fleets)
1.2.2	National charging network scheme, including off-grid renewable electricity generation options to support EV electrification (urban and rural areas)
1.2.3	Draft national gender-sensitive e-mobility strategy circulated for stakeholder consultation and validation
1.2.4	Final gender-sensitive e-mobility strategy submitted to the government for adoption
1.2.5	Regulatory proposal for integrating 3Ws within the public transport regulatory and operational framework in urban areas
1.2.6	Legislative consultations and policy interactions completed for approval of the regulatory proposal

Table 7: Deliverables included in output 1.2

? *Output 1.3: Key stakeholders are trained in the EV Global Programme activities and through private sector engagement (national and regional workshops, trainings and thematic working groups) and awareness is raised among key stakeholders on electric mobility.*

This output seeks to increase awareness in Burundi of international best practices and know-how related to sustainable e-mobility policies. The training and awareness-raising approach will be established in detail within a communication and knowledge management strategy (including basic communication materials) to be prepared with the support of external consultancy, and will include (1) the preparation of training materials by experts, (2) the conduction of training activities in Burundi, focusing on future trainers and influential individuals in the relevant sectors, (3) participation in the

training and networking activities of the global program and (4) wide dissemination and public access to the project?s training and technical materials.

1. The preparation of training materials is foreseen as a deliverable of the experts which will provide technical support for the preparation of the national e-mobility strategy; it will include the selection and adaptation of key international technical materials on this subject. The preparation of training materials will take into consideration relevant gender aspects and will aim at facilitating further integration of women in the transport sector.

2. Training activities in Burundi will provide the initial capacity-building needs on e-mobility to make sure that key governmental officials and influential decision-makers in the public and private sectors are familiar with the basic technical and legal aspects of e-mobility (2 training workshops foreseen, each one with 10 participants to allow closer interaction and better tailored training dynamics; this relatively small number of participants is adequate to attract senior officers with a high decisional level in the public and private sector and increase their interaction with the project; it is also consistent with the dimension of the country?s government and economy). This will enhance their ability to supervise and monitor the activities envisaged in the other project components and to assure the sustainability of the e-mobility strategy beyond project completion. These training workshops will follow a train-the-trainers approach to maximize impact and will address those human resource development as well as organizational and institutional aspects identified as more urgent by the PMU (additional professional and technical e-mobility training activities targeting a wider audience of jobseekers and employees in the transport sector is provided for in component 2: see output 2.3). On top of that, it will be necessary to coordinate with the training activities included in the WB?s Transport Resilience Project, which refer to road safety, including the consideration of non-motorized transport safety, promotion of walking and cycling for women, taking into consideration personal security concerns, road safety in children?s and teenagers? trips to school, and capacity building in transport planning, including the launching of a Master program on resilient transport.

3. Exposure to international best practices is assured by the participation of Burundian experts in the capacity-building activities organized within the Global E-mobility Program. Influential individuals / decision makers from the public and/or private sectors with an ability to disseminate and share their experiences will participate in the different trainings / workshops / events organized by the Global E-mobility Programme and its African Support and Investment Platform. Dedicated budget has been provisioned to cover the costs of 18 trips / missions (i.e. flight ticket, visa, DSA, etc.) for Burundian stakeholders to participate in these different events. UNEP, the Executing Agency for the Global E-mobility project and Lead of the Africa Regional Support and Investment Platform will notify the Burundian Project Management Unit whenever regional training, workshops or events are planned, and the Burundi Project Management Unit will consult the national stakeholders through the National E-mobility Coordination Platform to decide which national stakeholders should participate in the events. The project will also make use of the E-mobility helpdesk and other services provided by the Global E-mobility Programme, through which contacts with global technology providers and

original equipment manufacturers will be facilitated. Although sub-regional activities have not been considered within the regional platform, Burundi will explore the possibility of partnering with other participating countries in East Africa, like Kenya and Rwanda. Burundian participants in the global program?s activities will channel global and regional experiences, good practices and lessons-learned to the training activities at the national level, which will be provided to a larger and broader group of local stakeholders.

4. This output will facilitate the management and dissemination of the knowledge produced during the project (studies, workshop conclusions, online workshops recording the training activities of the project and the Global Programme, data collection and analysis, training materials, interaction with the global project) through a national website under the responsibility of the coordination platform. Based on the results of the various training activities, the CTA will develop recommendations to be discussed at the national e-mobility coordination platform and subsequently submitted to the GoBI, and published in the project?s website; additionally, the CTA will reach out to the University of Burundi and other local educational institutions to offer the training materials as a basis to establish a permanent component on e-mobility within their technical curricula or within the new Transport Master Degree envisaged within the WB?s Transport Resilience Project. The activities conducted within this output are presented in the table below.

#	**Deliverable Description**
1.3.1	A communication strategy on e-mobility is prepared, and communication materials are produced and distributed
1.3.2	Knowledge management guidelines are developed and implemented by CTA
1.3.3	Knowledge management and dissemination website operational, supervised by the national platform (website quarterly updated with online workshops)
1.3.4	Key Burundian stakeholders participate in the trainings on electric 2-3 wheelers organized by the Africa Support and Investment Platform of the Global E-mobility Programme (report to be prepared after each training)
1.3.5	Key Burundian stakeholders participate in the market-place and financing workshops organized by the Africa Support and Investment Platform of the Global E-mobility Programme (report to be prepared after each workshop)
1.3.6	Key Burundian stakeholders participate in the other events, trainings or workshops organized by the Africa Support and Investment Platform of the Global E-mobility Programme (report to be prepared after each event)
1.3.7	Training activities on e-mobility policies, standards and regulations, addressing civil servants, and public and private decision-makers

1.3.8	Training materials addressing professionals (electricity and transport specialists, drivers, maintenance?) are prepared, published to be used in output 2.3 and widely disseminated
1.3.9	Recommendations for replication in Burundi are developed, based on the results of the Global E-mobility Programme replication event

Table 8: Activities included in output 1.3

Component 2: Short term barrier removal through low-carbon electric mobility demonstrations

Pilot in Bujumbura

Objective and approach

The objective of the pilot is to demonstrate the operation of a sizeable fleet of electric 3 wheelers in Bujumbura as feeders linking peripheral neighborhoods with main bus lines. The deployment of the vehicles will be done in year 2, aiming at putting in service at least 25 electric 3Ws through competitive bidding processes. The bidding process will address fleet operators to apply for a subsidy covering the incremental cost between electric and conventional 3 wheelers. An additional subsidy paid to the operator based on km travelled can be considered at the time of project implementation. The Ministry of Trade, Transport, Industry and Tourism will seek to ensure that the implementation of the demonstration project will be linked to the WB Transport Resilience Project. In addition to the infrastructure to charge and operate E3Ws supported through the GEF e-mobility project in Burundi, the World Bank project could provide for the integration of E3W charging points and other additional infrastructure for use by E3Ws as part of public transport / feeder line operations alongside corridors which are to be defined during project implementation. The WB?s Transport Resilience project plans to invest approximately US$ 53 million to construction works and infrastructure provision in RN-3, corresponding to the road section that will be used by the demonstration.

Stakeholders, structure and specifications of the pilot

Stakeholders:

? 3W manufacturers: The manufacturer is expected to be any of those already active in the East African markets, and having electric 3Ws in their portfolio. The potential manufacturers are identified as part of the feasibility study. The Africa Platform of the Global Support Programme will support in

the identification of e-3W providers. During project development, UNEP has had preliminary engagements with various e-3W manufacturers and charging / battery swapping providers, both African based and abroad. A few e-3W providers have already shown interest in supplying e-3Ws to Burundi, at discounted cost and with necessary technical support and training (i.e. Piaggio and Mahindra), once the project has been kicked off.

? Local dealership: Necessary for importing the vehicles and for providing maintenance services and provision of spares. In charge for the recycling of vehicles and their batteries at their end of life. The local dealer will be identified by the vehicle manufacturer.

? Owners of the 3Ws: The owners will be those selected by the project through a bidding process and receiving the subsidy. The owner can be fleet operators or investors (including associations, cooperatives, NGOs & financial institutions) interested in keeping ownership of the vehicle and renting or leasing the vehicles to the operators.

? Operators: The operators organize the service, establish contracts with the drivers and manage the 3W fleet. It could be the owner of the 3Ws or pay a fee (leasing) to the owner for the use of the vehicles.

? Project executing agency. The executing agency of the project, i.e. Ministry of Trade, Transport, Industry and Tourism will be in charge of i.) organizing the competitive process; ii) selecting the pilot project participants; iii) developing all relevant documents,; iv) designing the contractual agreements; v) disbursing the subsidies; and vi) monitoring vehicle use, data collection and analysis.

? World Bank Transport Resilience Project Implementation Unit.

Operational specifications

The operational specifications including 1.) charging scheme of the vehicles based on fixed charging (the vehicle is plugged to power supply, most likely overnight charging) or battery swapping; 2.) vehicles routes; 4.) location of the depots & charging facilities 4.) fare collection scheme; among others will be defined with the help of the feasibility study.

One option could be to provide feeder services through pre-established routes in the southern periphery to a couple of public transport terminals on the RN3 corridor. Other options can include the services of e-3W taxis within the Central Business District (CBD), under the condition that electric vehicles would be exempt from the current ban to operate in the CBD. Route selection will take place in coordination with the relevant project stakeholders such as Ministry of Trade, Transport, Industry and Tourism, Ministry of Interior, Municipality of Bujumbura, the pilot operators and owners, and bus operators, among others.

At the time of project development it is envisaged to pay a direct subsidy covering at least the incremental cost between conventional and electric 3W to the vehicle owner. To ensure use of the vehicle, an additional km based subsidy can be envisaged. The amount of such a usage based subsidy as well as monitoring of the use, payment scheme etc. will need to be established as part of the feasibility study and costs and benefits of such a scheme would need to be investigated in order to decide whether or not to include it.

Technical specifications

The vehicles should have specifications comparable or superior to TVS king, the currently most 3W in Bujumbura, as shown in the table below.

	TVS king DURAMAX / DELUXE	Mahindra TREO-HRT & SFT	Piaggio Ap? E.city	Piaggio Ap? E.city Swappable	Minimum demonstration requirements
Vehicle category	L5, driver + 3 seats	L5, driver + 3 seats	L5, driver + 3 seats	L5, driver + 3 seats	L5, driver + 3 seats
Battery capacity (kWh) or ICE (cc)	Petrol. 225.8 cc/ 199.26 cc	7.37	7.5	4.5	7
Power (kW)	7.8	8	5.44	5.44	8
Torque (Nm)	18.5/15.5	42	29	29	40
Max speed (km/h)	65/63	55	45	45	45
Driving range (km)	NA	141	110	68	100
Swapping batteries.	NA	No	Optional	Optional	Optional

Table 9: Technical specifications of 3Ws

Charging needs are modest, and could be met even at home by the E3W operator. The WB?s Transport Resilience Project could potentially install some charging facilities along RN-3. If deemed necessary by the feasibility study, the project will provide up to three charging facilities.

Interchange terminals. As the 3Ws will be feeding some bus stops, some minimal facilities will be recommended by the feasibility study, such as shelter for passengers, information panels, emergency charging of 3Ws, clear access to the bus/minibus lines, etc. These will be discussed with the WB?s Transport Resilience Project team (as the improvement of bus stops along RN-3 is envisaged in the WB?s project) and with the municipality of Bujumbura for implementation.

The demonstration project intends to provide first-hand evidence to public and private fleet managers, government officials, key transport stakeholders and the general public about the performance of eVs in the particular context of Bujumbura. eVs are already used in a variety of sectors around the world, including public and private fleets, public transport services, taxis, and by individuals. These experiences show the need to properly identify those mobility needs where the characteristics of eVs can be put to work to the advantage of their users. In the case of Burundi, the project is building upon the recent studies on the technical and financial conditions of public transport services in Bujumbura[46][46]. The demonstration will be limited to the 3W category for a number of reasons: it is a fast-growing sector in public transport in Burundi and in other countries in the region; it offers a reasonable level of safety and environmental performance compared with 2W (moto-taxis); whereas minibuses are the category serving the bulk of urban public transport demand, the availability of electric minibuses in the global market is very limited, and the strategy of the authorities is to progressively encourage minibus operators to make use of bigger buses for congestion and quality reasons; finally, 3Ws operations are flexible and may fit better the mobility needs of women (see Gender Equality Section), provided the vehicles selected and their operation take into consideration such needs. The demonstration is expected to mobilize public and private stakeholders (reaching out to the private sector, and to vehicle dealers and importers) to explore the opportunities they could seize from electrification, to undertake the necessary staff training and to assess their needs of charging infrastructure. Additionally, the project?s MRV system during the demonstration will serve to showcase the effectiveness of GPS-tracking in fleet management. The project will ensure that the electric 3W fleet will be highly visible in the corridor selected for the demonstration in Bujumbura, and that the required charging infrastructure (financed by the project within this component) will be publicly accessible in case other operators outside the project decide to procure electric vehicles. The demonstration corridor initially selected (RN-3) is one of those targeted by the WB?s Transport Resilience Project, and therefore it will benefit from the road pavement upgrade, bus stops and other infrastructure improvements provided by this project.

Outcome 2: The electric 3-wheelers? demonstration provides evidence of technical, financial and environmental sustainability, enabling public and private stakeholders to plan for scale-up of electric mobility in Burundi

Outputs:

? *Output 2.1: A comprehensive feasibility study, demonstration plan and awareness raising campaign are completed for a pilot of at least 25 electric 3 wheelers serving as feeder services to regular PT in Bujumbura, including charging infrastructure and a monitoring, reporting and verification (MRV) system.*

With the help of this output, the demonstration is designed and planned. All the necessary technical and operational requirements for demonstrating feeder services with electric 3Ws and the necessary vehicle charging services will be identified in two stages. The mobility and security needs of women (see Gender Equality Section) will be given particular consideration for the selection of vehicles and the design of services to be implemented in the demonstration. The first stage consists of a prefeasibility study, that will: (1) identify and compare the options available with regards to characteristics of various corridors and possible 3W routes; (2) location of interchange points between 3W and bus services; (3) technical characteristics of suggested 3Ws in the global market and their availability in Burundi; and (4) charging location and operation scheme (fixed charging vs. swapping) to make a recommendation on the scope and location of the demonstration. The selection of the recommended options will take as a central consideration the improvements provided to women?s mobility in terms of quality, security and access to employment opportunities.

The second stage consists of a feasibility study that will subsequently develop the selected option at the necessary level of detail to undertake the procurement and implementation of the demonstration, and will substantiate the improvements in women?s mobility and access to jobs identified in the pre-feasibility study. It will provide the final specifications for the demonstration, including: (1) the final selection of the corridor and districts to be served (initially identified as the RN-3 corridor, as the WB?s Transport Resilience Project is envisaging to invest in it); (2) the final operating conditions including interchange points between the electric 3W services and the regular bus lines in the corridor as well as depot operation; (3) the final technical characteristics of the electric 3Ws and the identification of potential manufacturers and importers; (4) the final technical and operational characteristics of the charging scheme and its impact on interchange point and / or depot design, operation and costs; (5) the final selection of the depot site and design including eventual charging facilities and operational scheme; (6) the necessary MRV system to adequately follow the performance of the electric 3W fleet, including the provision of technical support to the selected 3W operators to collect the data, implement the MRV system and periodically report to the Project Team; (7) the legal and fiscal conditions under which the equipment will be imported, installed and authorized for operation; and (8) the subsidy scheme which will be deployed by the project to support the demonstration with project funds (i.e. one-off payment to support acquisition of the demo vehicles and charging equipment only vs. one-off payment in combination with monthly compensation to reduce the operational risk and increase incentive to actually use the demo vehicles & equipment). The pre-feasibility and feasibility studies will be developed in close collaboration with the municipality of Bujumbura and the WB?s Transport Resilience Project team and with the participation of all interested public transport operators[47][47].

Particular attention will be provided to the integration of 3W services as feeders of the regular bus lines, so that they provide an essential link within the urban transport chain; this is an essential feature to make sure that 3Ws do not become competitors of buses (which provide much higher occupancies and therefore less risk of traffic congestion) and focus on services outside the congested city center (in line with the recent ban on 2W and 3W services in that central area). The prefeasibility and feasibility studies will potentially be used to agree on the scope and nature of the investment mobilized through the WB Transport Resilience Project.

The third stage serves to monitor the implementation by the WB Transport Resilience Project (and eventually by other institutions) of the infrastructural actions identified for the demonstration corridor, which can significantly improve the quality of the multimodal 3W+bus trip. The design and cost-effectiveness analysis completed for the actions identified under this output will be transferred to the municipality of Bujumbura and to the WB?s Transport Resilience Project team so that they can consider their inclusion within their investment plans. This will contribute to strengthening the quality of the services provided during the demonstration. As 2Ws and 3Ws are not authorized to enter the city center, the typical trip usually consists of a first stage on foot or by 2W or 3W to reach one of the corridors served by regular bus and minibus lines, and a second stage to reach the center on these lines. This trip experience can be improved in different ways, many of them requiring modest investment, e.g- improving the transfer and waiting conditions at the corridor?s stops, increasing the commercial speed of minibuses and buses, providing real time information on waiting times, establishing short-term runs in the corridor lines, so that passengers from the 3Ws can find a seat in the bus lines without long waiting times, or street maintenance and repairs that can facilitate the access of 3Ws to certain neighborhoods. These improvements will be particularly useful for women and vulnerable users. The detailed design and cost-effectiveness assessments of the suggested improvements will be discussed with the WB?s Transport Resilience Project team and the municipality of Bujumbura for implementation. They will also serve as a reference to undertake similar studies in other corridors in Bujumbura and other cities. In particular, the upgrading of the bus stops selected for 3W/bus interchange will include the profiling of their current and potential users, and their design will follow a co-creation design process involving bus users and residents, with a focus on the involvement of women and other vulnerable groups. Should any of these recommendations be implemented, the project would monitor and assess the accessibility gains obtained by users with different profiles.

In addition to the pre-feasibility and feasibility studies, an awareness campaign will be designed by the PMU with the support of international technical assistance, also highlighting the women-empowerment opportunities associated to the project. The campaign will mainly use online channels (eventually complemented by advertising on buses and 3Ws if institutional stakeholders are mobilized). It will focus on key messages such as (1) women in transport as users and professionals, including gender violence, (2) social advantages of public transport versus informal transport, (3) social and environmental advantages of electrification, (4) encouragement for customers to report their proposals and complains on PT services.

This output includes the deliverables presented in the table below.

#	Deliverable Description
2.1.1	Pre-feasibility study completed, assessing different alternatives and recommending best options for the selection of the pilot corridor (e.g., supply and demand, operational requirements), technical specifications for vehicles, charging equipment and PV solar generation and identification of potential providers and operators
2.1.2	Detailed feasibility study completed, including selection of the pilot corridor and improvements needed, assessment of on-grid and solar charging options, technical specifications for vehicles? operations and stops (including 3W feeder services and COVID-proofed protocols), legal and fiscal aspects of the procurement process and assessment of availability and costs.
2.1.3	Follow-up of the implementation of recommended corridor improvements by relevant institutions.
2.1.4	ToR developed for the procurement of vehicles, charging and PV generation systems, tracking system and the operation of the pilot PT service
2.1.5	Design and implementation of awareness campaign including gender dimension

Table 10: Deliverables included in output 2.1

•*Output 2.2: The demonstration of at least 25 electric 3W in Bujumbura is implemented, including professional training delivered*.

Under this output, the demonstration is implemented and completed addressing the technical and behavioral barriers identified in the problem tree and including professional training of E3W drivers and charging equipment operators.

This output starts with the bidding process through which the MoTTIT will select the operators / owners of the (1) electric 3 wheelers; and (2) the charging system used to charge the vehicles, which will constitute the core of the demonstration, and which will receive project funds. For this, MoTTIT with the support of the international and national expert and the Global Programme will develop and implement a competitive process to identify, select and contract the private and / or public sector entities, which will run the demonstration project, and which will receive funds through the project.

The selected owners / operators of the E3Ws and the charging equipment will be required to provide the electric 3W & charging services for at least 18 months. The demo participants will need provide the required data and information for regular monitoring and assessment. They will also be required to comply to minimum quality parameters (such as hours of operation, travel time), ticketing and working conditions (contracts between the operator and drivers), as well as all legal authorizations and requirements, including insurance. The project will make sure that the 3W vehicles and their operation are suitable to fit the mobility needs of women (see Gender Equality Section). Data provided will be collected by the project executing agency with support of a local consultant and / or local university.

The demonstration data will be analyzed and made publicly available to other stakeholders with the help of an international consultant and a local consultant and / or local university. A final report will summarize all findings of the demonstration project with regards to technical, operational and economic viability of the E3Ws and the charging system and will make recommendations with regards to scaling-up of the operations including financing.

The project will support acquisition of the vehicles through a one-off subsidy paid to purchase the E3Ws and the charging equipment. In addition, a monthly compensation that reduces the commercial risk of the operations can be suggested as part of the feasibility study and implemented through the project executing agency.

Since the start of the demonstration, the vehicles and charging equipment are owned by the selected operators. Once the demonstration is concluded, the operators would be expected to continue the same operating system, as their operating costs will be much lower than those of ICE 3Ws. However, if the service has proved not to be popular among users, they might prefer to move their vehicles to alternative routes. This will be analyzed in the final report, providing an exit strategy with feasible alternative options for future operations.

In parallel to the process to select the demo project operators, vehicle providers / importers able to supply the necessary rolling stock and charging equipment to Burundi will be selected with the help of the international and national expert and the Global Programme. As for the demo owner / operator, the selection of the vehicle provider / importer follows a competitive process based on offers including vehicle price and cost for transportation, provision of electric vehicle supply equipment such as chargers and /or addition swap batteries, spare parts & maintenance, and technical assistance including training etc. at the beginning and accompanying the demo.

The vehicle provider / importer is expected to include maintenance services and spare parts for the vehicles and the respective supply equipment during the duration of the demonstration. The vehicle supplier will provide training on all technical aspects related to operation and maintenance of the vehicles as well as the charging equipment to all stakeholders directly involved in the implementation, operation and maintenance of the eVs involved in the demonstration.

The procurement & installation of the charging system is based on the selection of the charging site and technical specifications provided by the feasibility study (output 2.1). The decision to use either fixed charging or a battery swapping system or a combination of both will have big impact on technical and operational specs of the charging system and the vehicles and will also determine charging location. For example, the decision to either go for fixed charging or battery swapping may determine whether there will be a charging operator, which could be different from the E3W operator / owner, or whether the charging system is just some additional equipment, which will come with the vehicles and which will be installed at depot / overnight parking place of the vehicles. In addition, and depending on the charging system of choice, the infrastructure provisions provided by the WB Transport Resilience Project will need to be anticipated based on the suggestions provided through the detailed feasibility study. Therefore, the prefeasibility and feasibility studies are key to the project implementation and will

shape the demonstration substantially. All installation works related to the charging system shall be carried out using local contractors. There is already sufficient know-how in the country with regards to the installation of solar power equipment, which means that charging infrastructure related works can be conducted based on local know-how.

The monitoring, reporting and verification (MRV) system will also be defined within the feasibility study. It can be anticipated that, at a minimum, the MRV will require all the participating vehicles to be equipped with a GPS tracker connected to a dispatching system in the project?s office; the system will provide information on distance travelled, speed, number of services provided and percentage of time operating without GPS. Additionally, operators will be required to provide monthly information on number of passengers (disaggregated by sex), number of hours served by each driver, and incidents or accidents. Finally, energy use and charging behavior will need to be tracked, including kWh our used, number of charging incidents or battery swaps, average charging time and distance travelled per charge / swap, battery health, among others. A complete list of parameters and indicators collected will be established through the study. In case a usage-based subsidy is agreed on, periodic information will serve to calculate the economic compensation the project will deliver to the operator, based on the km travelled and a system of incentives and disincentives that will be defined in the feasibility study.

In addition to the training provided by the vehicle supplier, a training programme including future drivers? trainers, maintenance technicians, transport inspectors and others will be developed and provided by the project. Considering the size of the fleet, it is estimated that a maximum of 80-100 persons will follow the training courses (8 courses, with 10-15 attendants each), and will subsequently train other individuals within the participating private companies. Additional individuals not directly involved in the operation of the pilot may be included in these training activities to strengthen capacities for scalability and replicability. Female participants will be sought and encouraged to promote gender equality in the access to jobs generated by the operation of eVs. Participants involved in the operation of electric 3Ws will also receive training in gender-responsive measures[48][48]. It shall be evaluated during project implementation, to which extend the training offers can be expanded through the WB Transport Resilience Project, also including sessions on road safety, and potentially reaching out to more participants beyond the city of Bujumbura.

This output includes the deliverables presented in the table below:

#	**Deliverable Description**
2.2.1	Importers and operators of the pilot 3W public transport service are selected
2.2.2	Professional training of drivers and maintenance staff is completed, based on training materials from output 1.3
2.2.3	At least 25 electric 3Ws and their tracking system are procured

2.2.4	The charging system, (fixed or swapping, with or without renewable power integration) is procured and installed
2.2.5	PT services are provided by the pilot 3W fleet during at least 18 months
2.2.6	MRV activities are completed and final report of the demonstration is completed

Table 11: Deliverables included in output 2.2

•*Output 2.3: The results of the pilot are validated with key stakeholders and are widely disseminated*.

This output contributes to the removal of the technical and cultural barriers faced by electromobility in Burundi. It will disseminate reliable information on the availability and performance of electric 3Ws in the country during the demonstration, encouraging additional operators to consider the procurement of eVs in the 3W and other segments.

Besides the publication of the final report, the following web-based communication materials are envisaged: an illustrated summary report, two infographics and a short video, to disseminate the pilot results, so that national and local decision-makers and key stakeholders (car dealers, public transport operators and academia), as well as the general public, can have detailed knowledge of the contents and conclusions of the demonstrations. It is expected that these materials will address possible misperceptions, biases and/or myths regarding the viability of using eVs in Burundi, and more specifically in urban public transport, so as to build the necessary support from the various stakeholders for replicability and scaling-up. The communication materials will be based on the systematized best practices and lessons learned of the pilots.

The final report is prepared by the CTA with the support of an international consultant. It describes the demonstration?s contents, results and lessons learnt. The report is circulated among the project?s stakeholders (ministries, municipality of Bujumbura, UNEP, car dealers, public transport operators and their associations, University of Burundi and other experts, among others) for validation. The communication materials provide the key figures, conclusions and lessons learnt from the final report in an easy-to-read way for wide dissemination. The main targeted groups of these materials beyond the project?s stakeholders and partners include the local and national media, business associations and international institutions active in Burundi. An *ad hoc* meeting with UNEP?s Global Programme team is also envisaged to discuss the project?s results and compare them with demonstrations in other participating countries.

The project demonstration?s results will also provide the necessary evidence to prepare a replication plan for expanding feeder public transport services in Bujumbura based on electric 3Ws. The replication plan will provide detailed information on the technical performance and financial feasibility of these services and will be addressed to the WB?s Transport Resilience Project team, the MoTTIT and the municipality of Bujumbura for their consideration and implementation. The replication plan

will also discuss the potential of introducing similar services in other cities, taking into account their much smaller size compared to Bujumbura.

This output includes the deliverables presented in the table below.

#	**Deliverable Description**
2.3.1	Final report of the demonstration is validated by all relevant stakeholders
2.3.2	Communication materials of the demonstration are prepared and disseminated
2.3.3	Report summarizing the review of the demonstration results with the Global E-Mobility Programme
2.3.4	A replication plan is prepared to expand the concept of 3W-based public transport in Bujumbura, in other cities, and in rural areas

Table 12: Deliverables included in output 2.3

Component 3: Preparing for scale-up and replication of low-carbon electric mobility

This component bridges the gap between institutionalization and demonstration on the one side and the market and policy framework on the other side. It will support the consolidation of a market for eVs, primarily in the vehicle categories included in the pilots (3-wheelers) and subsequently in other categories including light duty vehicles for passengers (cars) and freight (vans) and, in the medium-term, public transport buses. This will be achieved through development and implementation of a policy framework conducive for e-mobility and including regulatory and fiscal reforms in the transport and energy sector.

Proposals for alternative business and financing models for fleet electrification will be developed in cooperation with public and private sector fleet operators and international and local financing institutions, covering inter alia demand and supply side mechanism, for example loans and leasing schemes for vehicle owners / operators and support schemes for charging service providers and eventually schemes to support local assembly of eVs, and in particular E3Ws. The manufacturing and assembly of eVs in the 2W and 3W segments based on a mix of imported products (e.g. the batteries, engine, electronics) and local content (e.g. charging equipment) will be explored, as it could provide a strong push towards electrification and provision of industrial jobs at the same time.

The development of attractive business models and financial schemes is expected to be facilitated by the favorable trends towards electrification, for example the expected significant reduction in EV prices due to technological progress and the wider availability of models worldwide, including used eVs imported to countries such as Burundi. This component also considers the lessons learnt from component 2 regarding the cultural barriers preventing the expansion of eVs, and provides the necessary support to up-scale the demonstration projects and to and to support the development of larger loan based follow-up projects in order to achieve substantial changes in mobility practices.

It is worth recalling that access to financing of imported new vehicles outside the 2&3W space for fleet renewal (or any other purpose) is hardly available to many Burundian companies, which rather rely on imported used vehicles. For this reason, the project needs to provide sound evidence to those with financial capacities to afford new vehicles to choose electric ones but will also need to anticipate for the import of used electric cars.

Outcome 3: The government adopts regulations, technical standards and fiscal and other policies and endorses financing schemes to accelerate the introduction of electric vehicles in Burundi

Outputs:

? Output 3.1: Fiscal policies, regulatory schemes and technical standards are developed and formally proposed to incentivize the uptake of electric mobility.

This output addresses the market-related barrier associated to the fiscal and regulatory framework in Burundi, which is not promoting the introduction of eVs in the road fleet and, most particularly, in the public transport sector. The proposals for reform will be developed with the support international and national consultants as well as UNEP and the Global Programme. They have to integrate the lessons learned from the demonstration in what refers to gender equality in transport services and access to jobs (see Gender Equality Section), and need to address four main issues: (1) The first one is the reform of the requirements for the authorization of vehicles (3Ws, buses, minibuses and taxis) to provide passenger transport services in Bujumbura, so that the authorization would be subject to more stringent technical requisites, eventually including a staged approach moving from the prioritization of electric vehicles in the authorization process to the phase-out of non-electric vehicles (starting with 3Ws and moving afterwards to the other categories). For example, as part of this process the assignment of authorization to access particular areas or feeder services exclusively for eVs could be considered, alongside the necessary supervision and control procedures. (2) The second one is the setting up of regulations and technical standards for the importation of new and used electric vehicles, including E2&3Ws and electric cars, vans, minibuses and buses. Countries in the region such as Kenya and Rwanda have introduced many of these standards and regulations over the past years, and support organize through the Africa Platform of the Global Programme will greatly facilitate the development

of these proposals. A clear set of regulations will have a positive impact on the investment costs for vehicles and charging facilities and will raise the interest of investors in the provision of EV operation and charging services; these regulations would include, if so established in the national e-mobility strategy- provisions for the obligation of certain fuel stations to provide e-charging services; additionally, there could be some minimum technical conditions in the electricity grid required by the regulations to approve the installation of charging infrastructure above a certain power. (3) The third one is the reform of the current vehicle taxation framework, including import taxes, registration fees and taxes and levies imposed on materials and products needed to manufacture and assemble electric vehicles. To the extent possible, such taxes should be aligned with the vehicle?s carbon footprint, so that eVs are not penalized and are even incentivized. In other instances, EV and EV supply equipment should be exempt from taxes for a certain time or until a certain critical mass of vehicles / equipment etc., is reached. It is important to design the policy proposals in a way that a clear exit strategy is included from the beginning on. All fiscal reform proposals shall be developed taking into account cost-benefit analyses with regards to foregone tax income versus saved expenditures (e.g. on fuel importation, possible including health aspects) and taking into account addition benefits of local value created e.g. through local jobs, local energy use. All the regulatory reform proposals will be validated with the project?s stakeholders (mainly participating ministries, local governments, and regulatory and fiscal experts) through three workshops (with a participation of some 30 participants at each one) before being submitted to the PSC for approval and submission to the GoBI for consideration and approval. (4) The fourth activity is to develop a regulatory proposal on how to make the energy sector EV ready. It includes the development of the necessary regulations and safety standards for the installation of public and private charging stations, aligned with the national e-mobility strategy (output 1.2) and based on the lessons learnt from the demonstration (output 2.3). It also includes updated regulation to ensure that private sector entities are permitted to offer EV charging services and to sell electricity on per kWh basis. In addition, the option to provide a lower power tariff for EV charging shall be investigated.

The envisaged framework is expected to combine the deployment of eVs in the various categories (with a focus on 3W, public transport and vehicle fleets) alongside the potential phasing out of high-carbon vehicles in the medium term, e.g. for the case of 2&3W vehicles for public transport services. In addition, the suggested framework shall also protect the Burundian market against the import sub-standard and outdated second-hand vehicles. This output includes the deliverables presented in the table below.

#	**Deliverable Description**
3.1.1	Updated regulation on the authorization of PT services in Bujumbura.
3.1.2	Regulations and technical standards for the importation of new and used electric vehicles, including E2&3Ws and electric cars, vans, minibuses and buses.

3.1.3	Reform of the current vehicle taxation framework, including import taxes, registration fees and taxes and levies imposed on materials and products needed to manufacture and assemble electric vehicles, including E2&3Ws and electric cars, vans, minibuses and buses.
3.1.4	Regulatory reforms of the power sector EV including safety regulations for EV charging infrastructure as well as for retailing of electricity by charging service providers.
3.1.5	Report of stakeholder consultations of regulatory reforms (including 3 validation workshops) and submission to government for approval.
3.1.6	Legislative consultations and policy interactions completed for approval of the relevant regulatory reforms.

Table 13: Deliverables included in output 3.1

? Output 3.2: Business models, financial schemes and procurement guidelines for electric vehicle fleets and charging stations are delivered.

This output addresses the market-related barrier due to the difficult access of investors in the transport sector, and particularly those active in the public transport segment, to financial services. As eVs require higher upfront investments, the business case for electrification is not clear in a sector dominated by small entrepreneurs, even if operating costs along the vehicle?s lifespan compensate for such higher capital costs. It is therefore necessary to develop business models and financial schemes for operation of E2&3Ws and electric cars, vans, minibuses and buses within privately or publicly operated of fleets in Burundi to overcome this barrier. The design of business models will build on regulations (e.g. for the application of accelerated depreciation to electrified vehicles in corporate fleets) and fiscal incentives (e.g. temporary exemption from VAT on the sale of electrified vehicles and their spare parts; exemption from Ad-Valorem for the importation of electrified vehicles) proposed under Output 3.1.

Additionally, those initially considering purchasing eVs instead of conventional ones are likely to need some guidance with regards to the options available depending on the expected use. Procurement guidelines focusing on the use of eVs in publicly and privately operated fleets will be developed by the project building on the results of the demonstration with E2&3Ws and the materials provided by the Global Programme. The resulting procurement guidelines will be presented in a dedicated workshop. Besides technical discussions of the relevance of technical parameters (power, battery capacity, charging systems, etc.) for different operations, the guidelines will also provide general recommendations on sound fleet management practices.

Besides the dedicated workshop mentioned above, the PMU will provide information and support to those interested in making use of the business models, financial schemes and procurement guidelines developed by the project.

The design of financial schemes will consider both the demand and the supply side. On the demand side, leasing and vehicle loan options for electric fleet vehicles and particularly the 2&3W sector will be investigated, bringing together local and international financing institutions to evaluate and propose options on how finance the shift to a significant amount of electric 2&3Ws and other vehicles. Leasing and rent-to-own schemes can provide an attractive alternative to vehicle procurement. Linked to the expansion of eVs, financing schemes separating the ownership of vehicles and batteries, and alternative payment options including energy supply have been proposed and implemented for example in Rwanda and Kenya. Similarly, options to finance supply side, and in particular charging and / or swapping operators will be investigated. This can include institutional lenders such as development banks, but also private investors interested in infrastructure investment.

The business models, procurement guidelines and financial schemes will consider the analysis and removal of barriers in the access of women to jobs and to business opportunities in the transport sector, including access to financial services.

#	**Deliverable Description**
3.2.1	Development of business models for electrification of public and private fleets including E2&3Ws and electric cars, vans, minibuses and buses completed, and information and support provided to interested stakeholders.
3.2.2	Development of procurement guidelines for E2&3Ws and other eVs in fleet operations completed, and information and support provided to interested stakeholders.
3.2.3	Report on financial schemes addressing the demand and supply side of the E2&3W and other EV markets delivered and presented at workshop, and information and support provided to interested stakeholders.

Table 14: Deliverables included in output 3.2

Component 4: Long-term environmental sustainability of low-carbon electric mobility

This component addresses both end-of life questions with regards to eVs and batteries as well as the integration of renewable power for EV charging to develop pathways to ensure the environmental sustainability of electric mobility in Burundi. As of today, the regulatory framework for waste management in Burundi does not include sufficient secondary legislation in many areas, including end-of-life vehicle (ELV) management and the management of electronic waste. Therefore, ELV are often managed without following adequate protocols, dismissing potentially valuable products, and generating environmental and health hazards due to inadequate (or lack of) treatment of particular components (e.g. tires, lead batteries or lubricants). As identified at the Social and Environmental

Screening, the future management for eVs at their end-of-life raises two challenges in Burundi: on the one hand, the need to strengthen current waste management chains for ELV in general, or at least for some components; on the other hand, the need to introduce an adequate management approach for the EV battery.

Although still at its infancy, EV battery management is likely to be organized at global and regional levels, however there is a big risk of EV batteries stranding in the Global South, and not being re-integrated into the vehicle value chain. Therefore, the Global Programme and its follow-up project under the 8th cycle of the GEF funding will work on shaping regulation and mechanisms to tackle the issue of EV battery re-use, recycling and disposal at regional and global levels. Irrespective of that, schemes and regulations will need to be developed at country level to track EV batteries and to prepare for systems to collect end-of-life EV batteries for re-use and / or recycling. At this point in time, the responsible stakeholders for battery collection, re-use and recycling have not been identified in many countries of the Global South. The smaller the battery, the higher the risk of inadequate second and end-of-life treatment, and the more complex the task of tracking and regulating. However, most countries including those of the global south have systems in place to track both chassis and engine numbers of vehicles, which are most often part of the vehicle logbook. Those already existing mechanisms could be broadened to EV batteries, in order to track them and to enforce adequate end-of-life treatment once the responsible stakeholder is identified. This could be for example the vehicle owners or the original EV (or battery) producer. In addition, possible second life options such as the use of EV batteries for energy storage purposes shall be investigated in the context of Burundi.

Another key challenge for environmental sustainability refers to the further integration of renewable power for EV charging. Although on average, grid power in Burundi has a very low carbon footprint, grid carbon intensity might be strongly varying with the time of the day. Furthermore, reliability of power supply is an issue, which can be particularly important for the charging of eVs during nighttime. Therefore, and based on the feasibility study to identify the preferable charging scheme (fixed charging vs. battery swapping), strategies to better integrate renewable power supply and to minimize dependency on peak power supply likely to be generated by carbon intense heavy fuel oil generators shall be developed. In addition, these studies will also investigate the potentially beneficial impact of adding electric vehicles in the form of E2&3Ws to off-grid applications to foster the rural electrification of Burundi. While such mini-grids often suffer from high power prices partly due to very limited power demand, adding a fleet of electric vehicles to such an off-grid installation can positively affect economic viability due to predictable and significant power demand.

Outcome 4: The government adopts end-of-life management regulations for e-vehicles & batteries and endorses recommendations on renewable energy integration to support long-term environmental sustainability of electric mobility in Burundi

Outputs:

? *Output 4.1: Analysis of current management of vehicles at their end-of-life completed, with recommendations based on international best-practice.*

This output addresses the insufficient development of the legislative framework and know-how regarding the management of vehicles at their end-of-life and of e-waste. This is a relevant environmental barrier for the deployment of eVs in Burundi, as in the absence of adequate management systems, eVs would create at their end-of-life additional environmental hazards to those already existing due to conventional vehicles.

Currently, there are no reliable data available on ELV management, and in fact there is hardly any legislation and supervision for these activities. The project intends to provide the government with a factual, data-based assessment of the current situation and the expected future generation of waste from conventional and electric vehicles and to provide recommendations to address this challenge. As the project has not the mandate nor the resources to address in full the complex pre-existing situation, it intends to recommend transitional and provisional actions that can mitigate the current environmental hazards and avoid the emergence of additional ones due to the introduction of the electric 3Ws during the project. The study and recommendations will be completed with the support of an international consultant and submitted to the government for consideration. Considering the weak formalization in this sector, the main stakeholders the project will collaborate with are the MoEAL and car dealers. The deliverables in the table below will serve to provide a national ELV diagnosis:

#	**Deliverable Description**
4.1.1	Assessment of local conditions and characteristics of ELV management
4.1.2	Forecast of ELV components generation, considering internal combustion engine and electric vehicles
4.1.3	Recommendations on ELV management in Burundi, based on international practice

Table 15: Deliverables included in output 4.1

? *Output 4.2: Updated legislation on end-of-life vehicle (ELV) management, including electric vehicles and their batteries, delivered to the government for adoption, and business models validated with interested stakeholders.*

Similar to output 4.1, this output addresses the insufficient development of the legislative framework and know-how regarding the management of vehicles at their end-of-life and of e-waste. Whereas output 4.1. provided know-now and short-term recommendations for immediate action, this output

provides a proposal to develop the secondary legislation needed to properly address ELV management in the future, including eVs and their components.

With the support of international and national consultants, this output will start with a review of the existing regulations in this field enforced on in other countries; subsequently, it will provide proposals for the regulation of ELV management in Burundi, including detailed recommendations for the management and reuse (second life) of the batteries of electric vehicles; the batteries? second life approach will be aligned with the country?s efforts to deploy off-grid electricity generation within a consistent roadmap. with short-, medium- and long-term visions and critical actions to be undertaken by the GoBI. Finally, it will develop training materials (including the assessment of business models) on ELV and on the reuse and recycling of EV batteries; these materials will encourage the private or the third sectors to invest in these activities. Two workshops (with an expected attendance of 20 persons each) will be dedicated to the presentation of the training materials and to basic training on this topic. The expected participating stakeholders include officials from the MoEAL, car dealers, GLICE and other private or third sector entities that could be identified. This output includes the deliverables presented in the table below.

#	**Deliverable Description**
4.2.1	Report summarizing international and regional regulations on ELV management, including EV batteries and other components
4.2.2	Comprehensive review of existing and planned international regulations on second-life battery use and recommendations for Burundi
4.2.3	Proposal for ELV regulation, including electric vehicles and their batteries
4.2.4	Development of commercially viable business models for ELV components and EV batteries, based on successful international practice and including cost benefit analysis and financing schemes
4.2.5	Technical and managerial support provided to stakeholders, including training materials and workshops on ELV management for electric vehicles and batteries
4.2.6	Legislative consultations and policy interactions completed for approval of the ELV regulation

Table 16: Deliverables included in output 4.2

? *Output 4.3: Recommendations on renewable power integration for electric vehicle charging are prepared and submitted to the government for integration within its renewable energy policy.*

This output addresses the further integration of renewable electricity generation for EV charging in Burundi. It will be based on a detailed analysis investigating reliability and carbon footprint of grid power supply in Bujumbura during the day and will also quantify the increasing reliance on off-grid fuel-based generators that is seen as an alternative offering a quick response to grid unreliability. It will furthermore address the impact of currently implemented and planned projects to increase grid capacity and rate of access to power grid on the carbon intensity of e-mobility in Burundi, including a more detailed case study for the city of Bujumbura.

With the support of UNEP SMU and an international consultant, this output will undertake a study on the technical and financial feasibility of off-grid renewable energy solutions (including rural mini and micro grids) to provide the energy required for transport electrification focusing on its potential to support electric 2&3W-based rural mobility. It is worth noticing that the additional power demand required by locally used electric 2Ws can significantly improve the economics of off-grid applications in small communities. The study will also explore the potential to attract donors and investors to such off-grid RE generation, and in particular in rural electrification projects including an electric mobility component. The recommendations will be circulated for validation among international donors and institutions active in Burundi as well as with REGIDESO and ABER (*Agence Burundaise d?E?lctrification Rurale)*, and subsequently submitted to the GoBI for consideration. This output includes the deliverables presented in the table below.

#	**Deliverable Description**
4.3.1	Recommendations to integrate renewable power for electric vehicle recharging and technical standards for 2&3 wheelers are developed and circulated for review and validation
4.3.2	The recommendations to integrate renewable power for electric vehicle recharging are submitted to the government for integration in its renewable energy policy

Table 17: Deliverables included in output 4.3

Theory of Change

The overall project?s Theory of Change (ToC) below provides a visual representation of the project?s intervention logic.

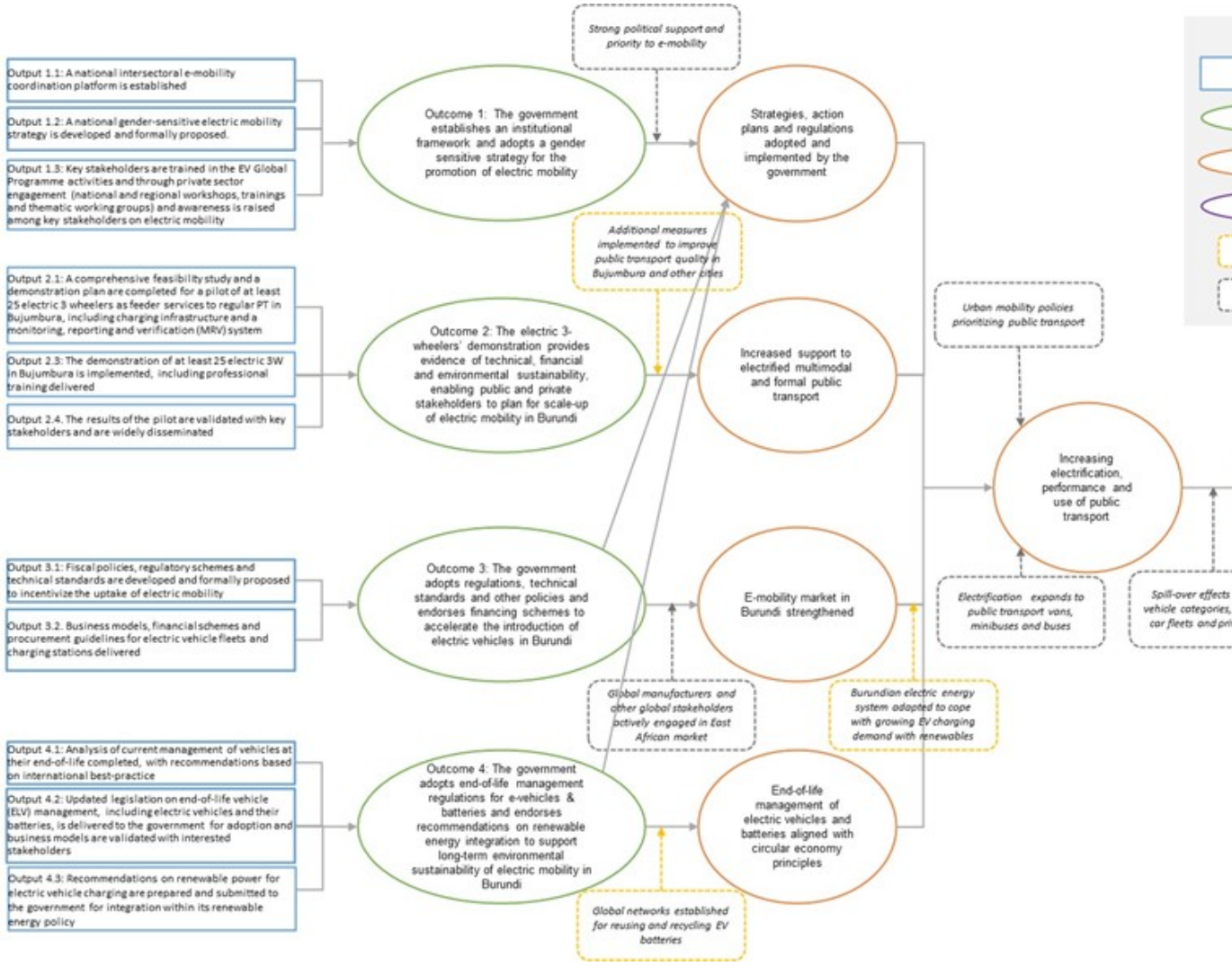

Figure 5: The project?s Theory of Change

The key expected result of the project is the reduction of GHG emissions from urban road transport in Burundi. The outputs included in the four project?s components are expected to result in outcomes directly addressing the four barriers (institutional, technical & cultural, regulatory &financial, and environmental) previously identified in the problem tree, as already described in another section. The project?s expected outcomes make it possible the transition to *intermediate states* makes this possible through the facilitation of four intermediate states: supporting the electrification and use of public transport: the adoption of strategies, action plans and regulations by the government; the increased governmental support to electrified multimodal urban public transport; support to the consolidation and strengthening of the e-mobility market and Burundi and the implementation of adequate ELV management practices for electric vehicles and their batteries. Such intermediate states are made possible through the confluence of the project?s four expected outcomes described above with some assumptions and drivers, as described in Figure 5.

The ToC assumes that the completion of the project facilitates the achievement of several *intermediate states* with more favorable conditions in Burundi: (1) the project?s outcome 1 (the setting up of institutional coordination and the adoption of a national e-mobility strategy) will empower the government to adopt and implement the various strategies, action plans and regulations provided by the project, assuming that during the project?s life sufficient political support and priority to e-mobility is built up; outcome 3 (regulations and standards) and outcome 4 (e-mobility integration with the expansion of renewables) also support the achievement of this intermediate state. (2) the project?s outcome 2 (demonstration) is expected to provide wider support to policies aiming at improving public transport services with a focus on electric vehicles; such intermediate state will be facilitated by the implementation of additional measures included in the national and local governments? plans (such as improvement of bus service quality and bus priority) and supported, inter alia, by the WB?s Road Transport Resilience Project are implemented in Bujumbura and other cities. (3) The project?s outcome 3 (financing schemes) strengthens the EV market in Burundi; on the demand side, the project takes the 3W segment as an early adopter and subsequently expands the demand for eVs to corporate and institutional fleets and to regular public transport; on the supply side, the project assumes that, in combination with similar projects in the East African region, global EV manufacturers will actively engage in offering their models in Burundi. (4) The project?s outcome 4 (ELV and battery management) is expected to result in the application of circular economy principles in the management of electric vehicles and their batteries, assuming that re-use and recycling networks are developed at the global level, so that Burundi (as a small market) can be integrated in such global networks.

The four intermediate states mentioned above are expected to result in a growing electrification of the road fleet, particularly within a much-improved urban public transport system able to attract a growing number of users and making it unnecessary to rely on high-emission solutions, such as conventional motorcycles or second-hand cars. For this to happen, two main drivers will be necessary: the implementation of urban mobility policies prioritizing public transport and the expansion of electrification trends from 3Ws to minibuses and full-size buses. Finally, success in the public transport subsector is expected to encourage vehicle owners, starting with those with larger professional fleets and ending in private car owners, to progressively move towards electric vehicles. This would result in significant reduction of GHG emissions from urban road transport.

4) Alignment with GEF Focal Area and/or Impact Program strategies

This programme is aligned with Objective 1 of the Climate Change Focal Area to ?Promote innovation and technology transfer for sustainable energy break-throughs?, through CCM 1-2- Promote innovation and technology transfer for sustainable energy breakthroughs for electric drive technologies and electric mobility.

By creating a favorable institutional and regulatory framework for sustainable mobility and promoting innovative transport management practices (including EV deployment), the project will contribute to point 112 of the GEF-7 Programming Directions to accelerate ?the speed and scale of sustainable

energy investment in developing countries? and to point 113, developing ?innovative business models that go beyond business as usual?.

In addition, the demonstrations on EV operations (for 3Ws) are expected to accelerate the transition to low-emission urban mobility. They directly address the root cause of weak public transport systems, which are unable to afford the introduction of EV solutions. They also address the root cause of the high risks perceived by public transport managers of making use of innovative electric technologies. Besides addressing the short-term barriers linked to these root causes, the project provides long-term sustainability for the adoption of eVs, providing friendlier market conditions and guidance to manage potential environmental hazards generated by electrification.

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

The project is covering the incremental costs necessary to overcome the barriers identified in section 1) above. I builds upon the growing evidence that sustainable mobility, and in particular electrification policies, are making quick progress in those countries and regions offering some key enabling conditions: strong support from local and national governments, empowered public transport operators, dynamic electric vehicle and battery manufacturing industries, strong research and innovation ecosystems in these fields, financial and political support from the public sector, users? financial capacity and interest in innovation and public and private commitment with GHG emission mitigation targets. These enabling conditions are enshrined in consistent governmental strategies, providing a long-term vision, and inspiring the legislative and institutional reforms to encourage the development and implementation of innovations. It builds upon the sustained decrease in prices and growth in availability of eVs. Legislation is being deployed on vehicle approval, roadworthiness and end-of-life management, as well as on the use of eVs for the provision of public services, and innovative financing schemes are being proposed.

In the absence of the enabling conditions mentioned above, developing countries risk to lag behind in the transition towards low-carbon mobility. eVs are being designed to meet the needs of those developed markets with higher actual or potential demand, while the other markets seem prone to become the dumping sites for outdated ICE technologies. EV manufacturers are unlikely to push forward on their own, as they carefully choose the most promising markets for development, to limit costs and risks. The situation is particularly challenging in countries like Burundi, suffering long and deep political and economic crisis.

GEF-7 is in a unique position to support a step change, by supporting Burundi to establish an adequate institutional and legal framework, in which transport operators and gain confidence about the robustness of EV technologies, prioritization EV introduction in the public transport sector and large corporate fleets first. Furthermore, the project is expected to raise the interest of key global

stakeholders (from EV manufacturers or battery managers to financial institutions and global regulators) in the role eVs can meet in the development of Burundi.

With the support of the project, the concerted and sustained efforts of civil society, the private sector and local and national governments to improve urban mobility and public transport services, are more likely to undertake a sustainable transition. The political and socio-economic conditions in Burundi have hampered the modernization of urban public transport, which remains a fragile sector relying on micro-operators and extremely hardly working conditions. This has also created significant opportunities for improvements and growth, once the socio-economic situation improves. At that time, the country is likely to experience a rapid fleet renewal and growth, which could be largely oriented towards eVs, if the enabling conditions are set in advance. This provides an excellent environment for GEF-7 action. The benefits of the project?s public transport enhancement actions are expanded through the integration of considerations on corporate fleet electrification, women empowerment (as users and workers in the urban transport sector), and modernization of public transport operations. In terms of GHG emissions, the project may accelerate the transition towards eVs in public transport and large car fleets, with a potential for spill-over effects in other types of vehicles. In the absence of project, the much-needed fleet renewal over the next years will continue relying on second-hand conventional technologies, slowing down the introduction of electric technologies and increasing the country?s dependence on imported fossil fuels.

The GEF support provides the resources and political leadership necessary to undertake a comprehensive approach, addressing the coordination among public institutions and the civil society necessary to enable a transition towards sustainable mobility. In the absence of GEF support, it is unlikely that local stakeholders interested could move forward due to an unsupportive regulatory framework and a difficult political, and socio-economic climate.

In addition, the project plans to liaise with the Global E-mobility Programme, particularly with its participating countries in the African region, and to benefit from the access and reduction in the incremental costs of electric technologies that could be generated by the programme:

? Generic tools are expected to be produced at the global level, disseminated though regional support and investment platforms and adapted to the needs in Burundi; in this way, return on investment for development of tools and methodologies is maximized.

? Bundling demand for e-vehicles for demonstration in a certain region can lead to lower vehicle prices, reducing investment risk.

? Through adequate training of vehicle operators and exchange between numerous projects, the industry is less likely to face misuse of technology.

Last but not least, the project will engage private and public stakeholders in the transport community in the transition towards sustainability and e-mobility through capacity building and practical evidence of the operation of these new technologies during the project lifespan.

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

GHG emission mitigation has been estimated following the GEF 2019 updated Guidelines on Core Indicators and Subindicators[49]. Full details are provided in Annex M. Separate estimates have been made for the electrification of 2&3Ws, buses and cars (LDVs). Direct GHG emission reductions are considered only for the lifespan (5 years for 2&3Ws and 15 years for buses and cars) of the electric vehicles directly provided by the project and from the electric vehicles purchased during the project lifetime as a consequence of the project?s policy actions. Such actions, developed in component 1 and component 3, provide a friendly institutional, regulatory and financial framework for any stakeholders interested in introducing all kind of EV categories in public and private fleets.

An average electricity consumption of 8.7 kWh/100 km for electric 3Ws, 100 kWh/100 km for e-buses and 15 kWh/100 km for e-cars has been considered. The average emission factor for electricity generation in Burundi (0.145 kg CO2/kWh[50]) has been kept constant, although it is expected to decrease to 0.073 by 2030 and 0.036 by 2040, should the government?s plans to expand generation from renewable sources materialize.

Indirect (consequential) emission reductions are estimated considering a reasonable rate of fleet replacement from 2027 on (top-down approach). These additional emission reductions are estimated for a 15-year period after the beginning of the project. A causality factor of 40% is used to quantify the amount of the benefits obtained as a result of the project execution and its influences (consequential project benefits), except for the case of 2&3Ws, in which the causality factor is 80%. The project GHG emission reductions and energy saving impacts are summarized in the table below.

GHG reductions and energy savings estimation for Burundi	
Project information ? Project duration: 4 years. Starting in 7/2023 and ending in 6/2027 ? Time frame for indirect effects: 15 years. Starting in 2023 and ending in 2038. (Effects produced by policy developed during the project and coming scale-up projects) ? Causality factor: 80 % for 3Ws. 60% for buses and LDVs	
Total project emissions reductions, t CO_2	**388,872**

Total direct emission mitigation from demonstration projects, t CO_2	**116,804**
Primary direct emission mitigation from demonstration	*374*
Buses, with a lifespan of 15 years	0
LDVs, with a lifespan of 15 years	0
3Ws, with a lifespan of 5 years	374
Secondary direct emission mitigation (policy measures)	*116,430*
Buses, with a lifespan of 15 years	24,782
LDVs, with a lifespan of 15 years	52,128
3Ws, with a lifespan of 5 years	39,520
Total indirect emission mitigation, t CO_2	**272,068**
Bus fleet (causality factor 40%)	57,824
LDV fleet (causality factor 40%)	121,631
3Ws fleet (causality factor 80%)	92,613
Total project energy savings, MJ	**4,541,217,799**
Total direct energy savings from demonstration projects, MJ	**1,363,932,127**
Primary direct energy savings from demonstration	*4,123,125*
Buses, with a lifespan of 15 years	0
LDVs, with a lifespan of 15 years	0
3Ws, with a lifespan of 5 years	4,123,125
Secondary direct energy savings (policy measures)	*1,359,809,002*
Buses, with a lifespan of 15 years	321,383,116
LDVs, with a lifespan of 15 years	602,725,808
3Ws, with a lifespan of 5 years	435,700,078

Total indirect energy savings, MJ	**3,177,285,672**
Bus fleet (causality factor 40%)	749,893,938
LDV fleet (causality factor 40%)	1,406,360,219
3Ws fleet (causality factor 80%)	1,021,031,515

Table 18: Summary of Project's Expected GHG Emission and Energy Reductions

7) Innovativeness, sustainability and potential for scaling up

Innovativeness

The innovative nature of the project deliverables can be found in:

? The innovative nature of the e-mobility solutions to be implemented in Burundi. Although present in other regions, the operation of electric 3 wheelers is just starting in East Africa, and will be a complete novelty in Burundi. Additionally, the implementation of off-grid electricity systems is still at the initial stages of development in Burundi, and its use for vehicle charging will be an innovation with a strong potential for replication throughout the country.

? The operation of the 3W as feeders of bus lines in one corridor and the facilitation of transfers through physical and scheduling improvements is also an innovation in public transport operations in Bujumbura. Thus far, 3Ws are operating without any guidance to coordinate their services with bus lines.

? The business models and finance schemes to introduce electric vehicles in different fleets are also innovative in Burundi and with a strong potential to provide useful guidance to other low-income countries. The project?s business models will empower investors and transport operators to adopt better decisions in the procurement and operation of their fleets. The local financial industry will gain mor reliable information about electric technologies and their costs, and will be able to better tailor their lending policies to the technical and economic characteristics of electric mobility and to the profiles of transport investors and operators.

? Due to the limited access to and availability of electricity in Burundi, the coordinated expansion of transport electrification and off-grid renewables is another significant contribution of the project, encouraging stronger cooperation between the transport and energy sectors. Such approach is also innovative at the global level, and will serve to assess in more detail the synergies among e-mobility and renewables, including the potential of used batteries to be employed in renewable off-grids.

? The project?s expected deliverables on ELV management, with a focus on battery re-use, recycling and safe disposal is a significant novelty in Burundi and in the East Africa region, where the potential for modernization of waste management systems is significant. It can also provide useful lessons at the global level, offering guidance on how to integrate low-income countries within the global management chains that are now starting to emerge.

? The project is also expected to provide innovative contributions referring to a fair distribution of economic risks among the different stakeholders in the urban public transport sector. The envisaged payment scheme to the operators of electric 3Ws during the demonstration will reduce the disproportionate demand risk currently supported by drivers (establishing regular contracts between them and the transport operators), and will redistribute such risks between transport operators, vehicles? owners (or financiers) and public authorities.

-

Environmental Sustainability

Burundi?s per capita electricity demand is currently one of the lowest in the world, and it is expected to increase substantially in future, as the country stabilizes and materializes its economic potential. Fossil fuels currently account for just under a half (48% in 2019) of the electricity generated in Burundi[51][51], and its share is expected to progressively decline, as the country implements its plans to expand its electricity generation capacity mainly from hydraulic and solar sources, including off-grid systems. As electric mobility can provide a substantial reduction in fuel demand, and an increase in electricity demand, it is necessary to closely align the electrification process in the transport sector with the country?s energy policy. The project strongly contributes to this through the preparation of a National E-mobility Strategy, which is expected to provide a roadmap for an electrification of the vehicle fleet consistent with the expansion of low-carbon power generation in the country. In spite of the relatively low motorization rates, air quality is Bujumbura suffers from high PM2.5 concentration[52][52], partly due to the high number of motorcycles. Although CO2 emissions are significantly lower for motorcycles than for passenger cars, the opposite occurs for PM, nOx, CO and other pollutants, due to the technical characteristics of the smaller internal combustion engines used. Therefore, the project is expected to contribute to the improvement of air quality through transport electrification, particularly in the 3W segment.

The project also addresses the challenges of electric vehicles and their batteries as potential sources of environmental pollution. It will do so within the analysis and upgrading of the existing framework of end-of-life vehicle management practices in Burundi. The introduction of eVs offers an excellent ecosystem to undertake this task, considering the reduced number of stakeholders initially involved. The project will take into considering the growing action at the international level to establish standards[53][53] and to set up global recycling chains, at least for batteries. The project will facilitate

access to the innovations associated to these recycling chains and will provide guidance for their adaptation to national conditions.

Sustainability of market development after the project:

The project will facilitate the efforts to accelerate the shift towards eVs globally, through the cooperation channels envisaged by the Global E-mobility Programme. The project?s sustainability and exit strategy is tailored to the socio-economic and political situation in the country and assumes the active involvement of the Burundian government and of the private sector in the transport and financial sectors, as well as the civil society. On one hand, the project will provide capacity-building, technical support and strategic roadmaps to the government in order to move forward towards sustainable mobility and electrification. On the other hand, the project empowers key stakeholders in the private sector, civil society and municipalities, so that they can undertake significant steps towards sustainable and electrified mobility on their own, supporting each other through the networking and institutional platforms built up by the project. These platforms are expected to provide a more favorable environment for the future implementation of sound regulations and, as the political and socio-economic climate improves, to facilitate the implementation of sound business models and financing schemes by interested transport operators and corporations on their own. Furthermore, awareness-raising and training activities (even if of a modest scope, due to the project?s limited budget) will provide the necessary know-how in the transport sector at large, including national and local decision-makers. This friendly environment is expected to facilitate action from key stakeholders, and particularly of managers of public transport and corporate fleets to base their electrification options on reliable information and competent local expertise.

The e-mobility networking and platform sustained by the project are key instruments for the project?s exit and sustainability strategy, as they bring together all market actors behind the national e-mobility strategy and a shared action plan. Such networking is able to monitor future progress in the electrification of road transport in Burundi based on the project?s results and the continuation of the operation of the knowledge management platform developed during the project. To facilitate this, the project envisages that the formal approval of the e-mobility platform will be accompanied by a work plan and with arrangements for its sustainable operation after project completion (output 1.1),

-

Potential for scaling-up

At the end of the project, it is expected that the Burundian market will be able to provide access to a growing variety of E2&3Ws with reliable maintenance services, as well as to reasonable electric options in the minibus, bus and car segments, and that the government will have consolidated a friendly regulatory framework for electrification. Additionally, it is expected that access to electricity- at least in the main urban areas- and to the implementation of alternative off-grid options based on renewable will have significantly expanded in the country.

The continuation of Burundi?s transition towards sustainable mobility and electrification beyond the project builds upon the Global E-mobility Programme strategy outlined in Figure 4. It unleashes the potential of dynamic stakeholders in the private sector and the civil society at large, providing the transport sector with feasible options to electrification, and builds capacities in the national government to sustain, rather than hamper, such bottom-up trends. The project sees itself as a preparatory stage to pave the way to the subsequent action of the World Bank and other IFI to promote sustainable mobility. Thanks to this project, these and other future investments will find a more favorable ecosystem to succeed.

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[1] Cervero, R. and A. Golub (2007). Informal transport: A global perspective *Transport Policy* 14(6): 445-457.

[2] https://data.worldbank.org/country/BI

[3] Forest land and harvested wood products.

[4] National Transport Strategy 2018-2027.

[5] Minist?re des Transports, des Travaux Publics et de l??quipement ; GCES (2018). ?tude sur la probl?matique de la mobilit? urbaine en mairie de Bujumbura. Rapport d?finitif.

[7] Minist?re de l??nergie et des Mines (2011). Strat?gie sectorielle pour le secteur de l??nergie au Burundi.

[8] Minist?re des Transports, des Travaux Publics et de l??quipement; GCES (2018). ?tude sur la problematique de la mobilit? urbaine en mairie de Bujumbura. Rapport d?finitif.

[9] MCTIT, PNUE (2020). Rapport de l?atelier de sensibilisation sur l?approche strategique de gestion des emissions des vehicules au Burundi.

[10] Most notably, the World Bank?s grant for the ?Transport Resilience Project?, approved in September 2022

[11] The legal framework for road transport is mainly constituted by Law No. 1/04 of February 17, 2009 on domestic road transport and Law No. 1/26 of November 23, 2012 on the road traffic code.

[12] Recently updated by Law 01/09, of 25 May 2021.

[13] See for example this journal report published in 2021: https://www.yaga-burundi.com/2021/gestion-epaves-voitures-fourriere/

[14] Great Lakes Initiatives For Communities Empowerment

[15] INSEEBU (2020). Projections Demographiques au Niveau Communal 2010-2050.

[16] Provisional outlooks estimate the 2021 GDP growth was 2.0%, and could reach 3.0% in 2022 (https://www.coface.com/Economic-Studies-and-Country-Risks/Burundi).

[17] Electricity Sector Organization and Performance in Burundi, Rene Nabimana, MDPI Sep 2020

[18] World Bank (2016).

[19] UNEP (2016). Burundi Energy Profile & data.worldbank.org

[20] AFREC database

[21] AFREC database until 2018 and IRENA for 2019.

[22] https://lowcarbonpower.org/region/Burundi

[23] UNEP Energy profile

[24] World Bank (2019). Sustainable Energy for All Technical Assistance Program (S-TAP) for Burundi.

[25] The Rusumo project?s progress was 98.5 % by end of January 2023 (www.rusumoproject.org). Ruzizi III is expected to reach financial close in 2022 and to be operational in 2025/ 2026 (ruzizi3.com).

[26] The Rusumo project?s progress was 98.5 % by end of January 2023 (www.rusumoproject.org). Ruzizi III is expected to reach financial close in 2022 and to be operational in 2025/ 2026 (ruzizi3.com).

[27] Energy Sector Management Assistance Programme (www.esmap.org)

[28] Information provided by the Government of Burundi

[29] Autorit? R?gionale Organisatrice de la Mobilit?,

[30] https://projects.worldbank.org/en/projects-operations/project-detail/P172988. The request for financing was signed on July 13th, 2021 and the project was approved by the WB council on September 29, 2022.

[31] For example, the anual circulation taxi is 10,000 BIF for 2&3Ws, 50,000 BIF for cars and 1,000,000 BIF for a trailer truck.

[32] Plan National de D?veloppement.

[33] This category includes 3Ws, which started being used in Bujumbura in the early 2010s. Anecdotal information states that the registration of 3Ws has notably increased since 2018.

[34] Institut de Statistiques et d?Etudes Economiques du Burundi

[35] Office des Transports en Commun

[36] MCTIT (2022). Etude de rentabilit? du transport public (transport en commun) en mairie de Bujumbura.

[37] Minist?re des Transports, des Travaux Publics et de l??quipement; GCES (2018). ?tude sur la problematique de la mobilit? urbaine en mairie de Bujumbura. Rapport d?finitif.

[38] In October 2021, the number of permits to provide transport services within the motorcycle category was 7,308 for 2Ws and 1,721 for 3Ws, most of them operating in Bujumbura. This suggests a ratio of four 2Ws for every touk touk. The number of 2Ws registered in 2019 was 4,369 compared to 597 touk touks. Anecdotal information suggests that the share of touk touks within the motorcycle category is growing.

[39] Global Consulting and Equipment Services

[40] Minist?re des Transports, des Travaux Publics et de l??quipement (2018). ?tude sur la probl?matique de la mobilit? urbaine en mairie de Bujumbura. See also Minist?re du Commerce, du Transport, de l?Industrie et du Tourisme (2022). ?tude de rentabilit? du transport public en mairie de Bujumbura.

[41] Mainly, public transport operators, users of public transport with a focus on women and other vulnerable users, the car-service industry (dealers, workshops, etc.), the ELV and battery management industry, as well as workers in all the previously mentioned sectors.

[42] Including civil society organizations aware of the gender gap in transportation, such as AFAB (Femmes et Affaires).

[43] Commitment amount as stated in the WB?s webpage: https://projects.worldbank.org/en/projects-operations/project-detail/P172988

[44] Intended Nationally Determined Contributions were submitted by Burundi in September 2015. Its update was foreseen in 2020, but it was completed in 2021. It includes significant progress in the deployment of renewable energy generation, a key issue for transport electrification.

[45] R?gie de Production et de Distribution d?Eau et d??lectricit? du Burundi.

[46] Minist?re des Transports, des Travaux Publics et de l??quipement; GCES (2018). ?tude sur la problematique de la mobilit? urbaine en mairie de Bujumbura. Rapport d?finitif..See also MoTTI (2022) Etude de Rentabilit? du Transport Public en Mairie de Bujumbura. Rapport Provisoire.

[47] The selection of the operators for the provision of the 3W services during the demonstration will be done throughout a competitive process (output 2.3).

[48] Such as adequate behaviour for interaction with female customers, protocols in case of unproper behavior or harassment within the public transport vehicle, etc. See Allen, H. (2018). *Approaches for Gender Responsive Urban Mobility*. GIZ-SUTP. Available at https://womenmobilize.org/wp-content/uploads/2020/02/A_Sourcebook_Social-Issues-in-TransportGIZ_SUTP_SB7a_Gender_Responsive_Urban_Mobility_Nov18-min.pdf

[49] https://wwfgeftracks.com/sites/default/files/2019-04/indicators_0.pdf

[50] https://lowcarbonpower.org/region/Burundi

[51] https://lowcarbonpower.org/region/Burundi

[52] https://www.iqair.com/burundi/bujumbura-mairie/bujumbura

[53] For example, the Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) No 2019/1020. (COM/2020/798 final).

1b. Project Map and Coordinates

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

The project location and coordinates are presented below. Additional information is provided in Annex E.

Demonstration sites	***Latitude***	***Longitude***
Corridor RN-3 Bujumbura	3.3860S	29.3610E
Depot and charging station for 3W, March? de Ruziba, Bujumbura	3.4720S	29.3501E

Table 19: Location of the demonstration sites

Figure 6: Location of the demonstration city

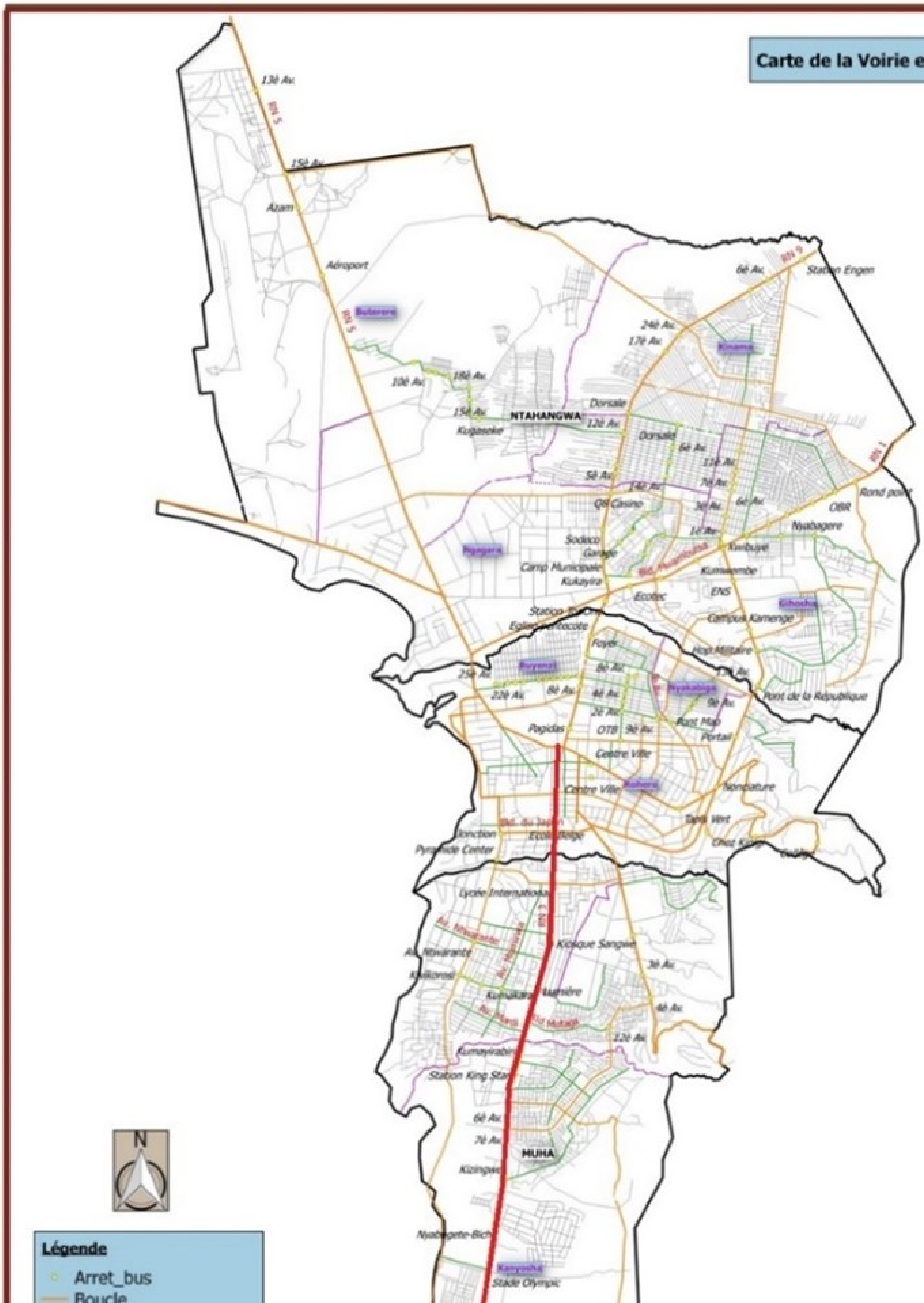
Carte de la Voirie e
13è Av.
RN 5
15è Av.
Azam
Aéroport
Buterere
6è Av.
RN 9
Station Engen
24è Av.
17è Av.
Kinama
10è Av.
18è Av.
15è Av.
NTAHANGWA
Dorsale
12è Av.
Kugasoke
Dorsale
5è Av.
11è Av.
7è Av.
RN 1
5è Av.
QR Casino
3è Av.
6è Av.
Rond point
OBR
Nyabagere
Ngagara
Sodeco
Garage
Camp Municipale
Kukayira
Kwibuye
Kumwembe
Ecotec
ENS
Gihosha
Campus Kamenge
Foyer
Hop Militaire
Buyenzi
25è Av.
8è Av.
22è Av.
8è Av.
4è Av.
Nyakabiga
2è Av.
9è Av.
Pont de la République
Pagidas
OTB
9è Av.
Portail
Centre Ville
Centre Ville
Rohero
Nonciature
Jonction
Pyramide Center
Lycée International
Kiosque Sangwe
Av. Ntwarante
3è Av.
Kinama
4è Av.
12è Av.
Kumayirabin
Station King Star
6è Av.
7è Av.
MUHA
Kizingwe
Nyabagete-Bich
Kanyosha
Stade Olympic
N
Légende
Arret_bus
Boucle

Figure 7: Location of the demonstration corridor (RN-3)

1c. Child Project?

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

The current project is hosted under the ?Global Programme to Support Countries with the Shift to Electric Mobility?, led by UNEP.

The Global Programme is based on the following four components:

? Component 1: Global thematic working groups and knowledge materials

? Component 2: Support and Investment Platforms

? Component 3: Country project implementation

? Component 4: Tracking progress, monitoring and dissemination

The Global Programme has put in place the monitoring framework below to track progress both globally and at the level of the country child projects. 12 indicators have been designed for this purpose: 6 relying on global level information (highlighted in blue) and 6 relying on country level information (highlighted in green).

Global E-mobility Programme Monitoring Framework

Global level monitoring | Country level monitoring

Objective level indicators															
Indicator A: Direct and Indirect Greenhouse Gas Emissions Mitigated (metric tons of CO2) mitigated															
Indicator B: Direct and Indirect enegy savings (MJ)															
Indicator C: Number of direct beneficiaries															
Component 1 **Global thematic working groups and knowledge materials**			**Component 2** **Support and Investment Platforms**						**Component 3** **Country project implementation (Child Projects)**						**Component 4** **Tracking progress, m dissemination**	
Outcome 1 Knowledge products are generated to support policy making and investment decision-making through four global thematic working groups			**Outcome 2** Conditions are created for market expansion and investment in electric mobility through support and investment platforms						**Outcome 3** Conditions are created at country and city level for the introduction of electric mobility demonstration projects, and wider up take of electric mobility						**Outcome 4** Projects and electric mo and key developments, l lessons learned are shar of electric mobility.	
Indicator 1.1 # of knowledge products developed by the four thematic working groups and used by the Support and Investment platforms in their training and outreach activities			Indicator 2.1 # of countries using services and knowledge products offered by the Support and Investment Platform						Indicator 3.1 # of countries with an improved institutional framework and a strategy to promote the uptake of low-carbon electric mobility						Indicator 4.1 # of countries generating and other lessons learne mobility with the global p	
Baseline: 0	Mid-point target: 10	End point target: at least 25	Baseline: 0	Mid-point target: At least 25% of the GEF-approved Country Child Projects	End-point target: At least 85% of the GEF-approved Country Child Projects				Baseline: 0	Mid-point target: -	End-point target: At least 85% of the GEF-approved Country Child Projects				Baseline: 0	Mid-poin -
			Indicator 2.2 # of US$ leveraged to scale-up low-carbon electric mobility through the support and investment platforms						Indicator 3.2 # of countries with nationally generated evidence of the technical, financial and/or environmental benefits of low-carbon electric mobility						Indicator 4.2 # of e-mobility knowledg evidence coming from th	
			Baseline: US$ 0	Mid-point target: -	End point target: US$ 140 million				Baseline: 0	Mid-point target: -	End-point target: At least 85% of the GEF-approved Country Child Projects				Baseline: 0	Mid-poin -
			Indicator 2.3 # number of e-mobility scale-up and / or replication concepts facilitated as a result of the match-making						Indicator 3.3 # of countries that have improved preparedness to accelerate market transformation towards low-carbon electric mobility						Indicator 4.3 # of non-e-mobility progr to actively promote the u mobility	
			Baseline: 0	Mid-point target: 2	End point target: At least 10				Baseline: 0	Mid-point target: -	End-point target: At least 85% of the GEF-approved Country Child Projects				Baseline: 0	Mid-poin -
			Indicator 2.4 # of financial institutions / development banks (national/regional) that have been engaged through the Global Programme and are actively supporting e-mobility projects						Indicator 3.4 # of countries with measures in place to ensure the long-term environmental sustainability of low-carbon electric mobility							
			Baseline: 4 (ADB, EBRD, DBSA, World Bank)	Mid-point target:	End point target: 12 (+8)				Baseline: 0	Mid-point target: -	End-point target: At least 85% of the GEF-approved Country Child Projects					

Table 20: Global E-mobility Programme Monitoring Framework

The global project will report against this framework on an annual basis, using (1) the global level data from the Global Thematic Working Groups and from the Support and Investment Platforms, and (2) country level data provided by each country project during their annual Project Implementation Review (PIR) process.

For this purpose and whenever applicable, the global level indicators highlighted in green are translated into a country-level indicator in the Project Results Framework located in Annex A of the present CEO

Endorsement Document. During project implementation, the MoTTIT, as Executing Agency will be requested to report against the indicators of the country Project Results Framework (Annex A) on an annual basis, during the PIR process, in addition to the usual GEF Core Indicators (mentioned at the top of the table above).

At the global level, a steering committee led by the United Nations Environment Programme will coordinate and monitor the implementation and the outputs of the GEF 7 Electric Mobility Programme. On technical gaps, four thematic working groups at the global level will support the rapid introduction of electric mobility in GEF recipient countries. These working groups will generate universal knowledge products that contain best practices, factsheets, interactive tools and guidance, as well as experiences from countries that have advanced their e-mobility market. The working groups will be integrated by representatives from the global programme regional platforms, GEF-7 countries, IEA, vehicle manufacturers, utilities, researchers and the civil society. The governance structure is presented in the figure below.

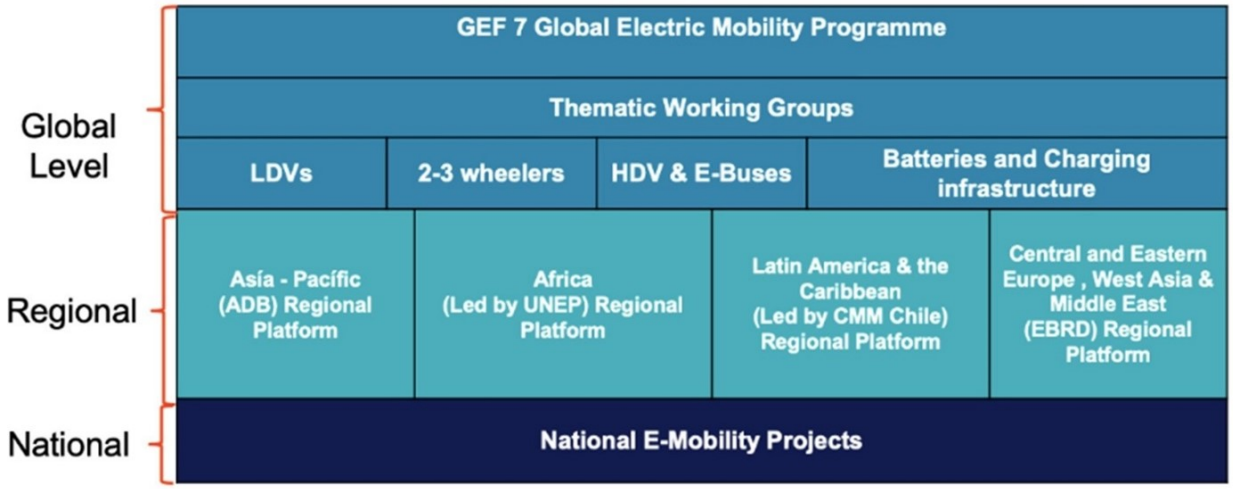

Figure 8: Structure of the Global E-mobility Programme

Governance structure between the global programme, the national e-mobility projects, and the regional Support and Investment Platform:

The coordination between the global program, the steering committee, the thematic working groups, and the national projects will be facilitated by the regional Support and Investment Platform. The role of the regional platform is to provide customized technical assistance to ensure the success of the country projects. Moreover, knowledge products developed by the working groups will be adapted and disseminated by the regional platform according to the regional and national context, specific needs and languages.

The 4 Support and Investment Platform will interact with and support participating countries in the region to link with each other through the following activities:

? The creation of a community of practice for the GEF 7 regional countries;

? Facilitation of knowledge transfer between countries, and regions, especially those with common characteristics like SIDS;

? The creation of thematic groups in light-duty vehicles (LDVs), 2-3 wheelers, and buses at regional level;

? A marketplace between countries, technology providers and financial institutions;

? Help desk for technical assistance to GEF 7 countries;

? Personalized assistance from international experts in electric mobility;

? Generation of training sessions and workshops.

The national child projects will generate a learning curve on electric mobility that can be transferred to other countries within and outside of the region through the global programme. As a first contact point, the regional Support and Investment Platform will facilitate the flow of learnt lessons from child projects, such as: data and demonstration results, working business models, operational know-how, working financial instruments, and working policies and regulations. At the global level, the scenarios proposed to share country knowledge and experiences on electric mobility are the thematic working groups, while at the regional level the countries will participate in the community of practice, the thematic regional groups, the marketplace, trainings and workshops.

2. Stakeholders

Please provide the Stakeholder Engagement Plan or equivalent assessment.

This Stakeholder Engagement Plan (SEP) is designed to ensure effective engagement of all relevant stakeholders throughout the project lifecycle in Burundi. It builds upon the information collected in the interviews and workshops conducted during project preparation. The project will aim at maintaining fluid and two-way dialogue with the relevant national and local government institutions and agencies, the private sector, and civil society for national activities, as well as with local and international NGOs, the international community and other participating countries at the global programme level.

Legal requirements for public consultation in Burundi

There are few legal requirements for public consultation in Burundi, and these are included in the Environmental Code (Loi n? 1/010 portant code de l?environnement, du 30 juin 2000). For this project,

public consultation will follow any relevant national guidelines and the GEF Guidelines, which require that all GEF-funded projects meet best international practice and specifically the requirements for stakeholder engagement and public consultations. The project stakeholder engagement activities will be robust, including disclosure of all project-related information in order to promote better awareness and understanding of its strategies, policies and operations. During disclosure, the project will: (1) identify people or communities that are or could be affected by the project as well as other interested parties; (2) ensure that such stakeholders are appropriately engaged on environmental and social issues that could potentially affect them, through a process of information disclosure and meaningful consultation; and (3) maintain a constructive relationship with stakeholders on an on-going basis through meaningful engagement during project implementation. The stakeholder consultations will take place along the whole project life and will ensure that stakeholders are informed about environmental and social consequences of the project implementation and that they have adequate channels to provide their feedback.

Identification of stakeholders for engagement and methods of communication

In order to ensure inclusive participation and consultation, the following stakeholders have been identified for consultation. The list includes the identified social groups that are associated with the project in different ways: those directly or indirectly engaged in the outcomes of project implementation; those directly or indirectly participating in the project, and those with a capacity to influence and decide on project implementation and outcomes.

? National government. The Office of the Presidency of the Republic of Burundi (OP), the Ministry of Environment, Agriculture and Livestock (MEA, through its Climate Change Coordination), the Ministry of Trade, Transport, Tourism and Industry (MoTTIT[1]), the Ministry of Finance (MoF, through its Internal Revenue Office, mainly in what refers to for the import facilitation of electric vehicles), the Ministry of Hydraulics, Energy and Mines (through its General Directorate of Energy and the Regulatory Authority for the Potable Water and Energy Sectors). Other ministries may be interested in participating in particular project activities, such as those addressing urban development regulations or road infrastructure, which could be of interest for the Ministry of Infrastructures, Equipment and Social Housing, (MoIESH, through the recently established *Office burundais de l?urbanisme, de l?habitat et de la construction*, OBUHA or the Burundian Road Agency, *Agence Routi?re du Burundi,* ARB). The MoHEM has expressed its support to the project by confirming its capacity to ensure that electrical power needs will be met to support the electrification of transport in Burundi (see co-finance letter).

? National regulators and public companies. REGIDESO (R?gie de Production d'Eau et d'Electricit?) is the vertical integrated company for production, transmission, and distribution of electricity. REGIDESO is expected to play a key role in the development and implementation of the national e-mobility strategy, the deployment strategy of public charging stations and the promotion of e-mobility. There is also a Rural Electrification Agency (ABER), mainly involved in off-grid projects. The Office of Public Transport (OTRACO) is the public provider of urban and interurban passenger transport services, and its share of the market is decreasing due to the expansion of private operators.

Regulation and control remains in the hands of the MoHEM in the energy sector and the MoTTIT in the transport sector.

? The municipality of Bujumbura is engaged in implementing, in partnership with the national government, its Master Plan (Bujumbura 2045), prepared in cooperation with UNDP in 2015 and including the whole metropolitan area. Besides the construction of a by-pass and upgrading of routes, it includes actions for the improvement of the transport network, such as two BRT corridors and cycling and pedestrian networks in order to keep the share private car use under 30% in spite of the expected economic growth.

? Public Transport Associations. There are different public transport associations, mainly gathering together drivers: The Association of Public Transport System in Burundi (ATRABU) for minibuses and buses, ATUBU for 3Ws and COAMOTABU for 2Ws.

? Civil Society Organizations. This includes specialized NGOs such as Sustainable Transport Africa, which is already present in other countries in the region, but not in Burundi yet; NGOs active in women rights include Institut Panos Grands Lacs (IPGL), with headquarters in Bujumbura and active also in Democratic Republic of Congo and Rwanda. There are also NGOs active in sustainable mobility and electrification at the regional and subregional levels: Sustainable Transport Africa is an NGO based in Kenya with the primary objective of making transport more accessible to the lower income, physically challenged and financially disadvantaged groups, while reducing the adverse environmental and health impact. It is already cooperating with UNEP in e-mobility projects in other African countries and will also participate in the Burundian project. African Gender Promotion is active in Burundi and actively participated at the validation workshop.

? The local financial sector is a key project partner to facilitate the access of operators to EVs and have been invited to join the project?s activities. Key financial stakeholders in Burundi include *Banque Nationale de D?veloppement Economique* (BNDE, public), *Banque Commerciale du Burundi* (BANCOBU, private, although with a significant share of the public sector in its capital), *Banque Burundaise pour le Commerce et l?Investissement* (BBCI), Bank of Africa and *Banque de Cr?dit de Bujumbura* (BCB), all of them private. *Soci?t? d?Assurances du Burundi* (SOCABU, state-owned), with a significant business share of vehicle insurance, will also be engaged in project activities. As EVs provide a substantial reduction in operating costs in exchange of higher upfront capital costs, they offer a significant business opportunity to the financial sector to develop appropriate loans, leasing and insurance schemes.

? Industrial stakeholders are essential for the deployment of EVs in Burundi. For them, the project provides an opportunity to enter a fast-growing market, in accordance with public and private fleet renewal forecasts. It is worth mentioning local vehicle dealers such as Groupe Ladak (importing and distributing 3Ws from the Indian manufacturer LADAK, TVC and other brands, some of which already manufacture electric vehicles) or Toyota Burundi (with a strong presence in the public transport segment). There are also a number of industrial stakeholders active in the region and with an interest in participating in the project: some regional motorcycle manufacturers are developing electric models (Ampersand Rwanda, Kibo Africa Limited, Auto-Truck East Africa, Opibus Kenya Limited, Solar E-Cycles Kenya Limited, Bodawerk Uganda Limited), there are also specialists in the implementation of

off-grid PV solar systems and charging infrastructure (e.g. Knights Energy, based in Kenya) and developers of ITS solutions such as Twende Mobility Limited (a transportation technology company based in Kenya that develops software and apps providing services to connect logistics and personal mobility businesses to their customers, allowing transport service providers to automate).

? Public and private managers of large car fleets are the key stakeholders targeted by the project for its demonstration and upscaling activities. They include the GoBI central services, REGIDESO, National Radio and Television, the Postal Services and any interested private companies.

? The higher education system in Burundi includes the University of Burundi, with a department active in transport planning and engineering. This academic institution is keen in participating in the project, providing its knowledge and looking for upcoming challenges to accommodate e-mobility technologies within its curricula and research agendas.

? International Financial Institutions are actively supporting the GoBI in the energy and transport sectors. AfDB and WB are interested in the implementation of the e-mobility project as a complement to their carbon-free electricity generation and distribution projects and, in the case of the WB, as a way to explore additional strategies to increase the resilience and sustainability of the transport system.

The success of the project is hinged on ownership by stakeholders in Burundi. The project was developed in close consultation with the GEF Focal Point for Burundi as well as with the MoTTIT. During its planning stage, UNEP and the MoTTIT organized a stakeholder engagement and project scoping mission in September 2019 to collect input from a wide array of stakeholders for the proposal. Bilateral on-line interviews were held in October 2021- January 2022 with most of the stakeholders identified above in order to identify their concerns and priorities and to integrate their know-how. A final consultation workshop was held in March 2022. As a result, the project has included appropriate responsive measures throughout its lifespan to consolidate and maintain the wide current support built up during the planning stage. The existing activities already undertaken or envisaged by key stakeholders are identified in the table below. Based on this information, their potential contributions to the project components are also identified.

Two stakeholder consultation workshops have been conducted during project preparation. The first workshop took place in Bujumbura on 16 February 2021, with participation of representatives from the government (President?s Office, Ministry of Finance, Budget and Economic Planning (MoFBEP), MoHEM, MoTTIT (including OTRACO, the Road Agency and the Maritime, the Port and Railway Authority, and the General Inspectorate), Ministry for East African Community Affairs, MoEAL (including the Burundian Office for Environment Protection, OBPE), Ministry of Infrastructure, Equipment and Social Housing (MoIESH), National Standardization Office, UNDP Country Office, University of Burundi, ATRABU and several vehicle dealers (SOGERBY, Toyota Burundi, Group Ladak, MUSUMBA Steel). The participants agreed that a project on e-mobility in Burundi would benefit from the outcomes and lessons learnt from the ?Share the Road? project (2015) and from the expected urban road improvements to be attained through the *Transport Resilience* Project recently approved by the World Bank.

The other consultation workshop took place in Bujumbura on 31 March 2022. The 50 participants included representatives from the government (Ministry of Finance, Budget and Economic Planning (MoFBEP), MoHEM, MoTTIT, MoEAL, Ministry of Infrastructure, Equipment and Social Housing (MoIESH), MoNSSAHRG and the Office of the Vicepresident), UNDP Country Office, OTRACO, University of Burundi, ATRABU, ATUBU, the insurers? association (ASSUR) and several vehicle dealers (Toyota Burundi, Group Ladak), transport professionals and consultants (Chambre Sectorielle des Transports de la Chambre Federale de Commerce et d?Industrie de Burundi (CFCIB), BTLS, Volcano), African Gender Promotion and the local and national media. The participants welcomed the project?s approach on e-mobility in Burundi, discussed the scope and contents of each project component, reviewed environmental, social and gender challenges associated to the project and highlighted the need to strengthen synergies with the WB?s Transport Resilience Project.

A final consultation took place among the ministries involved in the week of 7-11 November. The consultation was led by the Ministry of Trade, Transport, Industry and Tourism, with the involvement of the Directorate General of Transport, and included the Ministry of Hydraulics, Energy and Mines, the Ministry of Environment, Agriculture and Livestock, the City Council of Bujumbura, the Burundian Internal Revenue Service (Office Burundais des Recettes, OBR) and OTRACO. The comments received helped to provide more precise statements regarding the energy and transport systems in the country, to spot additional opportunities for the engagement of the private sector in the project and to provide the necessary budgetary resources to some key project activities (the local advisory group and the project kick-off meeting).

Stakeholder main group	Stakeholder name	Existing activities with potential to be leveraged	Contributions to the project
National Government	MoEAL (Ministry of Environment, Agriculture and Livestock) and Burundian Office for Environment Protection (OBPE)	Update and implementation of the Sectoral Energy Strategy (2011) National Sanitation Plan	Component 1: e-mobility strategy, coordination platform, training activities, new regulatory framework for 2 and 3 wheelers. Component 4: End-of-life management of EVs and their batteries
	MoTTIT (Ministry of Trade, Transport, Industry and Tourism)	Implementation of National Transport Plan. Implementation of recommendations from studies on public transport fares and public transport in Bujumbura	Component 1: e-mobility strategy, coordination platform, training activities. Component 2: support to the implementation of the charging infrastructure as part of the demonstration Component 3: Development of business models and financial schemes.
	MoFBEP (Ministry of Finance, Budget and Economic Planning), Internal Revenue Office	Update of transport tax regulations	Component 1: e-mobility strategy, coordination platform. Component 3: Fiscal policies and regulatory schemes on e-mobility; Development of business models and financial schemes.
	MoHEM (Ministry of Hydraulics, Energy and Mines), DG Energy	Update and implementation of the Sectoral Energy Strategy (2011)	Component 1: e-mobility strategy, coordination platform, training activities. Component 3: Development of business models and financial schemes.
	MoHEM, Regulatory Authority for Water and Energy Sectors	Update and implementation of the Sectoral Energy Strategy (2011)	Component 1: e-mobility strategy, coordination platform, training activities.

	MoNSSAHRG (Ministry of National Solidarity, Social Affairs, Human Rights and Gender)	Update and Implementation of the National Gender Plan 2012-2025 (NGP)	Component 1: e-mobility strategy, coordination platform, training activities. Component 2: gender aspects in the design of the demonstrations Component 3: Development of business models and financial schemes prioritizing women?s engagement
	MoIESH (Ministry of Infrastructure, Equipment and Social Housing), through OBUHA (Office Burundaise de l?Urbanisme, Urban Agency) and ARB (Agence Routi?re du Burundi)	Land use, urban and regional planning	Component 1: e-mobility strategy, coordination platform
Public Sector	REGIDESO Ele ctricy and Water Utility (R?gie de Production et de Distribution d?eau et d??lectricit? du Burundi)	Investment in renewable electricity generation	Component 1: e-mobility strategy Component 2: support to the implementation of the charging infrastructure as part of the demonstration Component 3: Development of business and financial models.
	ABER (Rural Electrification Agency, *Agnce Burundaise d??lectrification Rurale)*	Investment in off-grid renewable electricity generation	Component 1: e-mobility strategy Component 2: support to the implementation of the charging infrastructure as part of the demonstration Component 3: Development of business and financial models.
	OTRACO (Office des Transports en Commun, Public Transport office)	Improvements in the provision of bus services in Bujumbura	Component 2: Demonstrations Component 3: Development of business and financial models on electrification of transport sector

Local Gov.	Municipality of Bujumbura	Implementation of its Master Plan (Vision 2045)	Component 1: e-mobility strategy, training, new regulatory framework for 2 and 3 wheelers. Component 2: Demonstrations Component 4: End-of-life management of EVs and their batteries
Public Transport Associations	ATRABU (Association des Transporteurs du Burundi, Transport Association)	General support to its associates (minibus and bus drivers)	Component 2: design of demonstrations, validation of results Component 3: Business models and financial schemes on electrification of transport sector Component 4: business models on ELV management
	ATUBU (Association des Tuk-Tuk du Burundi, Association of 3W operators)	General support to its associates (3W drivers)	Component 1: new regulatory framework for 2 and 3 wheelers. Component 2: design of demonstrations, professional training on electric 3Ws; validation of results Component 3: Business models and financial schemes on electrification of transport sector
	COAMOTABU (Association des Motards du Burundi, Association of Moto-taxi drivers)	General support to its associates (2W drivers)	Component 1: new regulatory framework for 2 and 3 wheelers. Component 2: design of demonstrations, professional training on electric 3Ws; validation of results Component 3: Business models and financial schemes
Civil Society Organizations	Institut PANOS Grands Lacs	Gender perspective in mass media, with a focus on radio	Component 1: e-mobility strategy Component 2: design of demonstrations; validation of results

	Sustainable Transport Africa	Programme on electric mobility	Component 1: e-mobility strategy Component 2: design of demonstrations; validation of results. Component 3; Business models and financial schemes Component 4: business models on ELV management
Financial sector	BNDE (Banque Nationale de D?veloppement ?conomique)	Vehicle loans to transport operators and corporations	Component 3: Business models and financial schemes on electrification. Component 4: Business models and financial schemes on ELV management
	BANCOBU (Banque Commerciale du Burundi)	Vehicle loans to transport operators and corporations	Component 3: Business models and financial schemes on electrification. Component 4: Business models and financial schemes on ELV management
	BBCI, BA, BCB (Banque Burundaise por le Commerce et l?Investissement, Bank of Africa, Banque de Cr?dit de Bujumbura)	Vehicle loans to transport operators and corporations	Component 3: Business models and financial schemes on electrification. Component 4: Business models and financial schemes on ELV management
	SOCABU (Soci?te d?Assurances du Burundi)	Vehicle insurance better tailored to the urban public transport sector	Component 3: Business models and financial schemes on electrification. Component 4: Business models and financial schemes on ELV management
Industrial sector, local	Groupe Ladak		Component 2: Demonstration.
	Toyota Burundi		Component 3: Fiscal policies and regulatory schemes on e-mobility; Development of business models and financial schemes

Industrial sector, regional	Ampersand Rwanda; Kibo Africa Limited; Auto-Truck East Africa; Opibus Kenya Limited; Solar E-Cycles Kenya Limited; Bodawerk Uganda Limited	Design and manufacturing of electric 2W and 3W at various stages of development	Component 2: Demonstration. Component 3: Fiscal policies and regulatory schemes on e-mobility; Development of business models and financial schemes Component 4: Business models and financial schemes on ELV management
	Knights Energy	Design and implementation of charging infrastructure	Component 2: Demonstration.
	Twende Mobility Limited	Design of dispatching software	Component 2: Demonstration.
Corporate and government fleets	MoFBEP. Services for vehicle procurement and operation	Optimization of their fleet management practices	Component 2. Validation of demonstration results Component 3: Fiscal policies and regulatory schemes on e-mobility; Development of business models and financial schemes
	National radio and television	Optimization of their fleet management practices	Component 2. Validation of demonstration results Component 3: Fiscal policies and regulatory schemes on e-mobility; Development of business models and financial schemes
	Postal services	Optimization of their fleet management practices	Component 2. Validation of demonstration results Component 3: Fiscal policies and regulatory schemes on e-mobility; Development of business models and financial schemes
	REGIDESO	Optimization of their fleet management practices	Component 2. Validation of demonstration results Component 3: Fiscal policies and regulatory schemes on e-mobility; Development of business models and financial schemes

	Private companies (Brarudi, Sosumu, Afritex til and others to be identified)	Optimization of their fleet management practices	Component 2. Validation of demonstration results Component 3: Fiscal policies and regulatory schemes on e-mobility; Development of business models and financial schemes
Research & Education	University of Burundi	Training and research on urban mobility	Component 1: E-mobility strategy Component 2: Design of demonstration and validation of demonstration results
International Financial Institutions	African Development Bank	Several renewable electricity projects under implementation in Burundi	Component 1: E-mobility strategy
	World Bank	Transport Resilience Project approved and starting implementation. Several renewable electricity projects under implementation in Burundi	Component 1: E-mobility strategy Component 2: Upgrading of the RN-3 corridor enabling the demonstration of electric 3Ws. Component 3: Scaling-up e-mobility.

Table 21: Stakeholders' expected contributions to the project

[1] The competences of the Ministry of MoTTiT) include the design and implementation of the national transport policy, the development and regulation of transport systems of the supervision, construction and maintenance of urban infrastructure. The Ministry?s Directorate of Inland Transport has the competences on public transport, and supervises the activities of a Public Commercial Entity, the Public Transport Office (Office des Transports en Commun, OTRACO). Since 2011, a Technical Commission has been entrusted to develop proposals for the improvement of urban public transport, with a focus on Bujumbura (Ordonnance Minist?rielle n? 720/2142, 22 Sept 2011). Whereas local roads are the competence of municipalities, it is not the case for the management of urban transport, which remains under the responsibility of the national government (except in Bujumbura in what refers to traffic management). The NTS proposed the creation of a coordination entity to regulate urban transport in Bujumbura, with the participation of MCIT, the municipality and other stakeholders from the civil society.

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.

Stakeholders will be consulted along project implementation through different channels, in accordance with their profile:

? Stakeholders from the national government will participate as full members of the Project Steering Committee (PSC) (meetings foreseen at least once per year) and the national coordination platform on e-mobility (3 or 4 times a year).

? The other stakeholders will be invited to participate as full members in the coordination platform and in other project working groups (meetings foreseen at least quarterly), in accordance with their area of interest. Depending on the contents of the PSC agenda, they could also be invited as observers at the PSC meetings on a case-by-case basis if the National Project Director considers it appropriate. Further information on the PSC and the project?s working groups is available in section 6 and annex K.

Project information will be available to stakeholders through the project website envisaged in D.1.3.3. The project will endeavor to make information available to stakeholders and to the public, so that they can know the environmental and social risks and impacts associated with the project, as well as the opportunities it provides. Project data will enable them to take better-informed decisions on e-mobility. The project will provide disclosure and consultation on the project?s environmental and socio-economic performance to all stakeholders through project briefs and annual reporting, available in the project website. The project will also provide:

? An update on the project achievements and its contributions to enhancing transparency.

? An overview of the stakeholder engagement process and how affected parties can participate and provide feedback through meetings or other channels.

? Project impacts and how the government is using the project data to enhance the mobility of Saint Lucia residents and to reduce national GHG emissions.

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor; Yes

Co-financier;

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

Executor or co-executor;

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

Gender analysis:

The Government has ratified a number of international conventions related to the rights of women, including the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) (ratified in January 1992, although it has not ratified the 1999 Optional Protocol to the Convention), the Protocol to the African Charter on Human and Peoples? Rights, on the rights of women in Africa (Maputo, 2003), and the Protocol on prevention and repression of sexual violence against women and children (2006) within the International Conference of the Great Lakes Region (ICGLR, established in 2004). This protocol establishes a Committee for the protection of women and children from sexual violence. This protocol has been followed by Declarations in June 2008 and December 2011.

Burundi has also ratified the following fundamental International Labour Organization (ILO) conventions: the Equal Remuneration Convention, 1951 (No. 100, ratified on 25 June 1993) and the Discrimination (Employment and Occupation) Convention, 1958 (No. 111, ratified on 25 June 1993).

The country has also been involved and upholds key international and regional instruments related to the advancement of women, including the Nairobi Forward-looking Strategies for the Advancement of Women (1985); the Beijing Declaration and Platform for Action (1995) and the Millennium Development Goals (2000), the Resolution 1325 on women and peace and security of the UN Security Council (2000) and the Paris Declaration on Aid Effectiveness (2005).

The country?s constitution (adopted in June 2018) provides for protection before the law regardless of sex and establishes some explicit references to positive discrimination to facilitate the access of women to decision-making positions (such as a minimum percentage of Women in the National Assembly and the Senate). Relevant legislation includes the Law on prevention, victim protection and repression of gender-based violence (Loi n? 1/13, 22 September 2016).

This gender analysis has taken into consideration the general context sketched above and is based on the information provided through on-line interviews and by a stakeholder workshop held in February 2021. It also makes use of the information provided in the National Gender Plan (2012-2025) and in its second quinquennial action plan (2017-2021).

The preparation and adoption of the National Gender Plan 2012-2025 was a landmark in the promotion of women?s participation in the political, economic, social and cultural spheres. Its preparation took place at a time in which Burundi was stabilizing after civil wars in the 1990s. In the first years, free schooling for basic education helped Burundi improve equality between boys and girls; also, a gender-based violence law was adopted in 2016, and women?s participation in national and local decision-making saw remarkable progress[1]. However, the 2015 unrest led to a deterioration of human rights, including violence against women, as reported by the UN Human Rights Council?s Commission of

Inquiry on Burundi, set up in September 2016, and sanctions were imposed by the EU and the US. These sanctions have been removed in June and November 2021, respectively.

Gender equality and women?s promotion are addressed by the government through the Directorate general for the promotion of women and gender equality, within the Ministry of National Solidarity, Social Affairs, Human Rights and Gender (MoNSSAHRG). The Ministry publishes an annual statistical report, including information on violence against women, femicides and other gender-related indicators. The 2019 report states a high number of victims, although lower than in the previous two years. However, these statistics have to be taken cautiously, considering the criticism of the UN Human Rights Council?s Commission of Inquiry on Burundi to the government regarding human rights abuses.

Indicator	**2017**	**2018**	**2019**
Women suffering from sexual violence	1,869	2,007	1,374
Women suffering from physical violence	3,252	3,590	2,439
Women suffering from socio-economic violence	6,282	5,717	4,216
Women suffering from psychological violence	5,613	5,140	3,324
Women killed following sexual and gender-based violence	56	54	37
Women receiving medical attention following SGBV	NA	1,372	1,020
Women receiving socio-economic attention following SGBV	NA	446	396
Women receiving psychological attention following SGBV	NA	1,607	851
Women receiving legal attention following SGBV	NA	557	394
Persons trained on fighting SGBV and promoting women	2227	6,459	733

Table 22: Statistics on violence against women. (Source: MoNSSAHRG, 2019)

The main institutions reporting on the assistance provided are Centre Humura and Projet Maison des Femmes. There are also a high number of community associations (following the Nawe Nuze approach) created with the support of the Ministry: 560 were identified in 2019.

The multiple roles played by women, including the disproportionate responsibility for caregiving, often assumed early in life, has contributed to limited access to various opportunities for women to pursue education and skills training facilitating their participation in the job market. Educational achievement rates are summarized in the table below. It is worth noticing how the 2015 political crisis resulted in a general deterioration of educational indicators for women and men, especially in primary education.

	2011/12	2015/16	2017/18

% women enrolled in (public) primary education	50.3%	50.6%	49.4%
% population enrolled in first year primary ed.	78.8%	NA	54.3%
% children enrolled in first year primary ed.	78.8%	NA	49.3%
% girls enrolled in first year primary ed.	75.8%	NA	54.6%
% women enrolled in secondary education	42.4%	48.9%	50.9%
% women enrolled in higher education	32.9%	33.1%	38.0%
% women teaching in higher education	13.1%	20.7%	14.4%

Table 23: Statistics on women's progress in education. (Source: MoNSSAHRG, 2019)

Pervasive gaps in working conditions of women and men remain. The primary sector employs the lion?s share of the working force in Burundi, mainly in subsistence exploitations: 86.3% of the total working population, and 93.7% in the case of women compared to 77.3% in the case of men. The secondary and tertiary sectors offer comparatively better working conditions and employ a larger share of men (6.5% of the men?s workforce compared to 1.0% of women?s workforce in the secondary sector and 16.1% compared to 5.4% in the tertiary sector[2].

Women occupy 30% of ministerial positions in the Burundian Cabinet following the 2020 elections. As well as 30.5% of the seats in the national assembly and 46.3% of the seats in the senate. There are no statistics referring to the percentage of women in the ministries and other governmental bodies. The Women National Forum (as envisaged in the ICGLR, Peace Pact) was established in 2013 (*d?cret n?100/306 du 21 novembre 2012*). It has undertaken different activities to increase the share of women in decision-making positions, including local institutions in rural areas (*Conseils colinaires*), where there is a legal requirement reserving a 30% quota to women. Following the NGP, gender focal points were established at each ministry, and subsequently strengthened as gender units. The NGP is being implemented through quinquennial plans, and the current one (2017-2021) foresees the preparation of strategic plans on gender for every relevant sector. The one for the transport sector has recently been submitted to the Cabinet of Ministers for approval (December 2021).

The project undertakes an affirmative action policy to give priority to women in accessing to capacity building and training activities and establishes gendered targets in this area.

Sexual harassment and violence remain a pervasive challenge in Burundi, in accordance with official reports (see Table 22). However, 2019 figures are significantly lower than those of previous years. The adoption of a Law on VBG in September 2016 has contributed to the prevention and protection of the victims of sexual violence[3] .

The availability of gender-sensitive information in the transport sector is very low. The general impression is that the transport sector, and in particular the urban transport sector in Burundi is strongly

dominated by men. For example, the share of women in the OTRACO?s staff is just 3% and corresponds exclusively to administrative positions[4] . During the project design stage, it was possible to obtain the number of women with driving permits; they represent just 6.0% of motorcycle driving permits (A category), 13.3% of car driving permits (B Category) and 2.9% of bus driving permits (categories D1 and D2)[5]. There is no information on the number of licenses held by women to provide urban transport services (2W, 3W and buses) or the number of vehicles owned and registered by women.

Although a mobility survey was conducted in Bujumbura in 2017, the results do not include gendered information (e.g. on the number of daily trips, trips? purpose or modal share). The same can be said of the information available on traffic accidents (and particularly for the more vulnerable users, like pedestrians). Anecdotal information suggests that women may have difficulties to safely get home, as public urban transport becomes unreliable and even non-existent after 5-6 pm in many routes. It is also widely recognized that, for many average women it takes much longer to get a loan to buy a vehicle than it is for men of a similar economic profile.

The qualitative information provided during bilateral meetings and workshops was consistent in highlighting the following traits:

? Women's mobility in Burundi is characterized, as in many other countries, with a higher percentage of chained trips and accompanying trips than in the case of men; women?s mobility is jeopardized with lower vehicle (car, motorcycle or bike) ownership compared to men, and with the poor quality of public transport.

? The negligible participation of women in jobs provided by the transportation sector can be linked to working conditions, and a hostile environment for women (e.g. security issues and cash-handling in public transportation). EV features (for drivers) can be more appealing to women than the vehicles currently used in the public transport sector, as they provide advanced driving assistance and require less physical effort while driving on the poorly maintained roads of Bujumbura and other cities.

? As a high share of women work in the informal sector, their mobility needs are not necessarily served by the strongly centralized pattern of public transport lines. The project could further analyze women?s mobility patterns and provide some recommendation to improve women?s accessibility.

? Access to financing is also harder (and longer) for women, which makes it more difficult for women to get a loan, for private use or for business.

? Women have access to technical education and would be ready to occupy jobs in the passenger transport sector, including the new jobs linked to electric mobility. As cultural barriers remain preventing women from entering this sector, the project provides an excellent opportunity to facilitate such access, by making sure that at list 15% of the training and working opportunities (i.e. drivers and mechanics) are occupied by women (see Annex M for detailed information on project?s beneficiaries, including minimum female participation at different project activities).

In spite of the limited statistical evidence available in Burundi, considering the prevailing patterns in other countries in the region[6] , it can be reasonable to assume that the project will need to face both a ?mobility gap? and a ?job gap?:

? The mobility gap is related to the low quality of public transport services. There is a strong gap between those relying in public transport and those that can afford their own vehicle or on-demand services. There is also a strong gap between those making commuting radial trips in Bujumbura and those (usually subject to the informal economy) that need to reach non-central destinations. This mobility is likely to be disproportionately suffered by women and other social groups prone to social exclusion. The gender gap in mobility conditions implies that many women will face long travel times to reach their destinations and return home. The gender mobility gap is sustained by insufficient attention to the public transport system and is associated to substantial social and environmental consequences.

? Violence against women is likely to be favored by poor public transport services; for instance, physical contact in minibuses, waiting at stops poorly lighted and protected, and lack of services outside peak hours. All these conditions are likely to increase the perception of insecurity by women travelling in Burundian cities.

? The job gap can be a consequence of a mix of factors, including the poor working conditions in the transport sector, the insecurity associated to widespread informality, and difficult access to vehicle financing. It can also be associated to a patriarchal management culture in the main urban transport companies, including OTRACO.

The current operational conditions of the public transport system are also poorly suited to cope with many women?s needs. Operations have been designed historically to cope with the needs of daily home-to-work trips at peak hours and do not adequately address mobility needs related to social reproduction (household shopping, socializing children or providing support to dependent adults); there is wide evidence[7] that these trips are frequently chained by users, and are poorly served by the existing public transport system. However, any changes in urban transport operations need a much stronger involvement of the national and local government than what has been usual in the past.

Primary potential risks of the project

The information collected allows to conclude that the transportation sector remains strongly male-dominated at the decision making and labor levels, and that the particular mobility needs and expectations of women compared to men are considered only marginally. There is a significant risk that, without effective consultation and inclusion of women in project activities, the introduction of EVs could serve to:

? Consolidate the current gender imbalance, as the new technology would be implemented in a male-dominated context in which it is likely to be used to serve primarily the mobility needs of those already enjoying better mobility conditions.

? Facilitate the development and implementation of policies and strategies on public transport that are not gender-sensitive, locking-in the existing male-dominated hegemony in the approach to public transport systems.

? Continue to promote unsafe conditions for women in public transport systems, if a gender-inclusive and gender-sensitive approach is not adopted in both design and implementation of policies and strategies.

? Introduce ineffective business models and financial mechanisms which do not take into consideration how women can gain fair access to financial products and instruments in Burundi.

? Introduce negative health impacts on women and children, due to soil contamination by the inappropriate disposal of vehicles and batteries at their end of life, if women are not involved effectively in design and implementation of policies and strategies on end-of-life vehicle management, including EVs.

Opportunities

The introduction of EV technologies can also be transformative, serving as an opportunity to implement changes, so that EVs improve the mobility conditions of women (implementing vehicles in mobility services to be used mainly by women). It can also facilitate a more balanced access to transportation jobs (targeting driving, maintenance and fleet management training on women during project activities, including the demonstration). By involving women effectively in project design and implementation, and ensuring that interventions are gender sensitive, the project may support the introduction of increased economic opportunities for women in the transport and electricity sectors and support a just-transition of the workforce from existing high-emission technologies. The project MRV system can also serve to introduce gender-sensitive indicators within national transport statistics.

Gender Action Plan:

Implementation of the gender action plan has been embedded within the project structure as follows:

? The integration of gender issues within public policies addressing e-mobility will be developed through component 1, output 1.2, output 1.3, and technical consultancies have been designed and budgeted to support this. The National E-Mobility Strategy is supported by a gender-sensitive feasibility analysis on electrification, which will provide the factual evidence and the appropriate actions to mainstream gender issues in transport policy. The discussion above suggests that women may be more concerned about safety and personal security; furthermore, women tend to have less access to different transport options, and tend to have multiple purposes in their trips, many times during off-peak hours, to accommodate the conflicting needs of work, household and childcare. Transport quality- related topics of high relevance for women probably include off-peak service quality, convenient transfers, and good coverage of key destinations by the network. The project

intends to explore these challenges in order to define future electrification patterns consistent with a gender-sensitive improvement of mobility conditions, focusing on public transport. The e-mobility strategy provides the adequate framework for a comprehensive consideration of the opportunities and challenges associated with the deployment of EVs to advance equality between women and men and to improve the mobility conditions, employment opportunities and empowerment of women. Within output 1.3, training activities targeting decision-makers and other key stakeholders will stress gender issues in transportation. The new regulatory framework to integrate 3Ws within the urban public transport system developed in output 1.2 will integrate gender-sensitive aspects for the operation of 2Ws and 3Ws.

? The alignment of the technical characteristics of EVs and their operation with women?s priorities and needs is also addressed within component 2, output 2.1. Data collected for the preparation of the demonstration will be gender-sensitive, and the guidelines prepared for the project demonstrations are expected to facilitate the involvement of women within the demonstrations as EV fleet managers, drivers or in maintenance provision. Additionally, the project envisages the implementation of multimedia campaigns on gendered violence in urban transport.

? Access to jobs in the transport sector is addressed within component 2, output 2.2, supporting the involvement of women in EV operations, and in component 3, output 3.1 and output 3.2, in which the public transport authorizations and the guidelines for transport operators are expected to include considerations on the need of a corporate strategy to facilitate women?s access to jobs in the future. Current barriers to jobs in the transport sector for women have been discussed during project design, although few conclusions can be advanced at this stage: these barriers are probably associated to tradition, to conservative management and to unfriendly working environments, as in many other countries. A pro-active strategy has been agreed, so that the introduction of electric vehicles (EVs) is taken as an opportunity to foster women participation in jobs by giving priority to women for accessing the new jobs linked to EV (driving, maintenance and management) in the companies associated with the project pilots. The project should facilitate further streamlining of policies to facilitate the access of women to jobs in the transport sector based on these pilots and replication activities. At the upscaling stage after project completion, the public transport sector should benefit from providing a working environment more attractive for women, as their communicative and people-oriented skills can be of great value to improve the quality of the service. Concrete actions to be undertaken within output 3.2 could include to establish a national network of women working in the field of electric mobility (women drivers of motorcycle taxis, tricycles, women automobile technicians and electricians) for their promotion as a model socio-economically valued to inspire other women who hesitate to embark on electric mobility. This could be based on a previous identification of female drivers in taxi, public transport and vehicle maintenance services and the development of recommendations to the government to support women?s association in this sector aiming at self-promotion and training. Additionally, the project could work with the financial sector for setting up affordable credits to women willing to enter this sector, to facilitate the purchase of electric vehicles as a way to encourage the presence of women in this sector.

Gender-oriented actions will be conducted by the Chief Technical Advisor (CTA) with the following partners:

? MoTTIT, MoNSSAHRG and municipality of Bujumbura, particularly the units exploiting the new EV during the demonstration.

? The Ministries in other governmental institutions responsible for the design of public policies in the areas of passenger transport, energy efficiency and sustainable development.

? OTRACO.

? ATUBU, ATRABU and COAMOTABU.

? Local NGOs with a focus on gender issues such as PANOS, AFAB, AGPI, CAFOB and CARE.

The following activities addressing gender issues have been included in the project:

? Project Component 1:

- Output 1.2. The preparation of the National E-Mobility Strategy will include a gender-sensitive feasibility analysis in order to mainstream gender since the first preparatory stages of this policy document.

- Output 1.3. Training materials on e-mobility will be gender-sensitive and will prioritize female staff within the governmental institutions and other key stakeholders targeted.

? Project component 2:

- Output 2.1. The design of the e-mobility pilots will address considerations on the potential contribution of EVs to improve the mobility and working conditions of women. Multimedia campaigns on gender violence in public transport will be designed and implemented as a part of the preparatory activities for the demonstration.

- Output 2.2. The selection of operators will include requirements on the prioritization of women in the operation of the demonstration services and the compliance with a gender-sensitive code of conduct with passengers. Professional training activities will target in priority women, as a way to facilitate their access to the new jobs generated by the deployment of electric vehicles.

? Project component 3:

- Output 3.1. the final revision of regulations on 2W and 3W to take on board the lessons learned from the demonstration will include a gendered approach.

- Output 3.2. The EV procurement guidelines to transport operators and fleet managers will provide guidance for them to mainstream gender issues within their recruitment strategies, training plans and companies? business models for future expansion. The analysis and removal of barriers in the access of women to business opportunities in the transport sector, including access to financial services, will also be considered.

In terms of budget, the expertise on social, environmental and gender safeguards is provided by the CTA, with a dedication estimated at 10% of budget line 110101; gender aspects in project communication and knowledge management is provided by the Junior consultant for project outreach activities and for local support to international experts), with a dedication estimated at 10% of budget line 110102. Training activities include minimum targets for women participation: 100% of budget for deliverable D.2.1.5 (awareness-raising campaign with a gender dimension including violence in PT), 50% of budget for training activities with at least 50% of female participants (D.1.3.4, D.1.3.5, D.1.3.6, D.1.3.7) and 15% of budget for training with at least 15% of female participants (D.2.2.2, D.4.2.5). Also the operation of 3Ws during the demonstration supports gender equality, as it includes the enrolment of women as 15% of the drivers and maintenance staff on top of the provision of safe services to women (D.2.2.5),. This amounts to approximately USD 65,000.

This approach is expected to be sustained after project termination through the inclusion of the project?s recommendations within the practice of the national and local governments, as well as within the private sector.

The proposed project monitoring approach includes some gender-sensitive indicators within the Project Results Framework (PRF, Annex A), which will provide the necessary information for monitoring the Gender Action Plan:

? Core indicator B. Number of direct project?s beneficiaries.

? Indicator 1.2 (delivery of national e-mobility strategy) include as a mid-point target the completion of a gender analysis and action plan for the draft strategy.

? Indicator 1.3 will provide the number of women and men with decision making responsibilities who have received training on the legal and fiscal dimensions of the promotion of e-mobility.

? Indicator 2.1 will provide the number of users (women and men) of services provided by electric 3Ws.

? Indicator 2.2 will provide the number of women employed in the demonstration as drivers or maintenance staff of EV vehicles.

? Indicator 4.2 will provide the number of women and men professionally trained on end-of-life EV management.

Project Components / Outputs	**Gender mainstreaming Objectives**	**Gender mainstreaming** **Activities / Indicators**	**Targets / Means of Verification (MoV)**	**Responsibility**

Overall Project Management	Gender considerations in key project?s decisions	Activity: PSC meetings Indicator: Attendance of MoNSSAHRG	Target: MoNSSAHRG participates at all PSC meetings MoV: List of attendance	MoNSSAHRG. CTA as responsible for social, environmental and gender safeguards.
	Regular project reporting addresses gender	Activity: Completion of annual PIR Indicator: Number of gendered indicators reported in the PIR	Target: PIR includes all gender related indicators from the project results framework MoV: PIR	PMU. CTA as responsible for social, environmental and gender safeguards.
Project objective	Women prioritization in the access to the project?s benefits	Core indicator B: Number of direct beneficiaries of the project, disaggregated by gender	Target: 4,937 women. MoV: Attendance sheets from the child project and the Global Programme; monitoring the number of passengers serviced by the demonstration vehicles	PMU. CTA as responsible for social, environmental and gender safeguards.
Component 1	Gender dimension integrated in policies, strategies and plans	Indicator 1.2: delivery of national e-mobility strategy	Target: Completion of gender analysis and action plan of the e-mobility strategy. MoV: gender report completed	PMU. CTA as responsible for social, environmental and gender safeguards.
Component 1	Access of women of high-level training	Indicator 1.3: Number of decision-makers trained on e-mobility (women and men)	Target: 10 women and 10 men. MoV: attendance list.	PMU. CTA as responsible for social, environmental and gender safeguards.

Component 1 **Output 1.2**	Contributions of electrification of mobility to gender equality identified	Activity: Gender-sensitive electric mobility strategy. Indicator: Gender gap in electric vehicle ownership[8]	Target: Target on women ownership of EVs included in national strategy MoV: National e-mobility strategy	PMU. CTA as responsible for social, environmental and gender safeguards.
Component 1 **Output 1.3**	E-mobility training materials address gender dimension	Activity: Gender aspects embedded in training materials on e-mobility Indicator: Training materials endorsed by MoNSSAHRG	Target: 100% of materials endorsed by expert on social, environmental and gender safeguards. MoV: Letter from expert	CTA as responsible for social, environmental and gender safeguards. MoNSSAHRG.
Component 1 **Output 1.3**	E-mobility training of decision makers prioritize women	Activity: Identification of potential participants in e-mobility training Indicator: Percentage of female participants	Target: At least 50% female participants MoV: Gender disaggregated attendance sheets	PMU. CTA as responsible for social, environmental and gender safeguards.
Component 2	Providing transport services aligned with women?s priorities	Indicator 2.1: Total number of users (women and men) of services provided by electric 3Ws	Target: 4,800 women and 3,200 men. MoV: Estimate based on fleet tracking.	PMU, Municipality of Bujumbura. CTA as responsible for social, environmental and gender safeguards.
Component 2	Access to jobs provided to women	Indicator 2.2: Percentage of women in the demonstration staff (drivers and maintenance)	Target: At least 15%	PMU, Municipality of Bujumbura. CTA as responsible for social, environmental and gender safeguards.

Component 2 **Output 2.2**	Pilots advance participation of women in the 3W PT sector	Activity: Gender embedded in ToR for selection of operators Indicator: ToR validated by MoNSSAHRG Activity: Priority to female staff in training and recruitment Indicator: % of female staff in the pilot (drivers and maintenance staff)	Target: Full validation of ToR by CTA as responsible for social, environmental and gender safeguards. MoV: Letter from expert. Target: At least 15% female staff in operation of pilot. MoV: Reports from operators	PMU. CTA as responsible for social, environmental and gender safeguards. MoNSSAHRG.
Component 3 **Output 3.1**	Mainstreaming gender in final 2W and 3W regulations	Activity: New regulations address women?s mobility needs and participation in the PT sector Indicator: Endorsement by MoNSSAHRG	Target: New regulations endorsed by CTA as responsible for social, environmental and gender safeguards. MoV: Letter from expert	CTA as responsible for social, environmental and gender safeguards. MoNSSAHRG.

Component 3 **Output 3.2**	Mainstreaming gender in electrification guidance for fleet managers	Activity: Guidance to increase female participation in the transport sector, including measures such as setting up a national network of women evolving in the field of electric mobility and a credit program for purchase of electric vehicles by women. Indicator: Endorsement by MoNSSAHRG	Target: Guidance endorsed by CTA as responsible for social, environmental and gender safeguards MoV: Letter from expert	CTA as responsible for social, environmental and gender safeguards. MoNSSAHRG.
Component 4	Female access to professional training and jobs	Indicator 4.2: Number of women and men trained in ELV management	Target: 6 women and 34 men. MoV: Attendance list	PMU. CTA as responsible for social, environmental and gender safeguards.

Across all Components	Promote women participation in project consultation meetings, workshops and trainings.	Activity: The participation of female representatives will be encouraged in all project consultation meetings, workshops and trainings outlined in the Workplan (refer Annex L for more details) through gender sensitive outreach to project stakeholders. Indicator: % of female participants attending the project consultation meetings, workshops and trainings.	Target: Depending on the activity, at least 15% or 50% of participants attending the project consultation meetings, workshops and trainings are women MoV: Gender disaggregated attendance sheets	PMU

Table 24: Gender Action Plan

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[1] https://www.unwomen.org/en/get-involved/step-it-up/commitments/burundi

[2] 2017 data provided by ISTEEBU, as reported in the ILOSTAT database.

[3] UNDP. ?valuation des resultats obtenus par le PNUD au Burundi dans le domaine du genre et autonomisation des femmes de 2012 ? 2019.

[4] Minist?re des Transports (2018). ?tude sur la mobilit? urbaine ? Bujumbura.

[5] As reported by MoTTI in October 2021.

[6] E.g. World Bank (2020). Gender in Urban Transport in Nairobi, Kenya Vol.1: Mobility. Vol.2: Employment).

[7] World Bank (2020). Gender in Urban Transport in Nairobi, Kenya Vol.1: Mobility. Vol.2: Employment).

[8] Measured as the percentage of newly registered electric vehicles (cars and 3Ws) owned by women at by the end of the National E-mobility Strategy

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

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

Yes
4. Private sector engagement
Elaborate on private sector engagement in the project, if any

The private sector is expected to be the main project?s beneficiary, as the bulk of the vehicle fleet is privately owned. Through the project, individuals and private companies will have easier access to a cleaner technology, with much lower operating and maintenance costs, as well as to better tailored financial instruments.

In the case of the public transport sector, the project is expected to contribute to the formalization of the sector through the consolidation of cooperatives and stronger private companies. The project intends to support electrification with a friendly regulatory system that should facilitate the scrappage of non-compliant old vehicles. The higher upfront costs of EVs and the recovery of the additional investment through lower operating costs is undoubtedly a significant incentive to the consolidation of companies and the integration of individuals within companies and cooperatives.

Private companies in the Burundian economy are also expected to benefit from the project, as they will receive technical guidance and support to establish their own roadmaps for the electrification of their fleets. Initially, this is expected to gain the attention of large companies such as Brarudi, Sosumu or Afritextil, and progressively trickle down to smaller companies and individuals.

Private companies in the electricity sector are also expected to benefit, as the project will increase interest in the implementation of off-grid PV generation facilities and EV charging systems. They will also benefit of new opportunities associated to the commercialization of EV batteries.

Another sector benefiting from the project are vehicle dealers, importers and workshops. This sector is facing strong pressure from the import of outdated, second-hand vehicles, which could further expand as countries around the world move forward in their transition towards e-mobility. The project will support these private companies in their adaptation to EVs, and will create a regulatory environment

friendly with their expansion. Furthermore, the technical characteristics of EVs open new opportunities to the local industry to cover some parts of the EV manufacturing process.

The following stakeholders in the private sector have been identified as relevant in the project?s implementation and co-financing:

? Groupe Ladak is the main distributor of 3W in Burundi. The project has identified it as a key partner for the provision and maintenance of the 3W fleet during the demonstration, as well as for the future expansion of electric 3Ws in the country.

? Toyota Burundi is the main distributor of minibuses in Burundi, widely used to provide public transport services. Although Toyota is not manufacturing electric minibuses yet, it has plans to do so in the near future. Accordingly, this company is a key partner for the electrification of the public transport sector.

? Banque de Cr?dit de Bujumbura and Bank of Africa. Both in the private financial sector and interested in exploring the market potential of loans for the electrification of fleets, particularly for urban public transport services.

? There is a significant number of local companies with know-how on off-grid PV systems, which can be interested in entering the new field of EV charging systems.

The private sector is also targeted by most of the capacity-building activities included in the project:

? Capacity building activities within component 1 are targeting decision makers and professionals in the public and private sector, and will focus on the technical advantages of EVs, and their growth prospects.

? Capacity building activities within component 2 will serve to increase the number of drivers and maintenance specialists in the country familiar with EV technologies. This will serve as a strong support for those private companies interested in using EVs.

? Capacity building activities within component 4 will facilitate the involvement of private companies in the management of EVs at their end of life, opening up new business opportunities in this sector.

Finally, the involvement of the private sector in EV policy decision making will be supported by the project:

? The private sector is expected to participate in the new E-mobility Platform as well as in the design of the e-mobility strategy and the Sustainable Passenger Mobility Policy.

? The project will support and encourage active private sector stakeholders to network in order to foster the deployment of e-mobility within component 3.

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):

Risk is defined as the effect of uncertainty on project objectives. It is formulated in terms of ?future events?. Risks have been identified during project design through detailed stakeholder consultations and tools such as the UNEP Safeguard Risk Identification Form (SRIF), the gender analysis and the theory of change. A qualitative scale (low-medium-high. i.e. L, M, H) has been used to characterize the likelihood (probability of occurrence) and the negative impact on the achievement of project objectives associated to each risk.

The project analysis has identified several potential risks for the achievement of the intended results, as described in the Table below. They include environmental, financial, political, cultural and health risks. All of them are rated as moderate or low. The mitigation measures for these risks are aligned with UNEP?s experience in other projects participating in the Global E-mobility programme, and the experience and engagement of private and civil society stakeholders. These projects and initiatives have been successful in building and widening social and political consensus on sustainable mobility, on which the project will build up.

Furthermore, the project is including activities addressing these risks: for example, the project is integrating gender, climate change adaptation or COVID challenges within its deliverables, and develops awareness-raising and networking activities to gain broader consensus around electrification and sustainable urban mobility, as a way to facilitate their perception by decision-makers as low- or non-controversial measures.

Climate and COVID risk analysis are also provided in this section. During project design, COVID-related risks and opportunities were screened and assessed. One of the risks identified is that the COVID 19 pandemic stays as a pervasive threat, resulting in sustained changes in mobility and social behavior; the other risk relates to the spread of COVID and other respiratory diseases among workers during the operation of the electric 3Ws and the improvement works along the demonstration corridor. Risk management measures have been identified to address both risks. The analysis has also identified some opportunities associated to the COVID pandemic, which could facilitate the transition towards sustainable, low carbon urban mobility: After experiencing COVID-related mobility restrictions, city dwellers are more aware of their ability to change travel behavior and adapt to restrictions, and the visibility of walking and cycling as safe and healthy modes deserving more attention and resources from local authorities has increased.

Risk description	Likelihood	Impact	Risk Mitigation Strategy and Safeguards	By Whom / When?
Risks to the achievement of the project objective				
Government?s inaction in the project, due to pervasive political instability	M	H	The project includes a strong collaborative approach, working with private stakeholders and the civil society to build up support and interest to e-mobility	PMU
Investments envisaged in other projects (roads and renewables) fail to materialize	L	H	The project is creating enabling conditions on e-mobility that would remain useful even in case of delays in the expected investments, and will remain valuable once these investments materialize	PMU

COVID 19 pandemic remains as a threat, resulting in sustained changes in mobility and social behavior	L	L	The project concepts (particularly in the design of demonstrations) will integrate changes in mobility and social behavior that have followed the COVID pandemic and consider lessons from COVID learned in other countries The following mitigation measures will be considered for project management, if the pandemic requires continued application of lockdown and social distancing measures: - Physical meetings will be replaced by virtual meetings. Online tools (such as clouds for document preparation) will be used to facilitate the development of draft documents. Travel to activities of the global programme will be held through means of ?virtual missions? if travel restrictions are established. - Instructions will be provided for the operation of the vehicles used in the demonstrations. Targets for the relevant indicators will be revised accordingly. - Additional efforts will be made by PMU to identify potential positive mobility practices issued from the COVID pandemic and encourage its continuation.	PMU, Municipality of Bujumbura
Risks to the achievement of Outcome 1				
Negative public perception on e-mobility technology and its societal and economic impacts	L	H	Awareness raising activities will be attuned to the current social perception so that the communication is targeted to the specific negative impressions	PMU

The 2018 recommendations on urban mobility in Bujumbura are not implemented, impacting on the results of the project	L	H	The e-mobility strategy will be designed to support the local and national government in the implementation of key recommendations and setting up a progress monitoring system.	PMU
Marginalized populations (e.g. people living in poverty, persons with disabilities and seniors) and women are not involved in decision making on issues that may affect them such as the E-mobility strategy, the disposal location of ELVs or the corridor improvements in Bujumbura	M	H	The project budget includes substantial technical support to address the socioeconomic, environmental and gender dimensions of the project.	PMU
Risks to the achievement of Outcome 2				
Exposure and vulnerability to climate change of charging stations and public transport stops	L	M	Selection of the bus stops where rehabilitation activities will be undertaken, and location of the charging facility will take into consideration risks heat waves, heavy rain and flooding. The design will include climate adaptation measures if deemed necessary during the assessment stage.	PMU

Air and dust emissions, noise, vibration, injuries, and physical hazards from rehabilitation activities of bus stops and other accessibility infrastructure	M	M	The design and implementation of these works will engage local businesses and communities in the surrounding area to obtain their feedback on scheduling the activities and implementing the additional measures necessary to ensure accessibility and to reduce disruption to their activities to the extent possible. A Grievance Redress Mechanism (GRM) will be set up during project implementation to collect feedback from residents and other stakeholders and address any complaints. The project?s Stakeholder Engagement Plan and Gender Action Plan also ensures consultation with local community and women during decision-making for the project.	PMU
Spread of respiratory diseases (such as Covid-19) among workers and community during 3W operation and rehabilitation activities	L	M	WHO guidelines to limit the spread of Covid-19 will be applied during the corridor improvement works and during 3W operations.	PMU
Inappropriate behavior by drivers of the 3W using the vehicles provided by the project	L	H	Prior to commencing operation of the 3W fleet, a Code of Conduct will be prepared, and drivers and all those involved in the operations will be asked to abide by them. Professional training provided by the project will ensure that all those participating in the pilots are aware of their responsibilities.	PMU
Working conditions in the 3W services operated by the project do not meet national or labor laws and international labor commitments	M	H	Engagement of the private sector will be preceded by a private sector risk assessment to ensure compliance with labor standards.	PMU

Risks to the achievement of Outcome 3				
EV technologies not adequate to the country conditions	L	H	Close contact of the PMU with the technical teams in various ministries and local stakeholders will help to identifying the needs for technical information. Support from UNEP?s Global E-mobility Programme will also mitigate this risk.	PMU, UNEP
Unavailability for EVs to compete in costs with cheap second-hand imported vehicles	L	M	Significant investment in EVs is not envisaged during the project lifetime, which is consistent with the economic context in Burundi. The national e-mobility strategy will provide regulatory proposals to address this, consistent with the economic climate at end of project.	PMU, GoBI
Risks to the achievement of Outcome 4				
Unreliable availability of electricity weakens interest in EVs	L	L	The design of the pilot includes off-grid generation alternatives, and the project includes studies on the synergies of e-mobility and renewables. The PMU will closely work with the Ministry of Hydraulics, Energy and Mines to address this risk.	PMU, MoHEM

Inadequate (or lack of) treatment of EVs and their components (e.g., tires, batteries or lubricants) in the e-mobility strategy and during the demonstration	L	H	The socioeconomic implications of ELV management will be assessed within component 4, and environmentally sound options for management of EV batteries and other components potentially containing hazardous material will be defined and integrated in the business models for second life of EV batteries and end-of-life management of EVs. This will require the screening of successful financial and business models on ELV components and second-life battery use, and the subsequent development of commercially viable business models for Burundi.	PMU

Table 25: Assessment of project's risks

Climate Risk Screening:

(i) How will the project?s objectives or autputs be affected by climate risks over the period 2020 to 2050, and have the impacts of these risks been addressed adequately?

Burundi has a tropical climate, warm and humide. Precitipation and temperature are strongly influenced by the country?s orography and altitude, as well as by changes in climate. Average temperature is 21?C and precipitations are higher in the mountains of the Congo-Nile Divide (1600 to 2000 mm per year) and lower in the northeast (800 to 1000 mm). Average temperature has been increasing since the 1980s, with the highest values in the 2006-2015 decade (last decade analysed by the Third National Communication to UNFCCC, 2019). Flooding events have been reported in 2009, 2010, 2011 and 2014, and a succession of extreme weather events including flooding, draught and landslides hit different parts of the country in 2015; heavy rain in 2019 destroyed part of the crops in 2019, resulting in food insecurity.

The project?s climate risks are assessed through a 4-stage process including the identification of climate hazards (2050 horizon), the assessment of the exposure and vulnerability of the project?s outputs to such climate hazards, the classification and ranking of risks and planning of mitigation measures.

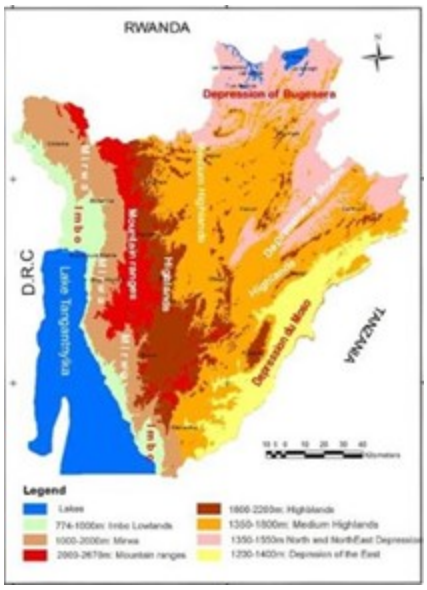

Figure 9: Climatic regions in Burundi (Source: Third National Communication)

Identification of climate hazards.

In accordance with the Third National Communication to UNFCCC (2019) and its Country Determined Contributions (2020), the main climate hazards in Burundi refer to an increase in rainfall (an increase in 2030 and 2050 of 12% and 13%) and temperatures (an increase of the maximal temperature between 0.80 and 0.91?C by 2030 and between 1.89 and 2.02 by 2050). Some climatic regions in Burundi may be increasingly at risk of suffering longer drought periods followed by flooding. Cultural practices from farmers are already changing in an effort to adapt to changing conditions in water availability and higher temperatures. Resulting in concentration of farming in safer spaces (i.e. with higher water availability) and changes in herd structure, grazing areas or dates of movement. Migration in search of non-agricultural jobs is another way to adapt.

Climate changes in Burundi are expected to have diverse implications on the country?s environment, economy, and social structure. Extreme weather events can have adverse impacts on public health (transmissible diseases), human settlements, transport infrastructure, agriculture production, landscapes, biodiversity, power supply and the economy at large. Adaptation efforts at the institutional level have resulted in legal texts, strategies and plans aiming at mitigating the risks brought about by these climate changes; however, their level of implementation has been limited due to the social unrest and political instability in the 2015-2021 period.

Vulnerability and exposure. The demonstration activities of the project are located in Bujumbura, but with an ambition of being replicated throughout the country in urban and rural environments. Electric mobility relies on the existence of adequate road infrastructure (as any other road transport vehicle technology) and,

additionally, to the availability of reliable electricity supply and the availability and accessibility to charging infrastructure. All these conditions are far from being satisfactorily met, and in the absence of the implementation of the adaptation measures foreseen by the government?s adaptation plan (TNCCC), electrified mobility would not be resilient enough to meet the challenges of a changed climate in Burundi in a 2050 horizon.

Regarding the road network, the already poor resilience of the system (degraded pavement and drainage infrastructure) could be further stressed by more frequent heavy rainfall. However, the level of exposure of the transport system does not change significantly due to the electrification of the fleet seeked by the project, as the conditions of use of the road network are the same for conventional and electric vehicles.

Regarding electricity supply, in the absence of adaptation measures, changes in climate would increase the unreliability concerning electricity generation, due to the strong dependence of the country in hydroelectric generation (jeopardized by more irregular raining regimes) and the poor conditions of the distribution grid (subject to the effects of heavy winds and rains). However, in the 2050 horizon, the government?s plans include substantial expansion of the electricity generation capacity and the distribution grid, which should reduce the vulnerability of the project. mitigate these risks. The exposure of the project to climate change is therefore high unless the plans of the government in the electricity sector materialize. According to the third National Communication, electricity generation in Burundi is highly vulnerable to the operational capacity of its two main damns (Rwegura, 18 MW and MUGERE, 8 MW); additionally, two other dams currently under construction (Ruzibazi, 15 MW and Kaburantwa-16, 20 MW) are located in areas prone to landslides and erosion. As an effect of drought and reduced rainfall between 2015 and 2017, the Rwegura dam reduced its energy generation by 18%, and the Mugere dam by 21%.

Finally, the project is also vulnerable to disruptions in the operations of the charging network. There are no charging facilities in Burundi at this time, and the project intends to provide guidance for the future deployment of the charging network. The technical characteristics of the charging infrastructure available today can already deal with future changes in climate in the 2050 horizon (higher precipitations and warmer temperatures). From an exposure perspective, charging infrastructure is highly flexible in terms of location, making it simple to avoid or reduce exposure to extreme climate events. The same considerations can extended to the location of nodal public transport stations or stops in Bujumbura during the project, and in other places in the future.

Climate change risks identified

Two key project?s risks have been identified from changes in climate in the long term (2050 horizon). First, unreliable availability of electricity; second, unreliable availability of key infrastructure: charging stations and public transport stops.

The likelihood of occurrence of the first risk is assessed as low. The reason is that Burundi has an impressive potential for electricity generation from renewable sources, and the government has sound plans to develop such potential. Furthermore, although the availability of electricity is covering only a small part of the country, it is concentrated in the most populated and urbanized areas, which are likely to be those

where electric vehicles will attract first the interest of consumers. The impact of this risk on the project is also low, due to the fact that there can be alternative charging points in case of disruption and that affordable off-grid charging solutions can be deployed by users or by interested investors, in case electric vehicles become available in Burundi.

The likelihood of occurrence of the second risk is assessed as low. The location of public transport stops and stations as well as charging stations is highly flexible, and can minimize exposure to extreme weather events, provided this is analyzed at the infrastructure design stage. The impact of this risk is assessed as medium, especially in the short and medium term, as disruptions in key public transport stations or in the charging of electric vehicles providing key mobility services could result in delays in the operation of some services, which- even if the service is quickly reestablished, would have some impact on the acceptability of the EV technology by operators and users.

In the short term of project completion (2026), the activities of the project are not compromised, due to the fact that electricity will be provided with an off-grid system, that can be backed by the public electricity network in Bujumbura, with standards substantially higher to those in the rest of the country. It is also worth noticing that the charging infrastructure and the operation of the grid will take place in Bujumbura, with more reliable electricity and transportation systems than the rest of the country and lower exposure to the effects of climate events compared to other climatic regions in the country.

Mitigation measures on Climate Change Adaptions risks.

The project advances some adaptation measures, aligned with the TNCCC and the NDC such as the development of off-grid electricity generation, and improvements in the road infrastructure within the area of operations of the project?s demonstration. The project is expected to contribute to increasing the resilience of the urban transportation system through improving energy-use efficiency and developing energy-supply systems that are less vulnerable to the disruptions of extreme weather events, higher average temperatures, and other aspects of climate change. This is fully aligned with the GoBI?s action to reduce the vulnerability and exposure of the energy sector through the expansion of renewables and distributed generation, as well as with improvements in the integrated distribution grid. Within its National E-Mobility Strategy, the project will provide guidance for the expansion of the charging infrastructure network, combining on-grid and off-grid solutions in accordance with the country?s plans to expand its electricity grid.

Furthermore, other project activities have a mitigation effect on climate change risks. This is the case of the preparation of the national e-mobility strategy (with a section to study the future charging networks in Burundi, in which the resilience of the system will be integrated) and a study on the integration of the charging network deployment with the expansion of renewable generation in the country. The inclusion of a vulnerability analysis of the location(s) selected to charge the EVs during the demonstration (and the bus stops selected as key interchange nodes), and the integration of a climate change adaptation analysis within the national e-mobility strategy will increase the resilience of the project. During the preparation of the demonstration, contingency plans will be prepared to make it possible to recharge the EVs in case of

disruption or failure of the project?s charging points, to keep services in case of road hazards and to provide plans for quick recovery of services in case of disruption.

(ii) Has the sensitivity to climate change, and its impact, been assessed?

A preliminary assessment of the technologies and infrastructure to be deployed during the project indicates that the sensitivity to flooding, heavy rain and wind risks is low, provided they are taken into consideration when selecting the location of the charging infrastructure.

(iii) Have resilience practices and measures to address projected climate risks and impacts been considered? How will these be dealt with?

The country?s resilience to climate change is expected to be increased by the project thanks to the reduction of the country?s dependency of fossil fuels, which are currently imported. Buy relying on renewable energy, produced locally, the transport system becomes less vulnerable to changes in climate. Additionally, electric vehicle technologies have proved to be more robust than conventional ones, and easier to adapt higher temperatures and other changes in climate. On-going battery improvements are making batteries more efficient under high temperatures.

(iv) What technical and institutional capacity, and information, will be needed to address climate change and resilience enhancement measures?

Technical capacities will be necessary to properly identify locations exposed to extreme weather events (particularly flooding). This is foreseen to be address during the preparation of the National Electric Mobility Strategy (component 1) and the design of the demonstration (component 2). Furthermore, knowledge on technical specifications for solar panels, charging infrastructure and electric vehicles will be necessary to make them compatible with existing and foreseen climate conditions; this will provide the basis to prepare regulatory recommendations (such as building codes or technical vehicle approval) during the project.

Institutional capacity will be built-up in parallel with these technical recommendations, through training activities and guidance materials. Contingency plans will be developed for the continuation or recovery of charging services and transport operations in case of disruption after extreme weather events during the demonstration. These activities will facilitate resilience during the replication of the project.

Covid-19 Risk and Opportunity Analysis:

As Burundi remains one of the countries with the lowest level of vaccination in the world (it started vaccination only in October 2021, after receiving a donation of just 500,000 doses), the COVID-19 pandemic has the potential to affect the project in a variety of ways:

Challenges and risks.

Changes in government?s priorities. The pervasiveness of the pandemic in Burundi could keep the focus, energy and resources of the government on the health sector. An sluggish global economic recovery worldwide would have a negative economic impact in the fragile recovery of Burundi?s economy started in 2021. This could hamper or delay the plans and regulatory reforms expected to be adopted by the government during the project, slowing down the electrification transition in the transport sector.

Restrictions to the passenger mobility. Mobility restrictions are likely to reduce the travel demand, with a potential to affect public transport ridership, including the number of passengers making use of the electric 3Ws during the demonstration. Low ridership would refrain transport operators from investing in electric vehicles, as the prospects to recover the initial investments become more uncertain. The project?s ability to reach the expected number of beneficiaries could be compromised, if it does not gain the trust of potential users and adapts to the conditions imposed by eventual mobility restrictions.

Users? concerns on the safety of 3Ws. Users may feel concerned about the disinfection and other prevention measures in public transport and more so in a poorly regulated subsector such as 3Ws. The project includes the development of prevention measures to the operators of the demonstrations fleets to mitigate this risk.

Global trade disruptions. These could affect the availability and accessibility to electric vehicle technology, including spare parts. The project plans to mitigate this risk through negotiations with manufacturers at the time of the provision of the electric vehicles,

Mitigation measures

In the identification of the mitigation measures to cope with Covid-19 risks, the following aspects were considered;

? Availability of technical expertise and capacity, as well as adaptive capacity to changes in timelines.

? Government capacity as human resources are mobilized elsewhere.

? Change in capacity of other executing entities and the effectiveness of the overall project implementation arrangement.

? Limited capacity and experience for remote work and online interactions as well as limited remote data and information access and processing capacities that projects will need to strengthen.

? Changes in project implementation timelines.

? Changes in baseline.

? Changes in conditions of beneficiaries-

? Stakeholder Engagement Process: Mobility and stakeholder engagement, including risk mitigation measures for both project staff and stakeholders.

? Enabling Environment.

? Government focus on environment during crisis-

? Government priorities during COVID-19 response.

? Financing: Co-financing availability and price increase in procurement.

Changes in government?s priorities. The project is mitigating this risk by separating- to the extent possible- the institutional activities in component 1 from the demonstration in component 2, so that the latter can be continued even if delays in the former occur.

Restrictions to passenger mobility. Mobility restrictions would require the project to continue many activities online or rescheduling them. Restrictions measures have a direct impact on the daily operations of the project (e.g. through the need to rely on teleworking), as well as on the organization of project activities (training, consultation workshops, meetings) and the effective engagement of stakeholders. Furthermore, technical consultancy activities can be affected, limiting or preventing international and even national consultants to undertake in-field missions. Reductions in travel demand would require the project to redesign its demonstration, looking for alternative niche mobility markets in Bujumbura, which could operate even under restrictions (e.g. providing services to essential workers). This can be done during the pilot?s feasibility and design analysis in component 2.

Users? concerns on the safety of 3Ws. The project already includes the development of prevention measures to the operators of the demonstrations fleets to mitigate this risk.

Global trade disruptions. The project plans to mitigate this risk through negotiations with manufacturers at the time of the provision of the electric vehicles.

Opportunities

This analysis has also identified the emergence of some opportunities, associated to the COVID-19 pandemic, to advance towards sustainable, low-carbon urban mobility[1].

Changes in government?s priorities. the project can contribute to a green post-pandemic recovery, as it has been illustrated in recovery plan around the world (e.g., Next Generation EU), by reducing Burundi?s dependency on fuel imports and opening up new industrial opportunities in 3W manufacturing. The project will make use of this potential to further increase the interest of decision makers in electric mobility.

Restrictions to passenger mobility. The COVID pandemic provides a stronger case to improve public transport quality and dedicate the necessary public resources to it. Restrictions to passenger mobility has

also reduced pressure on transport systems, providing decision makers with an opportunity to implement new concepts. Additionally, walking and cycling have gained visibility as safe and healthy modes, and have receive more attention- and more public space- by many local authorities. Together, the increased decision makers? and the general public?s awareness and acceptance to dedicate more public resources to improve the quality and safety of public transport services and to give priority and more space to walking and cycling- provide unique opportunities to accelerate the transition towards sustainable, low carbon mobility.

Users? concerns on the safety of 3Ws. Some of the characteristics of 3Ws (few passengers, open-air?) make them appealing for those searching for COVID-safe transport means with reduced contagion risks. These characteristics will be highlighted by the project.

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[1]Basu (2021): Basu, R. and J. Ferreira (2021). "Sustainable mobility in auto-dominated Metro Boston: Challenges and opportunities post-COVID-19." *Transport Policy.* 103: 197-210.

Fatmi, M. R. (2020). "COVID-19 impact on urban mobility." *Journal of Urban Management.* 9(3): 270-275.

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.

? Institutional arrangements:

The institutional arrangement for project implementation is presented in the figure below.

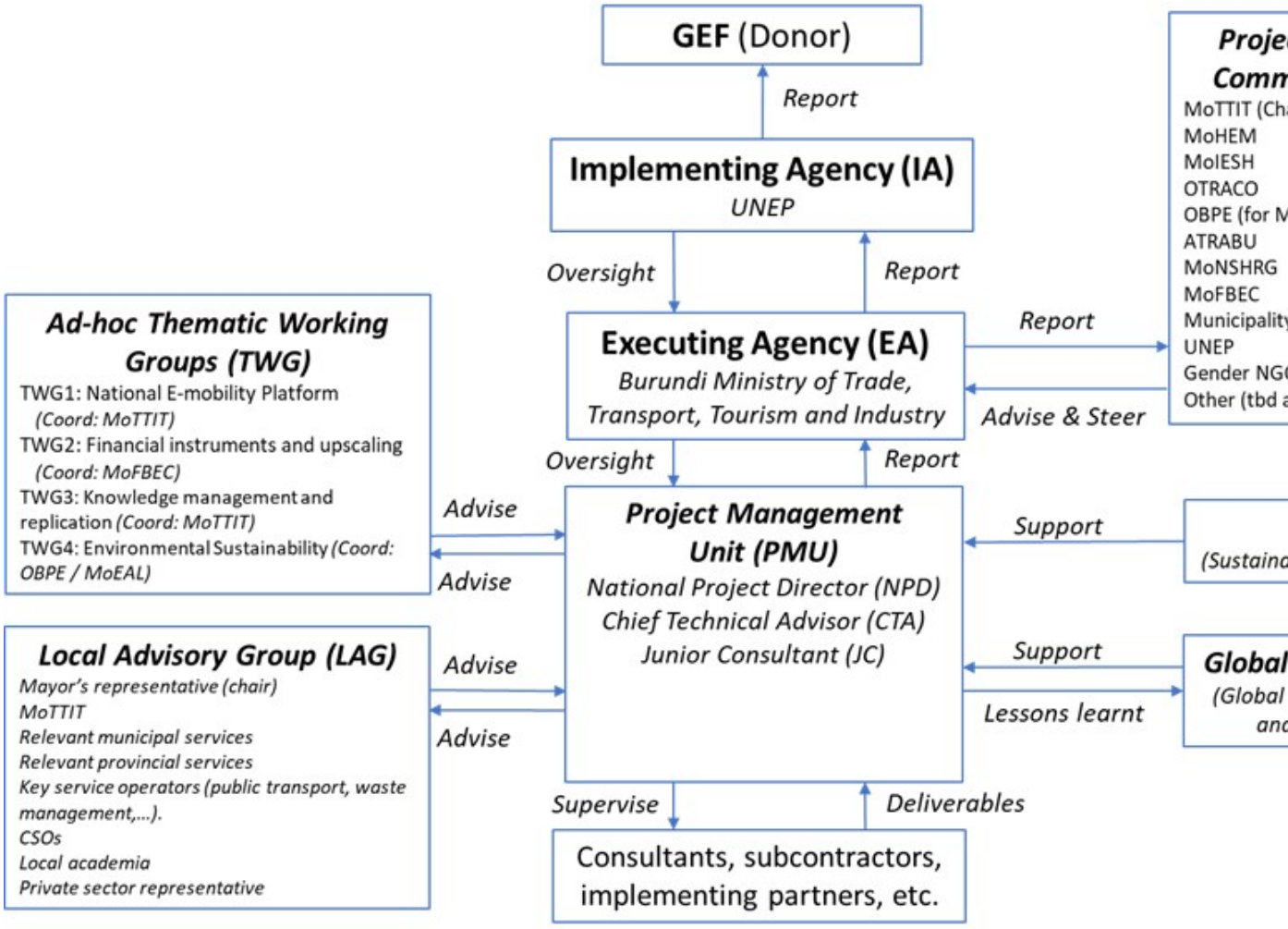

Figure 10: Institutional Arrangement Chart

This project is funded by the GEF and co-financed by the MoTTIT, the MoAEL, the MoHEM, the Municipality of Bujumbura and UNEP. UNEP will be acting as the GEF Implementing Agency and the MoTTIT will be the project?s Executing Agency. Refer to Annex K for further details on the roles and responsibilities of the Implementing and Executing Agencies.

The main project bodies are the following (refer to Annex K for more details):

A **Project Steering Committee (PSC)** will be established to provide overall guidance and oversee the progress and performance of the project as well as to enhance and optimize the coordination and contribution with various project partners. The PSC will be chaired by the National Project Director (NPD) and will convene at least twice per year.

A **Project Management Unit (PMU)** will also be established within the MoTTIT to manage day-to-day operation of the project. The PMU will be headed by the National Project Director (NPD) and will include the Chief Technical Advisor (CTA) and a Junior Consultant for project outreach activities and for local support to international experts.

Ad-hoc **Technical Working Groups (TWG)** will be formed to facilitate the involvement of interested partners in the implementation of the project components. Participation will be open to interested stakeholders upon invitation or request addressed to the CTA. The TWGs will provide technical advice, as well as facilitate networking at the national level. The TWGs will meet on an ad-hoc basis during project implementation, with the secretarial support of the MoTTIT and the PMU. Efforts will be made to ensure that the working groups are gender-balanced, include participation of relevant gender-representative groups (such as the MoNSSAHRG and other stakeholders identified in the gender analysis section above), and follow gender-sensitive processes. The TWGs will work on the topics described below and will meet regularly during project implementation:

? TWG1: National E-mobility Coordination Platform. (Coord: MoTTIT). TWG1 will facilitate the interaction and coordination of key services within the GoBI with competences in the electrification of the transport sector, and the engagement of other stakeholders in the preparation of the National E-Mobility Strategy. TWG1 is expected to be formalized by the GoBI before the end of the project, as a key instrument for the project?s sustainability and the implementation of the National E-Mobility Strategy. TWG1 will provide advice to the PSC, upon its request, and will serve as a participatory channel for deliberation on sustainable mobility and electrification, involving stakeholders as well as individual experts not formally included in the PSC. Key members of this group may include the MoTTIT, MoHEM, MoAEL, MoNSSAHRG and MoFBEC. It will play a key role particularly on the activities included in Component 1.

? TWG2 (Coord: MoFBEC). Thematic working group on financial instruments and scaling-up. TWG2 will provide support to the project activities related to the design and implementation of sustainable mechanisms to finance the electrification of the transport sector (component 3). Key members of the working group will include financial institutions, such as BNDE, BCB, SOCABU, BBCI and BoA.

? TWG3 (Coord: MoTTIT). Thematic working group on knowledge management and replication. TWG3 will facilitate the engagement of institutions, the private sector, academia, civil society organizations and individual experts in the dissemination of project?s results (through the project?s website and other websites), the validation of the project?s conclusions and lessons learnt and the deployment of the National E-mobility Strategy, contributing to the replication of the project?s best practices after its termination (component 3).

? TWG4 (Coord: OBPE / MoAEL). Thematic working group of environmental sustainability of e-mobility. TWG4 will facilitate the engagement of stakeholders in the implementation and monitoring of the Component 4 activities aiming at addressing the potential environmental impacts of electrification. It is expected to engage formal and informal actors in the waste management sector dealing with ELV and batteries.

A **Local Advisory Group (LAG)** will be established with the following terms of reference:

Purpose:

Provide political guidance to the development and execution of the demonstration (Component 2) and other project activities in Bujumbura. It serves as the primary voice of the city in ensuring that project interventions are aligned with local priorities and needs. Key functions of the LAG will include:

? Ensuring political buy-in of the local government and the provincial government, including as related to local government internalization and use of project outputs (such as the platforms, plans, pilots, etc.).

? Ensuring buy-in of key local stakeholders, including academia, private sector and civil society and their effective contribution to the project where required;

? Providing guidance for the development of technical terms of reference (TOR), reviewing TORs and providing technical input to support their elaboration and finalization (noting that the PMU and the Executing Agency have final decision on the awarding of contracts);

? Identifying possible key local partners for execution of project activities;

? Reviewing and providing technical input to technical documents as related to local project activities;

? Ensuring the design of local project interventions is aligned with local and provincial priorities (noting that the PMU and the Executing Agency have the final decision on project design, in coordination with UNEP and in alignment with the CEO endorsement document);

? Facilitating the executing of project activities in the local jurisdiction, including the obtaining of local and provincial governmental permissions as required to execute the project pilots and other project activities;

? Facilitating and supporting M&E activities;

? Supporting communication and diffusion of information on the project with local stakeholders;

? Serving as a first point for local stakeholders to express grievances who may be adversely affected by the GEF UNEP project. In the event that such concerns are not resolved at the local level, such stakeholders may access UNEP?s Stakeholder Response Mechanism, operated through the Independent Office for Stakeholder Safeguard-related Response (IOSSR).

Scope:

All project activities in the city.

Membership:

The LAG will be chaired by a city representative nominated by the mayor. The LAG secretary will be provided by the PMU. The LAG will include representatives from municipal and provincial technical services relevant to the project?s activities in the city. The LAG may also include representatives from local civil society organizations, including gender groups, academia and the private sector, to be determined and appointed by the LAG chair. The LAG will strive to be gender balanced.

Meeting arrangements:

The LAG will meet on a minimum quarterly basis, and ideally monthly, in Bujumbura (or virtually) to discuss the progress in the implementation of Component 2 in the city.

Reporting:

Minutes will be prepared after each meeting and made publicly available on local governmental platforms a maximum of one month after the meeting. The LAG will decide on a case-by-case basis the need to keep information private.

Resources:

The LAG will receive resources for meeting logistics through a budget line in outputs 2.1, 2.2 and 2.3, to a maximum amount of USD $7,000 over the four years of the project (the venue will be provided by the municipality of Bujumbura or by the MoTTIT). Additional resources may be requested and will be considered on a case-by-case basis by the PSC.

UNEP Sustainable Mobility Unit (SMU) technical support

The UNEP Sustainable Mobility Unit (SMU) will provide technical support through the budget line ?International E-mobility Technical Support (UNEP SMU) with a budget of USD 22,500 (including USD 8,000 to cover travel expenses to Burundi), for outputs 1.1, 1.2, 2.3, 3.1, 3.2, 4.1 and 4.2. This is further detailed in the project budget (Annex I-1) and in the OFP letter requesting for UNEP SMU execution support (Annex N-2).

? Coordination with other initiatives:

Coordination with initiatives at the city level (components 1 and 2)

At the local level (Bujumbura), coordination will primarily be facilitated through the LAG, together with the PMU and the local government. As some initiatives in Bujumbura may be financed through national programmes, coordination will also be facilitated with key ministries through the PSC and the TWGs. Coordination on other initiatives include the following:

? UNDP provided in 2015 a Detailed Master Plan for the Metropolitan Area of Bujumbura. The municipality of the capital, as well as other municipalities and the Provincial administrations included in the plan are developing different initiatives aligned with the plan.

Coordination with initiatives at the financial level (component 3)

Coordination with key financial initiatives will take place through the participation of these actors directly in project activities and their participation in TWG3.

Coordination among institutions within the national government (component 4)

The MoAEL, as the ministry responsible for GEF-fund execution in the country, will facilitate coordination with all national GEF projects. Through its component 3, the project aims at strengthening the interaction among public and private stakeholders. For this, the project will reach out to the relevant implementation units in other ministries through its PMU, TWGs and LAG. At this moment, there is only one project active in Burundi:

? Promotion of Small Hydro Power (SHP) for Productive Use and Energy Services. Approved in 2017.

The project will also coordinate with the Global E-mobility Programme by engaging in its global and regional platform?s activities. Regarding the global indicators, the project Executing Agency will report to UNEP, and UNEP will report to the Global Programme. Regarding participation of Burundi in the activities and platforms of the Global E-Mobility Programme, and reporting on the project?s achievements (lessons learned), the PMU will be in regular contact with the global programme:

? Representatives from Burundi stakeholders will benefit from the training provided by the global programme.

? The project will also benefit from the technical assistance provided by the global platform -led communities of practice.

? Matchmaking and international funding opportunities identified by the global platform will be disseminated among Burundian stakeholders.

? Exchange of information will be facilitated between the global and the national projects.

The project will coordinate with the following World-Bank funded projects:

? Transport Resilience project, approved by the WB in September 2022.

? Burundi Skills for Jobs: Women and Youth Project. Approved in June 2021. Synergies could be found with the training activities of the e-mobility projects prioritizing women.

? Solar Energy in Local Communities project. Appoved in February 2020. Synergies could be found to associate the expansion of solar energy with the facilitation of electricity-based mobility in local communities.

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 consistent with national priorities, as stated in the following strategies, plans, reports and assessments:

? The 3rd National Communication (NC) of Burundi under UNFCCC includes an update of the national emission inventory (2015 data). Although the economic and political distress has prevented GHG emissions transport subsector from growing in the last years, it could become a relevant source of GHG emissions within the energy sector once economic growth is back. As the expansion of electric mobility will reduce the consumption of fuels in Burundi, the project contributes to the reduction of GHG from transport. Mitigation scenarios also foresee the promotion of public transportation and non-motorized transport, as well as the implementation of traffic management (from traffic lights to ITS), promotion of electric vehicles and improved urban planning. The NC also identifies transport as one of most vulnerable subsectors to climate change.

? Burundi has not submitted any Biennial Update Report (BUR) to UNFCCC yet.

? The UN Development Assistance Framework (UNDAF) for Burundi (2019-2023) identifies the development of transport infrastructures as a contributing factor to the attainment of the expected social outcomes through improved access to education and health. This is consistent with the project?s expected contribution to improve the quality and affordability of urban mobility.

? The electric mobility project to be introduced in Burundi is in the line with SDG targets 3.9 (by 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination), 11.2 (by 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons), and 13.2 (Integrate climate change measures into national policies, strategies and planning).

? The 2020 Nationally Determined Contributions (NDC) of Burundi foresee several actions well aligned with the project, such as the densification and rehabilitation of the electricity grid in Bujumbura and the implementation of a transport infrastructure supporting non-motorized mobility and e-mobility.

? Consistency of the project with the reviewed and updated Burundi NIP (2017) under Stockholm Convention on POPs. In the Burundi reviewed and updated NIP (National implementation Plan for the Stockholm Convention on Persistent organic pollutants ? POPs ?) one of the Action plans developed is related to the sound management of U-POPs (Unintentional POPs including Dioxins and Furans from transports emissions). Transports in Burundi are consuming fuels and are a source of dioxins and furans.

As the electric mobility project will contribute to the reduction of fuels consumption it will contribute to the reduction of U-POPs emissions in Burundi.

? The National Development Plan (2018-2027) identifies energy and transport as key contributors to economic development and foresees different actions for the upgrading and expansion of existing energy and road infrastructure, the development of the electricity grid (including microgrids), the deployment of renewables (hydraulic and solar mainly). It also foresees the improvement of passenger mobility conditions, including the modernization and expansion of the fleet providing passenger services, the revision of the legal and regulatory framework in the energy and transport sectors and strengthening capacities in both areas. These priorities and actions are consistent with the project?s focus on transport quality, provision of e-mobility based on microgrids regulatory reforms and training and capacity building in EV technology.

? The National Transport Strategy 2018-2027 provides a comprehensive action plan for the government in all transport modes, including urban mobility, and the support to a renewal of the national fleet based on environment-friendly vehicles. It also notes the need to establish a sustainable urban mobility plan for Bujumbura (for which a study was started in 2018), and to put in place a waste management system for vehicles and their components at their end of life. The project will serve to push forward many of these recommendations.

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.

The project team will ensure extraction and dissemination of lessons learned and good practices to enable adaptive management and upscaling or replication at local and global scales. Results will be disseminated to targeted audiences through relevant information-sharing platforms and networks. The project will contribute to scientific, policy-based and any other networks as appropriate (e.g. by providing content or enabling participation of stakeholders and beneficiaries.

The knowledge management approach integrated into the project will contribute to its overall impact, making special emphasis on lessons learned and good practices. The knowledge management activities will ensure that the knowledge generated is aligned and integrated into UNEP?s knowledge management systems. This will lay the conditions for replicability and up-scaling of project activities. A list of the knowledge management deliverables expected from the project is provided in the table below. They include a knowledge management strategy and a communication and dissemination strategy (listing planned communication activities at the global, regional (platforms) and national level), both to be developed at the start of the project, training and awareness-raising activities targeting a variety of groups (decision-makers, transport professionals, staff), technical reports on results and lessons learnt and a project website serving as a platform for knowledge management and networking.

The project is part of the Global GEF-UNEP Programme on electric mobility. It will actively participate in the global programme?s global and regional activities through its component 1, for example by participating and contributing to the knowledge exchange in the regional knowledge and investment

platforms and the relevant global working groups, as well as by providing insights and knowledge. The Global Programme will facilitate access to lessons learnt and experience gained in other GEF-funded projects in Africa, such as the GEF E-Mobility Projects in Cote d?Ivoire, Madagascar, Seychelles, Sierra Leone, South Africa, Tunisia and Togo and will support regional networking through a community of practice where countries and cities can share experiences and best practices.

The tools developed, best practices collected and knowledge generated during the project will continue to be available to country and cities after the project has ended. UNEP will continue supporting the regional platform to facilitate a shift to electric mobility in Africa.

A public awareness campaign on the benefits of electric vehicles and gender-sensitive public transport services will be carried out. The project will also participate in the global conferences organized by the Global Programme to bring together all stakeholders, in collaboration with the EC SOLUTIONS plus project. A final global conference will take place at the end of the programme and will showcase progress made by the country projects and the programme more broadly. It will be an additional opportunity to exhibit the knowledge and materials generated by the global thematic platforms. It will also ensure continuation and sustainability of the programme after the 4-year project term expires. It will also communication and media component and will include a press release and press conference.

Outputs	**Knowledge products produced by the project (deliverables)**	**Indicative timeline**	**Indicative Budget (US$)**
Component 1			
Output 1.1	D.1.1.3. Stakeholder consultation strategy (including a gendered approach) presented for approval	M6 - M9	1,440
Output 1.3	D.1.3.1. A communication strategy on e-mobility is prepared, and communication materials are produced and distributed	M16 - M21	3,216
Output 1.3	D.1.3.2. Knowledge management guidelines are developed and implemented by CTA	M13 - M15	3,216
Output 1.3	D.1.3.3. Knowledge management and dissemination website operational, supervised by the national platform (website quarterly updated with online workshops)	M9 - M48	22,176
Output 1.3	D.1.3.4. Key Burundian stakeholders participate in the trainings on electric 2-3 wheelers organized by the Africa Support and Investment Platform of the Global E-mobility Programme (report to be prepared after each training)	M11 - M23	12,600
Output 1.3	D.1.3.5. Key Burundian stakeholders participate in the market-place and financing workshops organized by the Africa Support and Investment	M14 - M26	12,600

	Platform of the Global E-mobility Programme (report to be prepared after each workshop)		
Output 1.3	D.1.3.6. Key Burundian stakeholders participate in the other events, trainings or workshops organized by the Africa Support and Investment Platform of the Global E-mobility Programme (report to be prepared after each event)	M15 - M33	10,800
Output 1.3	D.1.3.7. Training activities on e-mobility policies, standards and regulations, addressing civil servants, and public and private decision-makers	M13 - M19	6,840
Output 1.3	D.1.3.8. Training materials addressing professionals (electricity and transport specialists, drivers, maintenance?) are prepared, published to be used in output 2.3 and widely disseminated	M13 - M15	11,976
Output 1.3	D.1.3.9. Recommendations for replication in Burundi are developed, based on the results of the Global E-mobility Programme replication event	M25 - M25	3,216
Component 2			
Output 2.1	D.2.1.5. Design and implementation of awareness campaign including gender dimension	M13 - M14	17,170
Output 2.3	D.2.2.2. Professional training of drivers and maintenance staff is completed, based on training materials from output 1.3	M9 - M12	46,440
Output 2.3	D.2.3.1. Final report of the demonstration is validated by all relevant stakeholders	M31 - M36	1,500
Output 2.3	D.2.3.2. Communication materials of the demonstration are prepared and disseminated	M32 - M36	15,800
Output 2.3	D.2.3.3. Report summarizing the review of the demonstration results with the Global E-Mobility Programme	M34 - M34	7,100
Output 2.3	D.2.3.4. A replication plan is prepared to expand the concept of 3W-based public transport in Bujumbura, in other cities, and in rural areas	M33 - M36	6,500
Component 3			
Output 3.1	D.3.1.5. Report of stakeholder consultations of regulatory reforms (including 3 validation workshops) and submission to government for approval	M31 - M42	16,560
Output 3.2	D.3.2.2. Development of procurement guidelines for E2&3Ws and other EVs in fleet operations completed, and information and support provided to interested stakeholders	M41 - M42	3,720
Component 4			

Output 4.2	D.4.2.1. Report summarizing international and regional regulations on ELV management, including EV batteries and other components	M39 ? M39?	1,800
Output 4.2	D.4.2.2. Comprehensive review of existing and planned international regulations on second-life battery use and recommendations for Burundi	M34 - M39	2, 800
Output 4.2	D.4.2.5. Technical and managerial support provided to stakeholders, including training materials and workshops on ELV management for electric vehicles and batteries	M40 - M42	9,800

The total budget for knowledge management and knowledge products is estimated at US$ 217,270.

9. Monitoring and Evaluation

Describe the budgeted M and E plan

Monitoring and Evaluation (M&E) activities and related costs are presented in the costed M&E Plan (Annex J) and are fully integrated in the overall project budget.

The project will follow UNEP standard monitoring, reporting and evaluation procedures. Reporting requirements and templates are an integral part of the legal instrument to be signed by the Executing Agency (MoTTIT) and the Implementing Agency. The project M&E plan foresees a Terminal Evaluation (TE), worth USD 30,000 and an optional mid-term review with a budget of USD 8,000. In addition, USD 3,000 have been provisioned to organize the project?s Inception Workshop and USD 4,000 for the project Steering Committee Meetings. Finally, USD 1,600 have been budgeted for monitoring activities provided by the CTA to integrate social, environmental and gender safeguards and USD 1,071 for other M&E costs (data and information collection, printing, etc.). Therefore, the total M&E budget is amounting to USD 47,671.

The project M&E plan is consistent with the GEF Monitoring and Evaluation policy. The Project Results Framework presented in Annex A includes SMART indicators for each expected outcome as well as end-of-project targets. These indicators along with the key deliverables and benchmarks included in Annex L will be the main tools for assessing project implementation progress and whether project results are being achieved. The means of verification to track the indicators are summarized in Annex A.

The M&E plan will be reviewed and revised as necessary during the project Inception Workshop (IW) to ensure project stakeholders understand their roles and responsibilities vis-?-vis project monitoring and

evaluation. Indicators and their means of verification may also be fine-tuned at the inception workshop. General project monitoring is the responsibility of the Project Management Unit (PMU) but other project partners could have responsibilities in collecting specific information to track the indicators. It is the responsibility of the Chief Technical Advisor to inform UNEP of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely fashion.

The project Steering Committee (PSC) will receive periodic reports on progress and will make recommendations to UNEP concerning the need to revise any aspects of the Results Framework or the M&E Plan. Project oversight to ensure that the project meets UNEP and GEF policies and procedures is the responsibility of the UNEP Task Manager. The UNEP Task Manager will also review the quality of draft project outputs, provide feedback to the project partners, and establish peer review procedures to ensure adequate quality of scientific and technical outputs and publications.

Project supervision will take an adaptive management approach. The UNEP Task Manager will develop a project Supervision Plan at the inception of the project, which will be communicated to the Project Management Unit and the project partners during the Inception Workshop. The emphasis of the Task Manager?s supervision will be on outcome monitoring but without neglecting project financial management and implementation monitoring.

Progress vis-?-vis delivering the agreed project global environmental benefits will be assessed with the Steering Committee at agreed intervals. Project risks and assumptions will be regularly monitored both by the Project Management Unit, the project partners and UNEP. Risk assessment and rating is an integral part of the Project Implementation Review (PIR). The PIR will be completed by the Chief Technical Advisor and ratings will be provided by UNEP?s Task Manager. The quality of project monitoring and evaluation will also be reviewed and rated as part of the PIR. UNEP?s Task Manager will have the responsibility of verifying the PIR and submitting it to the GEF. Key financial parameters will be monitored quarterly to ensure cost-effective use of financial resources.

Since this is a Medium-Size Project (MSP) of less than 4 years of duration, no Mid-Term Evaluation (MTE) will be undertaken. However, if the project is rated as being at risk or if deemed needed by the Task Manager, he/she may decide to conduct a Mid-Term Review (MTR). This review will include all parameters recommended by the GEF Evaluation Office for Terminal Evaluations (TE) and will verify information gathered through the GEF tracking tools, as relevant. The review will be carried out using a participatory approach whereby parties that may benefit or be affected by the project will be consulted. Such parties were identified during the stakeholder analysis (see section 2 above). Members of the project Steering Committee could be interviewed as part of the MTR process and the Chief Technical Advisor will develop a management response to the review recommendations along with an implementation plan. Results of the MTR will be presented to the Project Steering Committee. It is the responsibility of the UNEP Task Manager to monitor whether the agreed recommendations are being implemented.

In line with the GEF Evaluation requirements and UNEP?s Evaluation Policy, all GEF funded projects are subject to a performance assessment when they reach operational completion. This performance assessment will be either an independent Terminal Evaluation or a management-led Terminal Review.

In case a Review is required, the UNEP Evaluation Office will provide tools, templates, and guidelines to support the Review consultant. For all Terminal Reviews, the UNEP Evaluation Office will perform a quality assessment of the Terminal Review report and validate the Review?s performance ratings. This quality assessment will be attached as an Annex to the Terminal Review report, validated performance ratings will be captured in the main report.

However, if an independent Terminal Evaluation (TE) of the project is required, the Evaluation Office will be responsible for the entire evaluation process and will liaise with the Task Manager and the project implementing partners at key points during the evaluation. The TE will provide an independent assessment of project performance (in terms of relevance, effectiveness and efficiency), and determine the likelihood of impact and sustainability. It will have two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP staff and implementing partners. The direct costs of the evaluation (or the management-led review) will be charged against the project evaluation budget. The TE will typically be initiated after the project?s operational completion If a follow-on phase of the project is envisaged, the timing of the evaluation will be discussed with the Evaluation Office in relation to the submission of the follow-on proposal.

The evaluation report will be publicly disclosed and will be followed by a recommendation compliance process. The evaluation recommendations will be entered into a Recommendations Implementation Plan template by the Evaluation Office. Formal submission of the completed Recommendations Implementation Plan by the Project Manager is required within one month of its delivery to the project team.

The Evaluation Office will monitor compliance with this plan every six months for a total period of 12 months from the finalisation of the Recommendations Implementation Plan. The compliance performance against the recommendations is then reported to senior management on a six-monthly basis and to member States in the Biennial Evaluation Synthesis Report.

The GEF Core Indicator Worksheet is attached as Annex F. It will be updated at mid-term and at the end of the project and will be made available to the GEF Secretariat along with the project PIR report. As mentioned above, the MTR and TE will verify the information of the tracking tool.

The direct costs of reviews and evaluations will be charged against the project evaluation budget. A summary of M&E activities envisaged is provided in Annex J. The GEF contribution for this project?s M&E activities (including evaluations) is USD 47,671.

Type of M&E activity	Responsible Parties	Budget from GEF	Budget co-finance	Time Frame
Inception Workshop	Executing Agency (CTA)	$ 3,000 (catering and venue)		Within 2 months of project start-up

Type of M&E activity	Responsible Parties	Budget from GEF	Budget co-finance	Time Frame
Inception Workshop Report	Executing Agency (CTA)	Part of the CTA duties		3-4 weeks after the Inception Workshop
Measurement of project progress and performance indicators	Executing Agency (CTA)	Part of the CTA duties		Annually, as part of the PIR
Baseline measurement of project outcome indicators, GEF Core indicators	Executing Agency (CTA)			Included in Annex A of the CEO Endorsement Document
Mid-point measurement of project outcome indicators, GEF Core indicators	Executing Agency (CTA)	Part of the CTA duties		Mid-Point (as part of the MTR or the PIR process)
End-point measurement of project outcome indicators, GEF Core indicators	Executing Agency (CTA)	Part of the CTA duties		End Point (as part of the final PIR, Final Report or TE)
Half-Yearly Progress Reports	Executing Agency (CTA)	Part of the CTA duties		Within 1 month of the end of reporting period i.e. on or before 31 January and 31 July
Project Steering Committee (PSC) meetings	Executing Agency (CTA and National Project Director)	US$ 4,000 (4 PSC meetings. US$ 100 per meeting for catering only)	Venue to be co-financed by EA (EA meeting or conference room)	Once a year (at least)
Reports of PSC meetings	Executing Agency (CTA)	Part of the CTA duties		2 weeks after PSC meeting
Project Implementation Review (PIR) report	Executing Agency (CTA) and UNEP (Task Manager)	Part of the CTA duties		Annually, part of reporting routine

Type of M&E activity	Responsible Parties	Budget from GEF	Budget co-finance	Time Frame
Implementation and Monitoring of the Gender Action Plan and Social / Environmental Safeguards	Executing Agency (CTA as responsible for social, environmental and gender safeguards)	US$ 1,600. Provided by the CTA		Annually, part of reporting routine
Monitoring visits to field sites	Executing Agency			As appropriate
Mid Term Review (MTR) *optional*	UNEP Evaluation Office, with the support of the UNEP Task Manager and the Executing Agency	US$ 8,000		At mid-point of project implementation, if deemed required by the Task Manager
Quarterly expenditure reports	Executing Agency (CTA)	Part of the CTA duties		Within 1 month of the end of reporting period i.e. on or before 31 January, 30 April, 31 July and 31 October
Annual Inventory of Non-expendable equipment	Executing Agency (CTA)	Part of the CTA duties		Annually, as at 31 December of each year, to be submitted within 2 months
Co-financing report	Executing Agency (CTA), co-finance partners	Part of the CTA duties		Annually, on or before 31 July
UNEP Final Report	Executing Agency (CTA)	Part of the CTA duties		Within 2 months of the project completion date
Publication of Lessons Learnt and other project documents	Executing Agency (CTA)	Part of the CTA duties		Part Final Report
Terminal Evaluation (TE)	UNEP Evaluation Office, with the support of the UNEP Task Manager and the Executing Agency	US$ 30,000		Initiated at the project?s technical completion
Other M&E costs (data and information collection, printing, etc.)	Executing Agency	US$ 1,071		

Type of M&E activity	Responsible Parties	Budget from GEF	Budget co-finance	Time Frame
Total		**US$ 47,671**		

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)?

By transitioning from a mobility-model based on imported fossil fuels to one based on renewable energy powered electric mobility, Burundi stands to reap the following socio-economic benefits:

? Improved public health from reduced local air and noise pollution and a commensurate reduction in air pollution associated healthcare costs

? Development of new policy frameworks to underpin electric mobility is a key opportunity to improve urban public transport and road safety, in accordance with the recommendations set up in the National Transport Strategy and subsequent urban mobility studies in Bujumbura. This would contribute to reduced congestion and better quality of life with less time spent in traffic and better accessibility to jobs, health care and other services to all, including low-income groups.

? The evaluation and development of strategies to ensure non-discriminatory access to opportunities created by electric mobility will go a long way in bridging the gender disparity in mobility from employment, investment and access of services.

? Reduced exposure to oil price volatility & reduced oil imports (Improved energy security)

? New opportunities for the development of the national industry, linked to EV technologies, such as local EV manufacturers, end-of-life vehicle and battery management, and urban mobility providers.

? Potential to improve living conditions and reduce inequality by providing cleaner, reliable and affordable transport options.

? Reinforced capacities in the sector, including decision-makers, professionals and operators.

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
	Low		

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.

This is likely a low risk project considering the scale of the project. The guiding principles (GP questions 1-10 in the Section 3) would still need projet team?s attention throughout the project implementation.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
10278_EM Burundi_SRIF	CEO Endorsement 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 Objective	Objective level Indicators	Baseline	End of project Target	Means of Verification	Assumptions &
To reduce GHG emissions from urban road transport and facilitate the transition to sustainable urban passenger mobility in Burundi with a focus on electrification.	Indicator A: Direct and Indirect Greenhouse Gas Emissions Mitigated (metric tons of CO2e) over the period 2021-2036	Baseline A: 0	End-of-project target A: Direct: 116,804 tCO2 Indirect: 272,068 tCO2 (over the 2023-2037 period)	Calculation based on UNEP Emob calculator	Assumption: adoption of policies and introduct Government of Burundi Risk: Government's inaction in the project, due
	Indicator B: Number of direct beneficiaries of the project, disaggregated by gender	Baseline B: 0	End-of-project target B: Women: 4,844 Men: 3,358 Total: 8,202	- Attendance sheets from the child project and the Global Elecric Mobility Programme - Monitoring (the number of unique passengers serviced by the demonstration vehicles)	Assumption: adoption of policies and introduct Government of Burundi Risk: Investments envisaged in other projects materialize
	Indicator C: MJ of energy saved	Baseline C: 0	End-of-project target C: 4,541,217,799 (over the 2023-2037 period)	Calculation based on UNEP Emob calculator	Risk: COVID 19 pandemic remains a threat, r mobility and social behavior

Project Outcomes	Outcome level Indicators	Baseline	End of project Target	Means of Verification	Assumptions &
Outcome 1: The government establishes an institutional framework and adopts a gender sensitive strategy for the promotion of electric mobility	Indicator 1.1: E-mobility coordination platform formally established	Baseline 1.1: No institutional framework in place	End-of-project target 1.1: Institutional framework established by the government	Government's decision published. Deliverable 1.1.4	Risk: Marginalized populations (e.g. people livi disabilities and seniors) and women are not in that may affect them such as the E-mobility st ELVs or the corridor improvements in Bujumb
	Indicator 1.2: National e-mobility strategy adopted by the government	Baseline 1.2: No national e-mobility strategy in place	End-of-project target 1.2: National e-mobility strategy approved by the government. Mid-term target: gender analysis and action plan for the strategy completed and endorsed by the PSC (Month 18)	Government's decision published. Deliverable 1.2.4.	Risk: Negative public perception on e-mobility economic impacts
	Indicator 1.3: Number of decision-makers trained on e-mobility (women and men)	Baseline 1.3: 0	End-of-project target 1.3: 10 women and 10 men	Attendance list to training events. Deliverable 1.3.4, Deliverable 1.3.5, Deliverable 1.3.6, Deliverable 1.3.7.	Risk: Difficulties to mobilize key decision-mak
Outcome 2: The electric 3-wheelers' demonstration provides evidence of technical, financial and environmental sustainability, enabling public and private stakeholders to plan for scale-up of electric mobility in Burundi	Indicator 2.1: Total number of users (women and men) of services provided by electric 3Ws	Baseline 2.1: 0	End-of-project target 2.1: 288,000 trips in 18 months made by 4,800 women and 3,200 men	Fleet tracking system, reports from operator(s) and survey. Deliverable 2.2.6.	Risk: Exposure and vulnerability to climate cha transport stops Risk: Air and dust emissions, noise, vibration, rehabilitation activities of bus stops and other a Risk: Inappropriate behavior by drivers of the 3 the project
	Indicator 2.2: Percentage of women in the demonstration staff (drivers and maintenance)	Baseline 2.2: 0	End-of-project target 2.2.: At least 15%	Reports from operator(s) of the demonstration fleet. Deliverable 2.2.2 and Deliverable 2.2.5.	Risk: Spread of respiratory diseases (such as community during 3W operation and rehabilita Risk: Working conditions in the 3W services c national or labor laws and international labor c
	Indicator 2.3: Number of mobility providers interested in e-vehicles	Baseline 2.3: 0	End-of-project target 2.3: 2	Letter of interest addressed to EV providers or to the PMU. Deliverable 2.3.4.	Assumptions: The project properly dissimenat the demo project, Charging infrastructure is av decrease, EV manufacturers take interest in E
Outcome 3: The government adopts regulations, technical standards and fiscal and other policies and endorses financing schemes to accelerate the introduction of electric vehicles in Burundi	Indicator 3.1: The regulatory package to incentivize the uptake of electric mobility is validated by national coordination platform and submitted to the government for adoption	Baseline 3.1: No regulations on electric vehicles	End-of-project target 3.1: Regulations on taxation and technical specifications submitted to the government for adoption	Minutes of the national e-mobility coordination platform Government's acknowledgement of reception of proposal. Deliverable 3.1.4.	Assumptions: Favorable political climate to the transport modes; relevant Ministries are prope the national coordination platform. Risk: EV technologies not adequate to the cou
	Indicator 3.2: Number of financing schemes for the procurement of electric vehicles offered by the financial sector	Baseline 3.2: No financing schemes available focusing on Evs	End-of-project target 3.2: 1 financial scheme available in local financial institutions	- Business / financing model - Procurement guideline document - LOIs from financial institutions - Government gazette and other publications Deliverable 3.2.3.	Assumptions: Viable business models for elec identified and a corresponding finance scheme Risk: Unavailability for EVs to compete in cost vehicles
Outcome 4: The government adopts end-of-life management regulations for e-vehicles & batteries and endorses recommendations on renewable energy integration to support long-term environmental sustainability of electric mobility in Burundi	Indicator 4.1: Proposal for ELV regulation, including electric vehicles and their batteries, is endorsed by the Ministry of Environment	Baseline 4.1: No	End-of-project target 4.1: Yes	- Government gazette and other publications - Scheme for re-use, recycling and sound disposal of used batteries document. Deliverable 4.2.3	Assumptions: Interest by e-waste collection c used EV batteries; sufficient capacity in the wa the re-use of used batteries. Risk: Inadequate (or lack of) treatment of EVs batteries or lubricants) in the e-mobility strateg
	Indicator 4.2: Number of women and men trained in ELV management	Baseline 4.2: 0	End-of-project target 4.2: 6 women and 34 men	-Lists of attendance (deliverable 4.2.5)	Assumption: Governmental support to the dev the EV and batteries sector. Risk: Poor availability of electricity weakens int

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).

Please refer to the separate pdf file which includes all responses to the GEF Secretariat?s comments to the PFD.

Annex B.1 ? Responses to GEF Sec reviews (on the PFD)

Annex B.2 ? Responses to GEF Sec reviews (on the PFD addendum)

Annex B.3 ? Responses to STAP comments

Annex B.4 ? Responses to Council comments

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UNEP responses to GEF Council comments on the
Global Programme to Support Countries with the Shift to Electric Mobility (GEFID 10114)

v Comment by Yoshiko Motoyama, GEF Alternate Council Member, Japan, Deputy Director Global Environment Division, International Cooperation Bureau, Ministry of Foreign Affairs of Japan, Council, Japan made on 6/1/2020

The below comments from Japan were provided prior to the Council meeting. An initial agency response was provided and can be found in the list of documents specific to the project in the GEF Portal.

On single-country projects, especially with large stated co-finance ratios, and cyclical-industry-related projects, such as Project 10564 (Environmentally Sustainable Development of the Iron and Steel Industry) and Project 10544 (electric mobility addendum):

? We anticipate that participants of these projects may be severely impacted by the COVID-19 crisis. How realistic are the published co-financing arrangements to be met, and for the industry to meet the higher operating costs - - without de facto subsidization from the GEF?

Response:
The current health crisis related to COVI-19 poses some difficult challenges for the automotive sector, but also, looking more specifically at the electric vehicles segment, it offers some opportunities.

Challenges include delays related to the finalization of the design of some of the national child projects, due for instance to international travel restrictions for the specialists involved in the design and the relative consultations. Broader challenges also include depression of demand for cars, at least in the short term, and potential shift in government priorities to focus limited national budget and workforce to more pressing health-crisis related issues. At this point it is difficult to make assumptions regarding the extent to which this will affect government priorities with regards to the allocation of budget and work force. What can be said is that there is a clear case to be made for mobility to as a key pillar for sustainable and clean transportation investments in the context of economic recovery plans.

Opportunities: According to today?s knowledge, there seems to be a correlation between air quality and COVID-19, whereby COVID-19 incidence and mortality are significantly higher in areas that have high levels of local air pollution. This includes particulate matters (e.g. PM2.5, PM10)[1] as well as N_2O from both mobile (e.g. trucks and cars) and stationary (e.g. coal power stations) emission sources[2]. Since electric mobility has the potential to significantly contribute to improved urban air quality, we assume that it will play an important role in countries? strategies to respond to the COVID-19 pandemic.

Similarly, a shift to electric mobility will significantly reduce the dependency of countries to import petroleum petrol fuels. It therefore increases resilience against restrictions or price spikes resulting from international crisis.
While during COVID-19 vehicles sales have plummeted by half or more, electric vehicles sales have been relatively less affected. Analysts from Bloomberg New Energy Finance have estimated that the electric segment of car sales will continue to outperform in terms of growth the traditional cars one as we move past the crisis, even though oil prices at a historic low will create some negative headwinds. However, orders of buses are likely to suffer delays if public perception of mass transit as unsafe does persist.

Furthermore, in terms of green recovery, clean mobility is expected to play a key role in getting the global economy back on track. Continued social distancing measures will have an impact on how we use transportation services, and in particular public transportation, but certain modes of public transport are expected to grow, in particular in low and middle-income countries. These modes include 2&3 wheeler taxis, or usual taxis and ride-hailing providers using passenger cars, to reduce close contact with higher numbers of riders. For many of these modes good electric alternatives are available.

Based on current trends and signals it is expected that after COVID-19 the shift to electric mobility would continue, if not increase. Many city governments around the world are looking at opportunities to take advantage of the significant reduction in urban congestion linked to the COVID-19 mobility restrictions to introduce permanent limitations to the use of private vehicles, especially if internal combustion engines. Such measures will not only reduce local air pollutants (such as particulates PM2.5 and PM10, but also N_2O) and carbon emissions but can also increase resilience of transport systems against the current - and any potential future - health crises. The contribution of low-carbon mobility, including electric mobility, to a more resilient economy will be further integrated in the Programme and highlighted throughout the training components to be delivered to participating countries.

? What happens to the funds/projects if some participants cease to become going concerns (=i.e. bankruptcy)?

Response:
The information presented in the project documentation (PIFs and PFDs) represents the best available information available at the time of the submission to Council, following the technical review from the GEFSEC. Some level of change in the project design and in the availability of the amount of co-financing estimated ex-ante is possible and sometimes even desirable, considering the additional in depth design analysis conducted during the project preparation phase, including through the PPG-funded activities, between the submission of PIFs/PFDs and the submission of the relative CEO ER. Co-financing arrangements and amounts specified in PIFs/PFDs are best-case estimations that GEF Implementing Agencies and National Executing entities or participating actors provide for the formulation of the project proposals. These up-front estimates are assessed as part of the GEFSEC review process in terms of their relevance and adequacy vis-?-vis the scope and objective of the proposed Project/Program activities.

Once the PIF/PFD is approved by Council, as part of the detailed design process, Agencies and actors listed as other providers of co-financing amounts are asked to reassess and formally confirm that the co-financing volumes which had been included in the PIF/PFD have been approved by the competent authority within each specific organization. This is formalized through the submission of co-financing confirmation letters. In case a specific entity is no longer able to provide the previously stated co-financing amount, either in full or in part, generally Implementing Agency and GEFSEC would work together to assess if the stated co-financing is essential to achieve the project/program?s objective. If so, GEFSEC and Agency assess if the expected amount of co-financing that is no longer available can be replaced by existing or additional co-financing from other actors. In case the co-financing is deemed essential, and there is no possibility to source such funds that are considered necessary to achieve the stated objectives, GEFSEC and Agency would consider whether to revise the approved project/program, and if not possible/advisable the project/program would not receive CEO Endorsement.

Given that the development phase will take around 12 months, and that the COVID crisis might trigger some government support to accelerate the further uptake of electric vehicles, as we have seen in France, for example (see quote below) , we hope that the co-finance might not be such an issue in a year from now, when the CEO endorsement documents will be due for submission. In any case, if planned investments and/or co-finance becomes an issue, agencies will work with the project developers to identify other sources of co-finance that can substitute the initial set of co-financiers, while keeping the project scope. If this is not possible, the developers will try to re-adjust the scope to respond to available co-finance that is still aligned with the project objectives. If this fails as well, then the developers might wish to either postpone the project or discuss with the country if the project should/can go ahead.

? We raised at the last council our interest in verifying the ability of GEF and its accredited agencies to conduct independent audits of such contributions, including verifying and assessing the abilities of the involved parties to meet the co-financing obligations of this project. We recognize that this process --- along with many other due diligence procedures --- could be increasingly impaired by the latest COVID-19 crisis. Detailed explanations on how the Secretariat plans to handle these types of issues would be

appreciated (preferably in writing to be posted on the GEF website, as it is not clear from the existing material and guidelines on the website)

Response:
In addition to the explanation provided above on the dynamics of co-financing, co-financing is reported on a yearly basis, based on progresses related to the sourcing and use of co-financing amounts. In the case of the e-mobility Programme, the Lead Implementing Agency is UNEP. For each project implemented by UNEP, the Project Manager has responsibility to seek signed co-finance reports from each co-financier of that given project. While the co-financiers are not audited, their signed (by the authorized authority in each entity providing co-financing) co-finance reports are available for the mid-term and terminal evaluators, so that the evaluation process can assess if that given GEF project reached or not the co-finance amounts which had been estimated up-front.

? We would also like to stress the need for transparency and balanced involvement of private sector providers in any of these corporate projects (particularly highly cyclical sector projects such as the ones included in this work program in the steel and automobiles sectors), especially amid the COVID crisis, given that all such industry participants indiscriminately face severe business conditions. Projects should be carefully constructed and communicated, so that they are not deemed to infringe upon rules against subsidization of particular entities, thereby ?reinforcing the market power of some targeted companies at the expense of other firms? (as per the rules). For example, ?to de-risk investments in ?.? in the project description/ objectives implies the potential of subsidization, highlighting the need for transparency in their construct and execution, so that they are visibly in line with GEF rules and regulations and the Private Sector Engagement Strategy to be adopted at this Council session. This type of crystal-clear communication/ governance insurance measure is essential for the GEF to credibly raise funding for private sector-driven projects in a tough financial environment.

Response:
We certainly acknowledge the importance of the point being raised here: all projects must be careful to run clear, fair and transparent procurement policies, which Agencies have in place for GEF projects. The recently adopted MINIMUM FIDUCIARY STANDARDS FOR GEF PARTNER AGENCIES Policy (GA/PL/02, of Dec 19, 2019), which covers both the Agency?s internal procurement policies and procurement by recipients of funds, provides that:
Specific GEF Partner Agency policies and guidelines promote economy, efficiency, transparency and fairness in procurement through written standards and procedures that specify procurement requirements, accountability, and authority to take procurement actions. As a minimum, these policies and guidelines provide for:

- *Open competition and define the situations in which other less competitive methods can be used; and*
- *Wide participation through publication of business opportunities; descriptive bid/ proposal documents that disclose the evaluation criteria to be used; neutral and broad specifications; non-discriminatory participation and selection principles; and sufficient time to submit bids or proposals.*

UNEP is the GEF agency leading the global e-mobility programme and will take on this guidance in the development of the global project and its own child projects and will also pass it along to all other Implementing Agencies (UNDP, UNIDO, DBSA and EBRD). Of course, the participation of private sector partners and entities is key for the e-mobility programme and UNEP and the other Implementation Agencies will continue to seek their support and participation in the program. The Program objective is to promote a shift towards electric mobility and away from Internal Combustion Engines, and as such all projects will be working with private sector partners that are actively working in this space.

In this context, it may also be useful to refer to the GEF-7 Programming Directions, para 121, as they refer to the Climate Change Focal Area:
121. To take advantage of the GEF?s comparative advantage, programming under this objective does not prioritize direct support for large-scale deployment and diffusion of mitigation options with GEF financing only. Rather, GEF-7 resources should be utilized to reduce risks and enhance enabling environments in order to facilitate additional investments and support by other international financing institutions, the private sector, and/or domestic sources to replicate and scale up in a timely manner.

The global e-mobility program is responding to the GEF?s grant role to support innovation and technology transfer at key early and middle stages of development, focusing on the demonstration and early deployment of innovative technologies to deliver sustainable energy solutions that control, reduce, or prevent GHG emissions.

v Comment by Kordula Mehlhart, GEF Council Member, Head of Division on Climate Finance, BMZ, Council,
Germany made on 6/18/2020

Germany approves the following PIFs in the work program but asks that the following comments are taken into account:

Germany approves the addendum to the global programme that contributes to the adoption of e-mobility by strengthening the technical and financial capacities of countries and taking into account different local prerequisites and requirements.

Suggestions for improvements to be made during the drafting of the final project proposal:

? The introduction of e-busses to local public transportation fleets differs from other e-mobility forms, e.g. from heavy duty long-distance trucks, when it comes to technical aspects, charging infrastructure and the role of public / private investments. Given the unique involvement of public stakeholders in the purchase and operation of e-busses as well as the significant effect e-busses can have in terms of GHG-emission reductions in urban centres, this subject deserves a great amount of attention. Germany therefore proposes, that the significance of the acceleration of ebus adoption be reflected in the program structure, by creating an additional working group focused on e-busses in public transportation.

Response:

Many countries have prioritized the introduction of electric busses in their country projects. Often as part of their efforts to introduce mass transit/ bus rapid transit systems. There will be a key interest in developing tools about the introduction of e-busses in developing country operating environments. There are also many lessons learned and examples (good and bad) in all regions that need sharing (for example the Chile and South Africa pilots). On the other hand, no country projects have prioritized electric trucks in their projects. Generally, this sector is seen as the last sector to switch, after busses, 2&3 wheelers and light duty vehicles (with the exception of the smaller delivery trucks like vans and so). Therefore, our thinking is to focus the HDV working group on busses. With possibly (probably) a smaller sub-group focusing on electric trucks. So rather than having a busses sub-group, we want to focus the HDV working group on busses and have a sub-group on trucks.

? Germany welcomes that information exchange and knowledge management are a substantial part of the programme. We suggest establishing a close working relationship to the new TUMI (Transformative Urban Mobility Initiative) E-Bus mission. The?TUMI E-Bus Mission? follows a similar logic and approach in supporting cities in the uptake of e-busses. As the e-bus implementation in public transport is largely dependent on an involvement of city level decisionmakers, the TUMI E-Bus Mission can contribute to the proposed programme by feeding in local perspectives and requirements.

Response:
UNEP already has existing working relations with the Transformative Urban Mobility Initiative. Coordination with and involvement of the TUMI initiative in the global e-mobility programme will be added to the project document (especially through the activities implemented as part of the Regional Support and Investment Platforms).

v Comment by Anar Mamdani, Director, Environment Division (MSS), Global Issues and Development Branch
(MFM), Global Affairs Canada, Council, Canada made on 6/26/2020

? We recommend that there be some consideration to mitigating the environmental impacts of electric vehicles, particularly where facilities for managing batteries don?t exist.

Response:
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. It also aims at the facilitation of discussions between regulators, recyclers and battery / vehicle manufacturers to better understand and enhance battery design to improve recyclability of batteries, especially with regards to economic viability.

In addition, Component 4 of the country child projects is usually focused on the long-term environmental sustainability of low-carbon electric mobility, which include outputs/activities to ensure/promote the environmentally sound management of used batteries (i.e. collection, re-use, recycling and disposal).

v Comment by Elizabeth Nichols, U.S. Department of State | Bureau of Oceans, International Environmental and Scientific Affairs (OES), Office of Environmental Equality and Transboundary Issues (EQT), Council, United States made on 7/2/2020

? Within Bangladesh, we recommend additionally coordinating with the State Minister for Power, Energy, and Mineral Resources, and the Dhaka North City Corporation Mayor.

Response:
Comment taken and shared with UNDP project proponents in charge of the Bangladesh child project. This recommendation will be considered during the proposal development phase of the Bangladesh e-mobility project.

? Within Sri Lanka, there was very minimal reference to the project?s stakeholders. We look forward to seeing much more clearly defined information on stakeholders and their engagement in the next stage of proposal development.

Response:
Comment taken and shared with UNEP project proponents in charge of the Sri Lanka child project. Engagement of project stakeholders will be further elaborated during the proposal development phase of the Sri Lanka e-mobility project.

v Comment by Dr Katharina Stepping, Deputy Head of Unit Climate Finance, Federal Ministry for Economic Cooperation and Development (BMZ), Council, Germany made on 6/28/2019

Germany welcomes the proposal aiming to support countries to design and implement electric mobility programs as part of an overall shift to sustainable, low carbon transport sector. Germany welcomes the proposal as the first global inter-agency electric mobility programme and appreciates that the project clearly aims at supporting the rapid introduction of electric mobility in GEF recipient countries, herby making a contribution to the low carbon transition in the transport sector. At the same time, Germany has the following comments that it suggests be addressed in the next phase of finalizing the project proposal:

Suggestions for improvements to be made during the drafting of the final project proposal:

? Germany welcomes that the project foresees a clear role for the private sector as a supplier for electro mobility technologies. However, given that private sector investments in electric mobility will be key, Germany would welcome the inclusion of activities that specifically directed at spurring private

investments in electric mobility (from the demand side). For instance, some firms have switched parts of their operations to electric fleets. These types of opportunities could be considered within the PIF.

Response:
Almost all of the Country Child Projects are geared towards the introduction of electric 2&3 wheelers (and sometimes e-passenger cars) as well as e-buses into private or government owned public transportation fleets through: 1) Awareness raising, capacity building and institutionalization of e-mobility; 2) Short term barrier removal through demonstration of e-mobility; 3.) Scale-up and replication through development of e-mobility policies, business models and financial mechanisms; and 4.) Support of environmental sustainability through battery re-use / end-of-life considerations and integration of renewable power for vehicle charging. The Country Child Projects therefore target to spur e-mobility demand in the project countries.

The Regional Support and Investment Platforms under the Global Programme will create market-place events whereby the current as well as potential new projects meet with financiers (development banks, venture capital, green funds) and e-mobility manufacturers. The idea is to bundle demand for EVs and EV supply equipment and to raise interest from manufacturers in regions of the world, which are not yet in the focus of manufacturers, but have a great market potential.

The Global Working Groups and the Regional Supply and Investment Platforms are a means of private sector participation, and invites all major EV and EV supply equipment manufacturers to participate in events, tasks groups, etc. This also includes bringing together multinational EV and EVSE manufacturers with the vibrant mobility service provider start-up scene in low and middle-income countries.

Many Country Child Project also include work streams to incentivize the local assembly and manufacturing of e-vehicles, such as e-motorcycles and e-3wheelers.

? Germany welcomes the comprehensive and overall well-structured project design. To further facilitate an overview of the project?s intended activities, Germany welcomes the inclusion of quantitative indications in the description of component 3 on how many pilot projects, regulatory measures etc are planned.

Response:
Each country child project includes a project results framework with quantitative indicators and end-of-project targets to measure the number of pilot projects, regulatory measures, etc., achieved/developed within the framework of the GEF project. However, at the time of submission of the Global Child Project, not all Country Child Projects (and in particular those 10 Country Child Projects submitted as part of the second round) have been finalized, and thus the exact amount of policies planned, business models envisaged and financial mechanisms to be set-up cannot not be provided.

? While the proposal provides a comprehensive overview of highly relevant initiatives and programmes, Germany welcomes including existent initiatives such as the Transformative Urban Mobility Initiative and the C40 Cities Finance Facility as well as upcoming initiatives such as TUMIVolt to enable exchange of experiences as well as potentials for future collaboration. This is especially relevant

considering the planned future expansion of the proposed project to countries like Nigeria and Mexico which are partner countries to above mentioned initiatives.

Response:
UNEP has working relations with both TUMI as well as C40 (in particular through the ?Zero Emission Bus Rapid-deployment Accelerator? (ZEBRA) initiative), and coordination with and involvement of both initiatives in the global e-mobility programme, especially through the activities implemented as part of the Regional Support and Investment Platforms, will be added to the project document.

? Germany welcomes the proposal?s reliance on IEA scenarios to lay out the project approach. To even further increase the proposal?s line of argument, Germany would welcome a very brief explanation on why the proposal focuses on the IEA?s B2DS and not on the 2DS scenario when describing the programme?s focus. This could for example be provided on page 26 in the first paragraph.

Response:
Work funded by the GEF working towards Climate Change Mitigation is related to the UNFCCC and the Climate Agreements achieved as part of the Conference of the Parties (COP). The Paris Agreement?s central aim is ?to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius?. The IEA Beyond 2 Degree Scenario (B2DS) reflects this. Language can be added as suggested.

v Comment by James Woodsome, International Economist, O??ce of International Development Policy, International Affairs, U.S. Department of the Treasury, Council, United States made on 7/3/2019

Feasibility. The core of this proposal for Armenia deserves further scrutiny. The claim of 5,000 electric vehicles does not fit with other statistics, for example press reports citing the Minister of Nature Protection as saying that 30 electric vehicles were imported into Armenia in 2018. While there may have been a several-fold increase in electric vehicle imports in Armenia since 2016, those imports would have started from extremely low levels. That Armenia would manufacture electric vehicles does not track with the fact there is no real manufacturing industry even for traditional petroleum fuel vehicles at present. Due to the ratcheting duties caused by incremental adoption of the Eurasian Economic Union (EAEU) common external tariff, Armenia will face steadily increasing prices for imports of cars from outside the EAEU, complicating the adoption of such technology. We encourage more background investigation before its basic feasibility can be established.

Response:
Regarding the question on Armenia, unfortunately there is a mistake with the short description of the Armenia child project baseline in Table 2 of the PFD. This will be corrected during the Child Project development and a note will be attached to the PFD to that effect. The 5,000 EVs mentioned and the local manufacturing actually belong to Ukraine. The US Council comment is right and Armenia imported about 30 EVs in 2018 (https://energyagency.am/en/page_pdf/tsragri-anvanoum). The project feasibility

in Armenia will be further analyzed during development, but the government has prioritized the promotion of electric vehicles as one of the transport measures in their NDC. Armenia recently waived the VAT on EVs to stimulate the EV market (https://energyagency.am/en/category/noroutyounner-ev-mijocaroumner/elektromobilneri-nermoutsoumy-kazatvi-aah). In general, high import duties for vehicles can be an opportunity rather than a barrier for EV import. In case these duties are waived or reduced for EVs (to some extent that is already the case with the VAT exemption for EVs in Armenia), it provides a meaningful monetary incentive for customers to buy electric vehicles. EV market uptake in Norway is largely due to import and registration tax exemptions for EVs, while import of conventional cars is subject to high taxes. Yerevan has instituted an exemption of parking fees for EV?s and has deployed some recharging infrastructure. Armenia already has a low emissions factor of about 0.4 tons of CO2/MWh and the introduction of EV?s in Armenia would be able to reduce emissions with such a grid profile, and Armenia has introduced several policies to incentivize renewable power generation investments. For example, projects have been implemented or have been committed to improve energy transmission efficiency and reliability, and investment in renewables is taking off. This GEF project aims to demonstrate light duty vehicles in a government fleet in Yerevan, and in 2019, 23 charging stations will be installed through a GEF-6 funded Small Grant Programs implemented and led by UNDP. Promoting electric vehicles together with renewable energy will improve energy efficiency and further reduce CO2 emissions, air pollution and energy dependence in Armenia. This will be in full alignment with the countries? NDC and its strong commitment to the introduction of clean and sustainable energies.

v Comment by Lauren C?line Naville Gisn?s, NORAD, Department for Climate, Energy and Environment, Council, Norway made on 6/29/2019 ?

? We put great emphasis on cutting GHG emissions through electrification of the transport sector. We are of the opinion that if all take concerted action, it will drive down costs because of scale production.

? Every country has to choose their own path. However, an important lesson so far is that one needs to tax emissions. You need carrots and sticks. In line with general GEF principles of an enabling policy framework, one should pay attention to relevant tax policies when designing GEF programs, including policies for reducing fossil fuel subsidies.

Response:
The Child Country Projects all include work on the development of adequate policy frameworks to support the uptake of e-mobility ? including regulatory, fiscal and other local measures. For example, some of the country projects include outputs on fiscal reforms in order to base registration and / or import taxation for vehicles on CO2 emissions or fuel consumption. In some of the countries (i.e. in some of the SIDS), work will be brought forward to liberalize the power market and to allow the supply of power by independent power producers, which facilitates the introduction of renewable power generation and breaks the monopoly of subsidized petroleum fuel powered electricity generation.

[1] Harvard University: ?COVID-19 PM2.5, A national study on long-term exposure to air pollution and COVID-19 mortality in the United States?, available at: https://projects.iq.harvard.edu/covid-pm

[2] Yaron Ogen, 2020, ?Assessing nitrogen dioxide (NO2) levels as a contributing factor to coronavirus (COVID-19) fatality?, Science of The Total Environment, available at: https://www.sciencedirect.com/science/article/pii/S0048969720321215

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

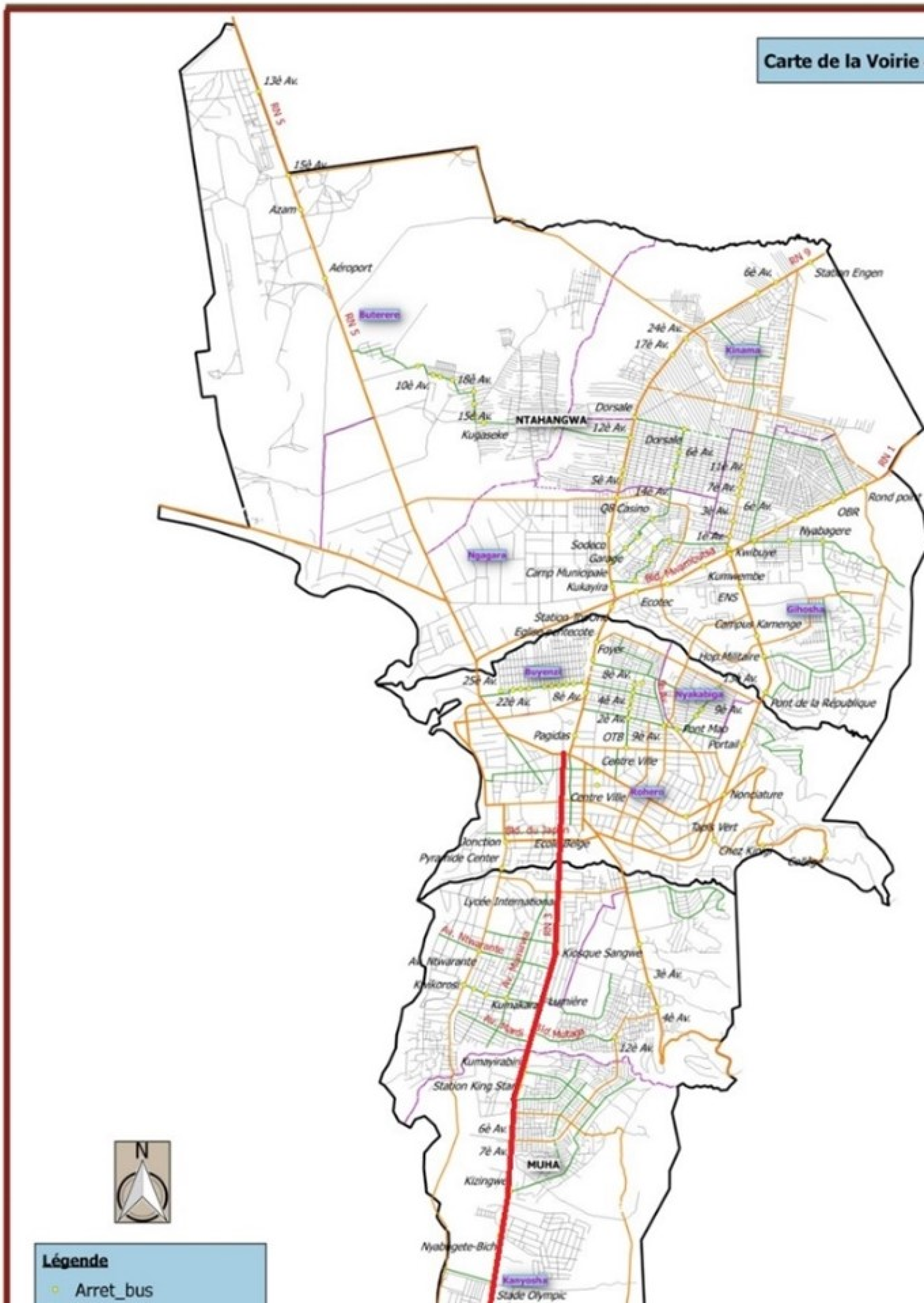
Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: **US$ 50,000**			
Project Preparation Activities Implemented	***GETF/LDCF/SCCF Amount (US$)***		
	Budgeted Amount	***Amount Spent to date***	***Amount Committed***
GEF project expert	6,000.00	4,000.00	2,000.00
Mobility expert	13,301.00	13,300.51	0.00
GHG modelling consultant	4,571.95	4,572.15	0.00
Project development consultant	18,198.97	18,197.20	0.00
Experts travel	6,838.08	6,838.08	0.00
Meeting participants	1,090.00	1,090.00	0.00
Total	**50,000.00**	**47,997.94**	**2,000.00**

ANNEX D: Project Map(s) and Coordinates

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

Demonstration sites	***Latitude***	***Longitude***
Corridor RN-3 Bujumbura	3.3860S	29.3610E
Depot and charging station for 3W, March? de Ruziba, Bujumbura	3.4720S	29.3501E


Carte de la Voirie
13è Av.
RN 5
15è Av.
Azam
Aéroport
Buterero
6è Av.
RN 9
Station Engen
24è Av.
17è Av.
Kinama
10è Av.
18è Av.
15è Av.
NTAHANGWA
Dorsale
12è Av.
Kugaseke
Dorsale
6è Av.
11è Av.
RN 1
5è Av.
7è Av.
14è Av.
Rond point
QR Casino
3è Av.
6è Av.
OBR
Nyabagere
Ngagara
Sodeco
Garage
Kwibuye
Camp Municipale
Kukayira
Kumwembe
Ecotec
ENS
Gihosha
Campus Kamenge
Foyer
Hop Militaire
Buyenzi
8è Av.
25è Av.
4è Av.
Nyakabiga
22è Av.
8è Av.
Pont de la République
9è Av.
2è Av.
Pagidas
OTB
9è Av.
Portail
Centre Ville
Centre Ville
Rohero
Tapis Vert
Jonction
Ecole Belge
Pyramide Center
Lycée Internationa
Kiosque Sangwe
Av. Ntwarante
Kwikoroshi
3è Av.
Lumière
Kumakara
4è Av.
12è Av.
Kumayirabiri
Station King Star
6è Av.
7è Av.
MUHA
Kizingwe
N
Légende
Arret_bus
Kanyosha
Stade Olympic

ANNEX E: Project Budget Table

Please attach a project budget table.

Burundi e-mobility project budget							
GEF budget category & detailed description	**Outcome 1**	**Outcome 2**	**Outcome 3**	**Outcome 4**	**Outcome 5**	**Subtotal**	**PMC**
02. Goods		**60,000**				**60,000**	**7,317**
Computer and other ICT equipment for the PMU						0	7,317
Procurement and installation of charging system		60,000				60,000	
03. Vehicles		**100,000**				**100,000**	
Procurement of electric 3 wheelers and tracking system		100,000				100,000	
06. Sub-contract to executing partner/entity	**3,000**	**50,500**	**4,000**	**2,000**	**38,000**	**97,500**	
International E-mobility Technical Support (UNEP SMU)	3,000	5,500	4,000	2,000		14,500	
Operation of the 3-wheeler fleet during 18 months		45,000				45,000	
Optional Mid-Term Review (UNEP Evaluation Office)					8,000	8,000	
Terminal evaluation (UNEP Evaluation Office)					30,000	30,000	
07. Contractual services (company)	**26,000**	**15,000**				**41,000**	
Design and publication of training materials on e-mobility	6,000					6,000	
Production of materials and implementation of multimedia campaigns		15,000				15,000	
Project's website	20,000					20,000	
07. Contractual services company						**0**	**10,000**
Independent financial audits						0	10,000
09. International Consultants	**25,800**	**50,400**	**35,400**	**48,000**		**159,600**	
International consultant (or firm) for preparation of energy system integration study				24,000		24,000	
International consultant (or firm) on EV and EV charging system technologies and urban mobility		50,400				50,400	
International consultant (or firm) on management of electric vehicles at end of life				24,000		24,000	
International consultant (or firm) on policy and strategy	25,800		35,400			61,200	
10. Local Consultants	**16,000**	**8,800**	**8,000**	**5,600**		**38,400**	
Junior consultant for project outreach activities and for local support to international experts	16,000	8,800	8,000	5,600		38,400	
11. Salary and benefits/Staff Costs	**13,920**	**17,600**	**10,400**	**6,080**	**1,600**	**49,600**	**27,200**
Chief Technical Advisor	13,920	17,600	10,400	6,080	1,600	49,600	27,200
12. Training, Workshops, Meetings	**28,000**	**41,000**	**8,000**	**4,000**	**7,000**	**88,000**	
Catering and support for PSC meetings					4,000	4,000	
Catering, venue and support for inception workshop					3,000	3,000	
Logistics and support for Local Advisory Group meetings		7,000				7,000	
Venue, catering and support for demonstration design workshop		2,000				2,000	
Venue, catering and support for training workshops of demonstration staff		32,000				32,000	
Venue, catering and support for training workshops on e-mobility	4,000					4,000	
Venue, catering and support for validation workshops on regulation			6,000			6,000	
Venue, catering and support for workshop on ELV management				4,000		4,000	
Venue, catering and support for workshop on fleet electrification			2,000			2,000	
Venue, catering, support and travel allowances for national coordination platform meetings	24,000					24,000	
13. Travel	**42,000**	**14,000**	**6,000**	**8,000**		**70,000**	**12,000**
Attendance of training and coordination activities of Global Programme	36,000					36,000	
CTA trip to review results with Global Programme		4,000				4,000	
Travel and terminal expenses						0	12,000
Travel for missions of the consultancy on energy system integration				2,000		2,000	
Travel for missions of the consultancy on EV and EV charging system technologies and urban mobility		8,000				8,000	
Travel for missions of the consultancy on management of electric vehicles at end of life				4,000		4,000	
Travel for missions of the consultancy on policy and strategy	4,000		4,000			8,000	
Travel to provide international E-mobility Technical Support (UNEP SMU)	2,000	2,000	2,000	2,000		8,000	
14. Office supplies						**0**	**6,000**
Office supplies						0	6,000
15. Other operating costs					**1,071**	**1,071**	**8,000**
Other PMU operating costs (phone, internet data, printing, etc.)						0	8,000
Other M&E costs (data and information collection, printing, etc.)					1,071	1,071	
Grand Total	**154,720**	**357,300**	**71,800**	**73,680**	**47,671**	**705,171**	**70,517**

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.

Not applicable

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.

Not applicable

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).

Not applicable