

Environmental and Social Analysis and Environmental and Social Management Framework

E-Motion: E-Mobility and Low Carbon Transportation

Cover page

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1. Executive Summary

The present document expounds the Environmental and Social Management Framework (ESMF) of the '**E-Mobility and Low Carbon Transportation**' Program or '**E-motion**' Program, implemented by CAF.

E-Motion program aims to enable a large-scale regional transition towards electro-mobility in Latin America focusing on intensive use vehicles leading to reduced fossil fuel consumption, greenhouse gas emissions and air pollutions. E-motion Program will be implemented in two Subprograms and through two GCF Funding Proposals: one by AFD (Sub-Program 1) as an Accredited Entity to cover 8 countries, and one by CAF (Sub-Program 2) to cover 3 countries, all of them located in Latin America.

The E-Motion Sub-Program 2 shall contribute to overcome the barriers to mass deployment of commercial EVs in Uruguay, Paraguay, and Panamá. The potential segments for investment sub-projects in Uruguay, Paraguay and Panama that have been identified are:

- **e-buses.** Public / private bus operators with different legal regimes, which could operate 650 e-buses. In business model 1 (direct purchase), the operators would own/lease the fleet (e.g., leave from a special purpose vehicle).
- **e-LCV.** A variety of LCV users, both public entities and private companies are interested in investing in this type of EV. The potential is 1,150 e-LCV to be financed under the Sub-program 2. This operation could be managed via a funding Special Purpose Vehicle (SPV) leasing those vehicles. From this total, 900 e-LCV are for public fleet operations. The three countries have been implemented and/or plan to create a scrapping program¹. To have a scrapping program for public fleet will enable the scrapping for other segments such private LCVs

The E-Motion Sub-Program 2 envisages to finance at least one project in each participating country. The initial project pipeline includes **14 sub-projects** (6 in Panama, 4 in Paraguay and 4 in Uruguay). The Program will directly finance e-buses sub-projects and will work also through financial intermediaries which provide loans to purchasers E-LCV.

Overall, Sub-Program 2 is classified as Category B in regard to its potential environmental and social risks and adverse impacts, which are limited in nature, reduced in number and localized (site specific), and that can be readily addressed with standard mitigation measures and best management practices. The proposed Environmental and Social Management Framework (ESMF) establishes general guidelines to help implementing partners develop Sub-project specific Environmental and Social Management Plans (ESMP) in accordance with CAF Safeguards that are aligned with GCF's interim environmental and social safeguards and performance standards. Sub.-Program 2 will support only category C and B sub-projects: High risk category A sub-projects will be excluded (refer to annex 5 for the equivalence of CAF's environmental and social risk categories with those of the GCF).

¹ E-motion does not promote earlier replacement or scrapping of vehicles. Scrapping Programs in any case have limited merits as for example in the case of buses old municipal buses could still be used to replace even older rural or private transport buses with low mileage.

The positive impact of EVs comprises reduced GHG emissions, reduced air pollution, reduced noise levels, reduced dependence on fossil fuels and increased energy efficiency. The Sub-Program 2 expects direct emissions reductions of 3,300,000 tCO_{2e} over the assets lifetime of investments co-financed by the Sub-Program 2. Major environmental co-benefits are reduced emissions of pollutants and reduced noise emissions. The major concern for air pollution in the cities is PM_{2.5} and NO_x emissions. The projected reduction of pollutants of the Sub-Program 2 in Panama, Paraguay and Uruguay is 80 tPM_{2.5} and 4,080 tNO_x. The Sub-Program 2 contributes to sustainable development goals (SDG) 3 (“good health and well-being”), SDG goal 7 (“affordable and clean energy”), SDG goal 9 (“industry, innovation and infrastructure”), SDG goal 11 (“sustainable cities and communities”), and SDG 13 (“climate action”).

The main adverse impact will only manifest at the end of the EVs battery life when they no longer match the high requirements needed for electromobility. Batteries from EVs have an expected lifespan of approximately 8 to 10 years, after which they must be replaced by new ones. The disposal of old batteries can generate environmental and health hazards. As expended lithium-ion batteries, due to their chemical contents, are harmful to humans and the environment, they need to be managed accordingly. The two environmentally sustainable alternatives of recycling and second life of out-of-Use EV batteries, due to many shared supply chain elements, present technical, regulatory, and financial challenges.

Due to the implementation of activities that are part of the scope of the Sub-Program, other less significant adverse impacts can potentially occur, which include: (i) minor construction related impacts during the installation of grid-connected charging stations (noise, dust, waste); (ii) soil and water contamination as a result of metal lixiviation and other sources from scrap from out-of-use vehicles (replaced vehicles) and other wastes, such as oils, lubricants, lead-acid batteries, tires, etc.; (iii) employment loss due to change in job dynamics (labour reconversion); (iv) health and safety risks during charging and maintenance operations (v) decrease of road safety/increased accidentality (EV are less noticeable).

All Sub-Program interventions, at a country level, will be required to comply with CAF’s E&S Safeguards as well as GCF’s interim environmental and social safeguards and performance standards, the revised environmental and social policy, the indigenous peoples policy, and the gender policy. In this regard, all sub-projects will be required to prepare an ESIA and ESMP for disclosure during implementation and will be subject to an environmental and social due diligence following CAF’s internal policies and procedures².

The goals of CAF’s environmental and social due diligence are to:

- Assess the environmental and social risks and impacts of each sub-project.
- Propose appropriate measures to avoid, minimize, and/or offset these risks and their impacts.
- Confirm the aptitude of the environmental and social management frameworks of implementing partners, that in the case of Local Financial Institutions involves having in place a fully operational environmental and social risk assessment systems (ESRAS) or environmental and social management systems (ESMS).
- Monitor the implementation execution of these measures during the implementation phase for the operation.

² CAF will contractually require to financial intermediaries to comply with CAF’s and GCF’s E&S Safeguards and follow CAF’s internal policies and procedures. CAF will oversight periodically the condition and as per the loan agreement will have the ability to reject a sub-loan.

CAF's social and environmental safeguards are the following:

1. S01: Evaluation and management of environmental and social impacts
2. S02: Utilization of renewable natural resources
3. S03: Conservation of biological diversity
4. S04: Pollution prevention and management
5. S05: Cultural Heritage
6. S06: Ethnic Groups
7. S07: Resettlement
8. S08: Working Conditions and Training
9. S09: Gender Equity

The GCF has provisionally adopted the IFC Performance Standards of the International Financial Corporation (IFC). IFC Performance Standards are comprised of 8 standards that cover the main environmental and social considerations that must be safeguarded when designing and implementing a project or program. During CAF accreditation to the GCF, CAF's environmental and social safeguards were re-viewed by the GCF and it was confirmed that they are fully aligned with the ESS of the GCF.

The accelerated uptake of commercial EVs and electric public transport thanks to an improved ecosystem for EVs with (i) financial assistance (FA) made available for EV investments as well as (ii) an adequate technical assistance (TA) on each pre-identified scalable EV segment in each country. As a result, the following impacts shall be achieved:

- Reduction of Greenhouse Gases (GHG): EVs in all countries included in the Sub-Program have significantly lower lifecycle GHG emissions than fossil-fuelled vehicles.
- Improved air quality: EVs have no combustion emissions and are a crucial instrument to achieve clean air in cities. Commercial vehicles are a major source of PM_{2.5} and NO_x emissions in cities. Replacing fossil, diesel powered commercial vehicles with EVs improves air quality significantly.
- Reduced energy dependency: EVs use domestic resources and reduce reliance on imported fossil fuels. They thereby also increase the resilience of the country's economy to external oil price shocks.
- Increased energy efficiency: EVs are up to 4 times more energy efficient than fossil-fuelled vehicles. Electricity consumption, even if pursuing an ambitious EV penetration level such as proposed by the EV30@30 target supported by the International Energy Agency, is marginal compared to national production levels – however, localized grid problems need to be addressed.

2. Objectives of the ESA and ESMF

This ESA and ESMF present the general context of the Sub-Program 2 of E-Motion, its expected impacts and risks, the strategy for required mitigation measures as well as the capacity, roles and responsibilities, appraisal, and supervision processes.

The ESA presents broad description and overview of the environmental and social contexts relevant to the Sub-Program 2 and the likely environmental and social risks and impacts as well as E&S national policies and institutional arrangements. It also identifies current national regulations and policies in the electromobility sector and provides an overview of the environmental and social context for the selected sectors.

The ESMF, on the other hand, describes how CAF will manage and supervise the environmental and social impacts and risks of the Sub-Program 2, when funding from GCF is delivered to the Sub-Program's sub-projects. The ESMF presents the general context of the program, the process for evaluating Implementing Entities' capacity to manage E&S risks with an appropriately designed ESMP, the minimum requirements for the ESMP, the resources needed to enhance E&S management where necessary, and the monitoring process.

The ESMF follows the requirements and E&S requirements of CAF's social and environmental safeguards. The CAF will maintain supervision responsibilities in accordance with the Accreditation Master Agreement (AMA) and/or such other related arrangements regarding the Sub-Program 2.

3. Program Description

3.1. Program Scope

The E-Motion program aims to enable a large-scale regional transition towards electro-mobility in Latin America focusing on intensive use vehicles leading to reduced fossil fuel consumption, greenhouse gas emissions and air pollutions. The Program will be implemented in two Subprograms and through two GCF Funding Proposals: one by AFD (Sub-Program 1) as an Accredited Entity to cover 8 countries, and one by CAF (Sub-Program 2) to cover 3 countries, all of them located in Latin America.

The E-Motion Sub-Program 2 shall contribute to overcome the barriers to mass deployment of commercial EVs in Uruguay, Paraguay, and Panamá. The proposed interventions are thus targeted to the specific country situation and follow the concepts of minimum degree of concessionality and high potential of commercial uptake at the end of the Program. Also, the needs for technical assistance on a national and local level has been identified through country specific diagnostics and stakeholder consultations.

The potential segments for investment sub-projects in Uruguay, Paraguay and Panama that have been identified (see also Annex 2) are:

- **e-buses.** Public / private bus operators with different legal regimes, which could operate **650 e-buses**. In business model 1 (direct purchase), the operators would own/lease the fleet (e.g., leave from a special purpose vehicle).
- **e-LCV.** A variety of LCV users, both public entities and private companies are interested in investing in this type of EV. The potential is **1,150 e-LCV** to be financed under the Sub-program 2. This operation could be managed via a funding Special Purpose Vehicle (SPV) leasing those vehicles. From this total, 900 eLCV are for public fleet operations. The three countries have been implemented and/or plan to create a scrapping program³. To have a scrapping program for public fleet will enable the scrapping for other segments such private LCVs.

The ESA and ESMF are applicable to all Sub-program 2 components (see below). While the Technical Assistance Component 1 will be financed entirely by GCF grants, CAF will blend its finance with resources from GCF for the investment Component 2, 3 and 4. The financing amount will be defined based on the specific requirements of each sub-project. CAF will finance sub-

³ E-motion does not promote earlier replacement or scrapping of vehicles. Scrapping Programs in any case have limited merits as for example in the case of buses old municipal buses could still be used to replace even older rural or private transport buses with low mileage.

projects implemented by both public and private bodies and potentially channel the funds to the beneficiaries through country-specific, financial intermediaries. While the intended indirect beneficiaries are all users of fast charging infrastructure and electrified public transport in the three countries, the intended direct beneficiaries of the program are public authorities (e.g., municipalities, federal states), public utility firms, SPV's under PPP arrangements or private companies. According to the market study (see Annex 7), the following institutions have shown their interest and deem the finance approach feasible:

Panama

Component 2: Ministerio de Economía y Finanzas (MEF), METRO (own MiBus), MiBus (operator), Banco Nacional de Panamá (BNP), Caja de Ahorro (CA).

Component 3 and 4: Banco Central, Caja de Ahorro, Ministerio de Economía y Finanzas (MEF).

Paraguay

Component 2, 3 and 4: Ministerio de Hacienda (MH) and Banco Nacional de Fomento (BNF).

Uruguay

Component 2: Ministerio de Economía y Finanzas (MEF) and Banco República Uruguay (BROU).

Component 3 and 4: Ministerio de Economía y Finanzas (MEF), Intendencia Montevideo (IM), Administración Nacional de Usinas y Trasmisiones Eléctricas (UTE, national energy utility) and Banco República Uruguay (BROU).

In the case of LCV, the experience with initial fleet deployment is that a fast-charging infrastructure is required. Mileage and utilization rate of LCV is often very high. Frequently more than 1 driver share the vehicle which can be in operations for 24/7. Home-charging or conventional urban public chargers are too slow as they require 2 or more hours to add an additional 100 km of range. This means that e-LCVs not only require a large battery set to enable a long range, but also need to have fast-chargeable batteries and they require a network of fast chargers.

The Sub-Program 2 is structured in 4 key Components with the following activities:

Component 1: Establishment of an e-mobility conducive ecosystem. The principal activities to be undertaken in this component include the following:

- Design and communication/dissemination of national sustainable e-mobility strategies and implementation (delivery) plans.
- Multi-stakeholder consultation and capacity building strategy and recommend on a long-term coordination mechanism.
- Technical support provision to relevant national and local authorities in order to set-up, improve and/or enforce enabling public policies and legal, regulatory and/or normative frameworks for e-mobility.
- Capacity building, training and permanent technical advice made available on EVs and charging infrastructure operation, maintenance, health and safety and optimal management of EV fleets. Technology suppliers will lead these activities.
- Strengthening and development of standards and a policy framework for regulating and enforcing regulations on road vehicle emissions. Proposals to be drafted for adoption by government ministries.
- Policy Advice on battery re-usage, recycling and disposal and capacity development at a national level.

- Preparing for scale-up and replication fiscal incentives schemes to promote electric mobility. This activity includes the development and advisory services provision on optimal business models and financial structuring which relate to the peculiarities of different EVs.

Component 2: Deployment of e-bus fleets. The goal is to deploy large-scale fleets of electric buses to showcase their technical and commercial viability to operators. The principal activities to be undertaken in this component include the following:

- Preparation, financing, and implementation of e-bus sub-projects
- Implementation and operation of smart facilities that enhance public transport access and improve inter-modality and non-motorised transport

Details for the sub-projects preparation, financing, and implementation for the deployment of around 650 e-buses are displayed in Table 1 and Table 2.

Table 1: Number of BEBs expected to be financed by country

Country	Fleet	Number e-buses	Potential implementing partners (among others)	E-Motion financing model
Panama	BEB (12m)	150	Ministerio de Economía y Finanzas (MEF), METRO (owns MiBus), MiBus (operator), Banco Central (BC), Caja de Ahorro (CA)	MEF and Metro deals with concessional loan to operator MiBus, through operational leasing model. BC or CA deals with concessional loan for bus depot electrification. MiBus has 3 phases, E-Motion supports finance phase 2 and 3
Paraguay	BEB (12m)	300	Ministerio de Hacienda (MH) and Banco Nacional de Fomento (BNF)	MH deals with subsidy to operators, BNF deals concessional Loan to private bus operators (bus and depot electrification).
Uruguay	BEB (12m)	200	Ministerio de Economía y Finanzas (MEF) and Banco República Uruguay (BROU)	MEF deals with subsidy to operators BROU deals concessional loans to private bus operators (bus and depot electrification).

Source: Annex 2 of CAF “E-Motion: E-Mobility and Low Carbon Transportation” GCF Funding Proposal

Table 2: Indicative e-bus sub-projects to be financed

Country, city	Program e-buses (12 m)	CAPEX Finance in USD million of Program Buses				
		Total CAPEX	GCF loan	CAF	National finance / equity	Transport Operator
Panama, Panama City	130	38.6	12.1	22.6	3.9	MiBus
Panama, Santiago City	20	5.9	1.8	3.5	0.6	Utrapsa
Paraguay, Asunción	23	6.3	2	3.7	0.6	Municipality of Asuncion
Paraguay, Asunción	77	21.2	6.7	12.4	2.1	MAGNO
Paraguay, Asunción	200	55.1	17.4	32.2	5.5	CETRAPAM
Uruguay, Montevideo	200	40.8	12.8	23.9	4.1	CUTCSA, COETC, UTOC, COME, CODELESTE
TOTAL	650	168.2	53	98.4	16.8	

Source: Annex 2 of CAF “E-Motion: E-Mobility and Low Carbon Transportation” GCF Funding Proposal

Sub-Projects covers the entire e-bus system of buses, charging infrastructure, grid connection and bus depot upgrades to accommodate e-buses. This includes different e-bus technologies (slow-, fast-, opportunity and ultra-fast charged buses), different bus sizes (8 m to 26 m buses) and different operational structures (mixed traffic buses as well as units operating on bus-only routes). E-buses will replace fossil-fuelled buses.

E-mobility is combined with PT measures to foster mode shift to low-carbon transport to strengthen attractiveness and convenience of PT including measures such as exclusive bus lanes, improved pedestrianization and public transport accessibility, transit-oriented development, fostering of electric micro-mobility and gender sensitive interventions.

Component 3: Deployment of e-public fleets and e-LCVs (Light Commercial Vehicles). The principal activities to be undertaken in this component include the following:

- Sub-Projects preparation, financing, and implementation for deployment of 1,150 electric LCVs (public and private fleets) in cities.

Details for the sub-projects preparation, financing, and implementation for the deployment of around 1150 e-LCVs (private and public) are displayed in Table 3 and Table 4.

Table 3: Number of e-LCVs expected to be financed by country

Country	Fleet	Number EV	Financing implementing partners	E-Motion financing model
Panama	Public Fleets	400	Ministerio de Economía y Finanzas (MEF)	MEF deal with concessional loans to promote EVs as PA has targets on electrification of its public fleet to 2030 (ENME).
	private e-LCVs	50	BNP, CA	MEF deal with concessional Loan to promote EVs as PA has targets on electrification of its public fleet to 2030 (ENME). NDC last version scenarios states that 400 to 700 Ves should be purchased by 2025
Paraguay	Public Fleets	300	Ministerio de Hacienda (MH)	MH deal with concessional loan to promote EVs
	private e-LCVs	100	BNF	BNF deals concessional Loan to private LCVs operators.
Uruguay	Public Fleets	200	MEF	MEF deal with concessional Loan to promote EVs
	private e-LCVs	100	BROU	BROU deals concessional loans to private LCVs operators. Private operators will come from MOVes ongoing pilot program as first

Source: Annex 2 of CAF “E-Motion: E-Mobility and Low Carbon Transportation” GCF Funding Proposal

Table 4: Indicative e-LCV sub-projects to be financed

Country	E-LCVs	CAPEX Finance in USD million of Program Buses					Transport Operator
		Total CAPEX	GCF loan	GCF FA grant	CAF	National finance / equity	
Panama	50	1.8	0.57		1.1	0.18	Private companies like Riba Smith
Paraguay	100	3.6	1.1		2.1	0.4	Private companies
Uruguay	100	2.1	0.7		1.2	0.21	MOVEs ecosystem
TOTAL	250	7.5	2.35		4.4	0.75	

Source: Annex 2 of CAF “E-Motion: E-Mobility and Low Carbon Transportation” GCF Funding Proposal

Component 4: Develop urban fast-charging infrastructure: The deployment of commercial EV fleets require the establishment of fast-charging infrastructure (network of stations) in key city areas. This infrastructure is also a precondition for the further promotion and spill-over to other vehicle segments. The principal activities to be undertaken in this component include the following:

- Technical support in the selection and procurement of fast charging technology / equipment and installation of charging stations.
- Finance and install fast-charging station networks through sub-projects in the three target cities. The envisaged chargers per country will each have a capacity of 150 kW.

CAF will be responsible for coordination among different stakeholders under Outcome 4. The fast-charging infrastructure under component 4 could be used for e-LCVs (component 3) as well as vehicles like taxis or private vehicles (not bus fleets under component 2)⁴. The envisaged 20 chargers per country will have a capacity of 150 kW each allowing fast charging (target cities Panama, City, Asuncion, Paraguay, Montevideo, Uruguay).

Involved municipalities (Panama, City, Asuncion, Paraguay, Montevideo, Uruguay) will provide and dedicate corresponding public space and land free of charge. The electricity supply will be delivered by the respective utility, which will be involved in the planning and construction. In addition, the interplay between the utilities and the electricity customers will be addressed, i.e., support the establishment of adequate power supply tariffs offered by the utilities (addressed in coordination with Component 1).

3.2. Eligible sub-projects

All investments entering within the CAF Exclusion List will be excluded from the Sub-Program 2 (Annex 1). Eligible sub-projects to the Sub-Program 2 are expected to be of Risk Categories B to C. High risk sub-projects of Category A will be excluded.

All investments must comply with CAF’s E&S Safeguards as well as GCF’s interim environmental and social safeguards and performance standards, the revised environmental and social policy, the indigenous peoples policy, and the gender policy and follow the principles, terms and conditions agreed by CAF, including sub-project eligibility criteria, governance, implementation arrangements, environmental and social management systems, gender consideration, monitoring, evaluation, and verification.

⁴ The e-bus specific charging stations and bus depots are financed under component 2.

The Sub-Program 2 assists in identifying climate change related sub-projects, maximizing their GHG mitigation benefits, and contributes to the bankability of sub-projects by introducing catalytic funding. The Sub-Program 2 applies to all sub-projects a standard GHG accounting methodology to determine GHG benefits going beyond the baseline.

Eligible sub-projects must fulfil the following minimum criteria:

- Sub-projects must reduce GHG emissions and have a positive sustainable development impact.
- Sub-projects must demonstrate a transformational potential.
- Sub-projects must be financially viable, according to CAF credit criteria and an agreed expected investor's hurdle rate.
- Sub-projects must meet the environmental and social safeguard criteria of CAF, as well as GCF's interim environmental and social safeguards and performance standards, the revised environmental and social policy, the indigenous people's policy, and the gender policy.
- Sub-projects must be in compliance with relevant national and local laws and regulations and have country ownership.
- Each sub-project shall have a gender action plan taking into account key areas of intervention developed in the Gender Assessment (see Annex 8).
- Sub-Projects shall strive to generate employment and local economic development.
- Only commercial vehicles for passenger or cargo transport are financed.
- Only full-electric battery-electric vehicles are eligible⁵;
- No pilot program/project with less than 20 EVs are financed:
- All sub-projects will require a monitoring system to collect data and disseminate results
- A minimum of 10% co-financing by the beneficiary is required for accessing finance
- sub-projects with a GCF equivalent risk category A are not eligible
- Financing thresholds for e-LCV sub-projects is up to 12.1 MM, for e-buses between 25 MM to 50 MM, and for fast-charging infrastructure 2 MM to 10 MM
- Vehicles must be new (not second hand)
- Technology must comply with current national regulations and must guarantee at least 8 years of battery
- The operational solution must be proven by the promoters for each project, according to the characteristics of the beneficiaries
- Purchase must include charging systems for the fleet
- Provision of technical maintenance must be provided
- Vehicles must have at least 15 years of lifespan
- Satisfactory money laundering, integrity, and credit rating assessment is required.

The Sub-Program 2 envisages to finance at least one investment sub-project in each participating country. Not more than 50% of overall funding shall be invested in one specific country.

3.3. Sub-Program 2 implementation scheme

With regards to the Funding Proposal led by CAF, E-Motion will be implemented jointly by the following two institutions:

⁵ Hybrid trolleybuses (trolleybuses with battery) can also be financed if they prove to be a more cost-efficient option than usage of battery-electric buses considering also infrastructure replacement and maintenance costs.

- CAF, as accredited entity, executing entity and co-financier for the financial assistance targeting public and private sector sub-project owners (Component 2, 3, and 4), and to support the technical assistance dedicated to sub-projects' preparation (Component 1, Output 1.5.3)
- GIZ, as executing entity for technical assistance (outputs under all sub-component under Component 1, except output 1.5.3).

The proposed implementation structure takes into account executing entities' expertise: technical assistance to public bodies for GIZ, financing solutions and technical and public and private sector expertise for CAF. Both entities will be part of the PMU.

CAF project teams will be responsible for the identification, appraisal, implementation, and evaluation of eligible investments of the E-MOTION Sub-Program 2. The sub-projects' appraisal process will follow CAF's procedures⁶. In particular, business, and technical teams will carry out due diligence and appraisals on each sub-project in accordance with CAF standards and procedures.

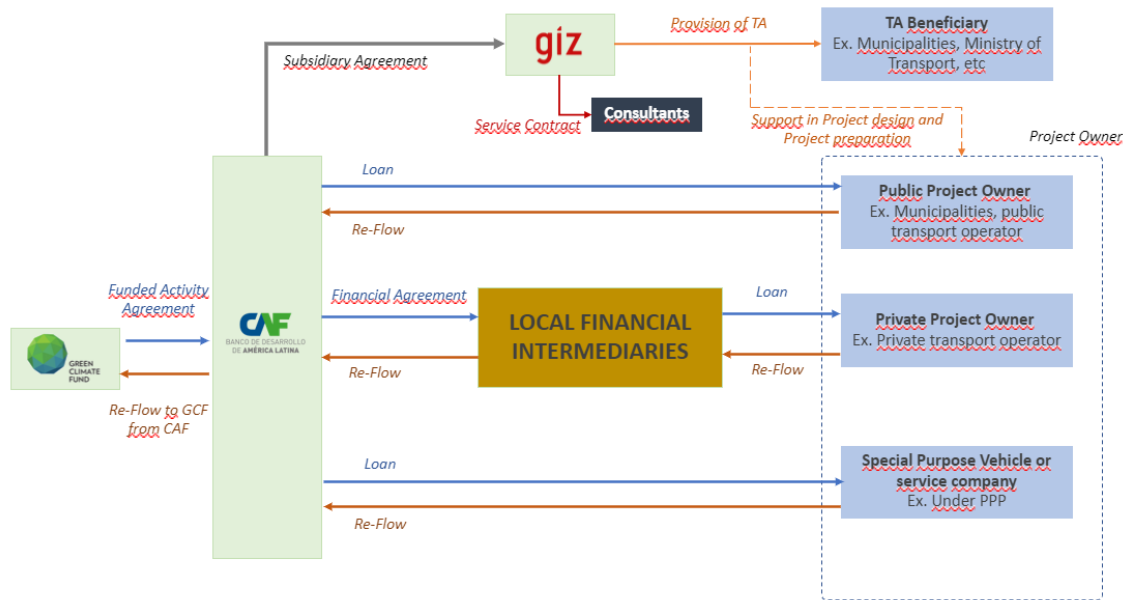
GIZ will be responsible for the implementation of activities within the technical assistance Component 1 (outputs 1.1.1a to 1.5.2 as per FP). GIZ will ensure the implementation of activities using a combination of own technical staff based in respective partner countries as well as independent consultants. GIZ will report to the E-Motion Steering Committee and to the CAF Sub-Program 2 Manager. The environmental and social due diligence that is carried out will be consistent with technical assistance tasks, verifying that all the risks identified by have been considered and the mitigating factors established.

The following figure shows the Sub-Program 2 implementation scheme.

⁶ The process consists of, initially, identifying the category of environmental and social risk, to determine the level and depth of the due diligence that must be carried out in each case. As a result, a technical criterion is expected in this phase regarding: the main environmental and social risks of the operation, the classification of environmental, social and climatic risk, the environmental and social safeguards activated preliminarily, and the opportunities for access to the green financing, the determination of whether the operation, or part of it, qualifies as a green portfolio. If so, the terms in which the operation must be evaluated from an environmental and social perspective.

Subsequently, the stage of due diligence is carried out in which there is: Adequate and sufficient knowledge of the client/executing agency of the operation and of its main environmental and social risks; determining the environmental and social feasibility of the operation; the recommendation from the environmental and social perspective for the financing or not of the operation and, if so, the action plan for the control, mitigation and/or compensation of the identified risks; and an Environmental and Social Report (IAS) that consolidates the main results, conclusions and recommendations of the due diligence. For more detail refer to chapter 6, section 6.2.

Figure 1: Illustration of implementation arrangements



Source: CAF “E-Motion: E-Mobility and Low Carbon Transportation” GCF Funding Proposal

According to the Environmental and Social Risk Management Policy for CAF-funded Operations, when CAF is the lead or coordinator of the financing, CAF procedures are used for the due diligence required and implemented by the client. All activities need to comply with these requirements. All activities undergo environmental and social appraisal both to help CAF decide if the sub-projects should be financed and, if so, the way in which environmental and social risks and impacts should be addressed in its planning, implementation, and operation.

4. Country context

4.1. Policies and applicable regulatory frameworks

All sub-projects supported by the Sub-Program 2 will need to demonstrate to be in full compliance with the requirements established under the applicable E&S laws and regulations in the selected countries: Panamá, Paraguay, and Uruguay. During the environmental and social due diligence of each sub-project, the Implementing Entity will identify the competent authorities, the applicable laws, and all the applicable regulatory requirements and permits throughout the screening, scoping, assessment stages. Additional requirements that arise in the execution phase of the sub-project will be identified and addressed as part of CAF’s monitoring and supervision.

Countries were evaluated in terms of their climate policy and relevant transport policies and strategies.

The updated Nationally Determined Contributions (NDCs) of Sub-Program 2 countries all include measures to reduce transport emissions. The majority of countries have included in the NDCs electric mobility as a core mitigation measure to reduce transport emissions and have formulated concrete electrification targets through regulations, policies or EV roadmaps.

The following section is an overview of the countries, including population, vehicle data, major EV policies and the climate policies of the involved countries. The country summaries are based on the diagnostics performed by CAF.⁷

4.1.1. Panamá

Panama has an area of 75.475 km² and about 4. 3816 million inhabitants. In 2021, the GDP per capita was 14,517 USD⁸.

Overview of applicable regulatory framework

Title	Description	Responsible institution
General		
Constitution of the Republic of Panama	Establishes within Title III the individual and social rights and duties and determines fundamental obligation of the state to ensure that the population lives in a healthy environment free of all contamination where the air, water and food satisfy the standards required for the appropriate development of human life	Congress
Law No. 41 of 1 July 1998 as amended by Law No. 8 of 25 March 2015	General Environmental Law. Establishes the basic principles for the protection, conservation, and recovery of the environment, promoting the sustainable use of natural resources. In addition, it orders environmental management and integrates it into social and economic objectives, in order to achieve sustainable human development in the country. It also establishes a general framework on information and participation in environmental matters, and liability for environmental damage.	Ministry of Environment
Law No. 8 of 25 March 2015	Ministry of Environment is created and established as the public governing body in charge of ensuring the protection, conservation and recovery of the environment, and the sustainable use of natural resources. It ensures the compliance with and the implementation of the laws, and policies on the subject.	Ministry of Environment
Law No. 24 of 7 June 1995	Regulation regarding wildlife in Panama. The main purpose of this law is to establish that wildlife is part of the natural estate of Panama and that its protection, conservation, recovery, investigation and management and the development of genetic resources as well as unusual species and other varieties of wildlife are part of the public domain	Ministry of Environment
Law N° 1 of 3 February 1994	The purpose of this Law is the protection, conservation, improvement, enhancement,	The National Institute of Renewable Natural

⁷ See Country Diagnostics of Panamá, Paraguay, and Uruguay.

⁸ [Panama | Data \(worldbank.org\)](https://data.worldbank.org/PA)

	education, research, management and rational use of the forest resources of the Republic.	Resources (INRENARE),
Law No. 21 of 9 July 1980	Sea contamination and navigable waters are regulated. The main purpose of this law is to prohibit all disposal of any contaminating substance in navigable waters and Panamanian territorial sea. This prohibition is extended to Panamanian registered ships navigating in international waters	General Directorate of Consular and Ships of the Ministry of finance and treasury, National, Panama Maritime Authority
Law No. 3 of 14 January 1957	Protection of natural resources is regulated. The main purpose of this law is to establish that the conservation, improvement, and reforestation of natural resources in Panama are of public interest and utility. As a consequence, provisions in this law have mainly the following objectives: to avoid soil erosion and facilitate the recovery of affected soil. To maintain favourable conditions for watersheds; to conserve and establish touristic centres; and in general, to conserve and increase forests with useful species for the needs of the various industries applying its raw materials and products	Agriculture, Commerce and Industry Ministry
Executive Decree No. 127 of 18 December 2018	Establishes the National Policy on Wetlands. The objective of this Policy is to guarantee an integral and sustainable management of wetlands, applying measures for the restoration of these ecosystems, promoting their protection, planning, and research, and at the same time raising awareness among the population regarding their importance for the human well-being of present and future generations.	Ministry of Environment
Executive Decree No. 34 of 4 April 2007	This Decree approves the National Policy for comprehensive management of non-hazardous and hazardous waste. The general objective of this Policy is to achieve comprehensive management of non-hazardous and hazardous waste in an environmentally sound and sustainable manner, to ensure the conservation of the environment in the national territory and eliminate negative effects on the environment and the health of the population. That is social and that is economically efficient and viable.	Ministry of Environment
Executive Decree No. 480 of 23 April 2013	This Decree approves the national water resources policy, its principles, objectives and lines of action. The main objective of this policy is to guarantee current and future generations the necessary availability of water resources in quantity and quality parameters appropriate to their respective uses, through an integrated and effective	Ministry of Environment.

	management of the same that allows the provision of drinking water and sanitation facilities to the entire population. population, preservation of ecosystems, the adoption of integrated environmental and/or natural disaster risk management and water for productive activities in an economically viable, environmentally sustainable and socially equitable manner.	
Law No. 33 of 30 May 2018	Establishes the Zero Waste policy and its action framework for comprehensive waste management. The main purpose of the policy is to get the most out of waste and natural resources from an economic, environmental and social standpoint, as well as to generate new sources of employment and reduce contamination and its effects on health and the environment.	Urban and Home Cleaning Authority
Executive Decree No. 37 of 3 June 2009	This Decree approves the National Forest Policy. The general objective of this Policy is ensuring current and future generations availability of forest resources, coming from plantations and natural forests, promoting the production, exploitation, conservation, and increase of forest ecosystems, which contribute to the generation of goods and services, for the benefit of the population in the social, economic and environmental spheres.	Ministry of Environment
Executive Decree No. 35 of 26 February 2007	This Decree approves the National Climate Change Policy. The general objective of this Policy is to properly manage the issue of climate change at the national level and the effects that it may generate on the population and the territory, in accordance with the provisions included in the United Nations Framework Convention on Climate Change, the Protocol of Kyoto and subsequent agreements, the Political Constitution of the Republic of Panama and the General Environmental Law.	Ministry of Environment
Executive Decree No. 122 of 23 December 2008	This Decree approves the National Biodiversity Policy. The general objective of this Policy is to implement the National Biodiversity Policy as the core of a national strategy to articulate the sustainability of biological diversity with the processes of economic and social development, improving the country's competitiveness, quality of life, poverty eradication, subsistence, integration of peoples, and sustainable development.	Ministry of Environment
Executive Decree No. 33 of 26 February 2007	This Decree approves the National Policy of Supervision, Control and Environmental Enforcement. The general objective of this Policy is to deploy a coherent set of supervision, inspection and control actions,	Ministry of Environment

	with a view to ensuring compliance the purposes of conservation, protection and environmental preservation provided for in current regulations, as an expression of the State's environmental policies aimed at economic and social development, incorporating criteria of environmental sustainability.	
Executive Decree No. 5 of 4 February 2009,	Establishes the maximum permissible limits for emissions to the air produced by fixed sources with the objective of protecting the population's health, natural resources, and the environment's quality from atmospheric pollution.	Ministry of Environment
Law No. 36 of 17 May 1996 and its Regulatory Decree No. 255 of 18 December 1998,	Controls are established to avoid Environmental Pollution caused by Fuels and Lead. Said Regulation also establishes provisions for the control of motor vehicle emissions.	Health Ministry
Executive Decree No. 2 of 14 January 2009	Establishes the Environmental Standard for Soil Quality for various uses in order to protect human health and ecosystems; define the generic reference levels and the maximum permissible limits of chemical contaminants in the soil; establish the methods to be used in chemical and microbiological analyses; among others	Ministry of Environment
Law No. 66 of 10 November 1947.	The Law approves the Sanitary Code, which through art. No. 205 Prohibits the direct or indirect discharge of wastewater, whether from sewers or factories or others, into rivers, lakes, ditches or any water course that serves or may serve as a supply for domestic, agricultural or industrial uses or for recreation and public spas, unless they are previously treated by methods that render them harmless, in the opinion of the Directorate of Public Health	Health Ministry
Executive Decree No. 252 of 30 December 1971	Approves the Labour Code. It regulates the relations between capital and labour, on the basis of social justice specified in the Political Constitution of the Republic, establishing state protection for the benefit of workers; The State will intervene to promote full employment, create the necessary conditions that ensure everyone worker a decent existence and seek equitable compensation. It also incorporates provisions related to labour protection, working hours, breaks, internal work regulations and works council, professional risks, hygiene and safety at work.	Ministry of Labor and Labor Development of the Republic of Panama
Resolution No.41.039/09 of 26 January 2009	Approves the General Regulation for the Prevention of Professional Risks and Safety and Hygiene at Work	The Social Security Fund will ensure compliance with this regulation and must

		coordinate with the Ministry of Labor and Labor Development, the Ministry of Health and will collaborate with the Ministry of Commerce and Industries, in the relevant aspects
Executive Decree No. 306 of 4 September 2002	Regulates Safety, Health and Hygiene in the Construction Industry	Ministry of Labor and Labor Development
Executive Decree No. 2 of 15 February 2008	Which adopts the regulation for noise control in public spaces, residential or room areas, as well as in work environments.	Health Ministry
Executive Decree No. 1 of 15 January 2004	Determines Noise Levels for Residential and Industrial Areas.	Health Ministry
Executive Decree No. 123 of 14 August 2009	Regulates Chapter II of Title IV of Law 41 of July 1, 1998 (General Environmental Law), establishing the process to assess the environmental impact of public or private projects	Ministry of Environment
Law No. 295 of 25 April 2022	It establishes a regulatory framework for the development and operation of electric mobility in order to reduce GHG emissions, promote the use of renewable energy and electric mobility.	Transit and ground transportation authority
Law No. 14 of 26 May 1993, its regulative Executive Decree No. 186 of 28 June 1993 and Law No 42 of 22 October 2007	It regulates public passengers ground transport	National Direction of Transit and Land Transport
Law No. 51 of 28 June 2017	It regulates freight ground transport	Ground Freight Transport Direction within the Ground transport and Transit Authority
La No. 4 of 29 January 1999 and Its regulative Executive Decree No. 5 of 25 June 2002	The objective of the law is the development of public anti-gender discrimination policy and through the Executive it operationalizes the development of the concepts, create the institutional mechanisms and generate the implementation procedures.	Ministry of Youth, Women, and the Family and the National Women's council
Executive Decree No. 244 of 18 December 2002	The public policy of equal opportunities for women is adopted, which must be implemented in all State institutions, autonomous and semi-autonomous entities, organizations, companies and social communication media.	Women National Institute and Social Development Ministry
Gender		
<ul style="list-style-type: none"> • Convention on the Elimination of All forms of Discrimination Against Women (CEDAW). Accession in 1981. Ratification of Optional Protocol in 2001 • Beijing Declaration and Platform for Action (1995). • Creation of the National Institute for Women (2008). • Gender and Equal Opportunity Bureau attached to the Ministry of Labor and Workforce Development (2014). • Act Forbidding Discrimination at Work (2005). 		

- Act 82 (2013). This act classifies femicide and its goals are to ensure women's right to a violence-free life and to protect the rights of women victims of violence, as well as prevent and punish all forms of violence against women.

Sources: National Environmental Information System, Ministry of Environment. [Marco Legal \(sinia.gob.pa\)](https://sinia.gob.pa); *The Environment and Climate Change Law Review: Panama*, Sofía J Cohen and Ana M Torres, 2022, <https://thelawreviews.co.uk/title/the-environment-and-climate-change-law-review/panama>; *Marco Legal Latinoamérica: República de Panamá – Estrucplan; Paraguay | Gender in Infrastructure (iadb.org)*; *Leyes de Género (utp.ac.pa)*

The Ministry of Environment is the entity that is nationally responsible for the control, supervision, and general overview of the protection of the environment⁹. As such, the ministry is responsible for developing national environmental and natural resource policies, issuing rules and resolutions for the implementation of these policies, and evaluating Environmental Impact Studies (EIS). There is no integrated environmental permitting regime. Activities and projects (whether private or public) that may create environmental risks must undergo an EIS prior to the start of the project. The permits or authorisations shall be relative to the activities of each project, and it is necessary to have an EIS to comply with Law No. 8 and the previous environmental laws¹⁰.

Transport Sector

Panamá has a vehicle fleet of about 1.3 million units (2019). Road transport GHG emissions (tank to wheel) in Panamá are estimated at 5.43 million tCO₂eq in 2019. Commercial vehicles including taxis, buses and LCVs are responsible for 46% of GHG emissions. Trucks and LCVs comprise around 40% of NO_x, PM_{2.5} and BC emissions, yet trucks and LCVs are only 21% of the total vehicle stock. This result is due to being the main consumer of diesel in the transport sector. GHG emission from the transport sector are expected to grow under a BAU scenario by around 31% reaching 7.1 million tCO₂eq by 2030. The deployment of electromobility in Panama is generally on a pilot scale. Charging infrastructure is mainly supported by private companies, such as ENSA, Celsia Panama, Bavarian Motors and Ciudad del Saber.

Climate and Energy Policies

According to Climate Watch data, total emissions in Panamá in 2018 were 34.39 million tCO₂eq. In its NDC the country commits to reducing energy sector emissions by at least 11.5% by 2030 and at least 24% by 2050 compared to the baseline, representing up to 10 million tCO₂eq during 2022-2030 and 60 million tCO₂eq during 2022-2050. Transportation accounts for about half of the energy sector's emissions and represents the biggest challenge.

In 2019, the government approved the National Climate Change Strategy 2050, which creates an action plan to promote the use of low-carbon fuels, increase alternative energy investment, integrate multi-modal transport systems and secure the protection and restoration of coastal areas, hydric reloading areas, protected areas, buffer zones and biological corridors. The National Climate Change Strategy will be executed by the Ministry of Environment through the Climate Change division and will be valid until the year 2050. However, every five years, the strategy will be evaluated and adapted.

⁹ The Environment and Climate Change Law Review: Panama, Sofía J Cohen and Ana M Torres, 2022, <https://thelawreviews.co.uk/title/the-environment-and-climate-change-law-review/panama>

¹⁰ The Environment and Climate Change Law Review: Panama, Sofía J Cohen and Ana M Torres, 2022, <https://thelawreviews.co.uk/title/the-environment-and-climate-change-law-review/panama>

Panamá's national government aims to reduce greenhouse gas emissions from the transport sector, which represents 57% of the emissions of the Energy sector¹¹, hence different departments promote sustainable mobility and alternative means of transport. The National Strategy for Electric Mobility (ENME)¹² was approved in 2019, promoting four objectives until 2030: 10-20% of the total fleet of private vehicles will be electric; 25-40% of private vehicle sales will be electric vehicle sales; 15-35% of the buses in the authorized concession fleets will be electric; 25-50% of the public fleets will be made up of electric vehicles. Panama's updated NDC focuses mainly on mitigating emissions from the land use change sector and the energy sector, of which transportation accounts for about half of the sector's emissions and represents the biggest challenge.

Hydroelectric power plants represent around 44% of total installed capacity (1.776 MW in January 2020), thermal power plants and ACP 45% (mix of hydro, diesel, bunker, LNG and coal), wind with 7% and solar with the remaining 4%. The carbon grid factor is 0.23 tCO₂/MWh.

The guarantees of indigenous people rights

According to the 2010 census, in the Republic of Panama there are 417,559 indigenous people, equivalent to 12% of the population.¹³

Indigenous peoples' rights are guaranteed in 4 main normative instruments¹⁴:

- the Political Constitution of the Republic. In its Title III it establishes Individual and Social Rights and Duties, in relation to indigenous peoples. Furthermore, it establishes special attention to indigenous communities for the promotion of their economic participation, as well as a special regime of collective land ownership;
- the ILO Convention 107. It recommends that governments take responsibility for making adequate health services available to indigenous populations and organize these services based on the "systematic study of the social, economic and cultural conditions of the populations concerned";
- the General Law of the Environment indicates that "In the case of activities aimed at the use of natural resources on the lands of regions or indigenous peoples, they will be entitled to a share of the economic benefits that may arise, when said benefits are not contemplated in current laws".
- Special laws that have allowed the creation of 5 Indigenous Comarcas (Kuna Yala, Kuna de Madugandí, Kuna de Wargandí, Emberá – Wounaan, and Ngäbe – Bugle), located in 6 provinces (Bocas del Toro, Chiriquí, Veraguas, Panama, Colon and Darién). These laws are the main legal instruments that promote the participation of indigenous peoples in Panama. In general terms, the regional laws recognize the right to autonomy and self-management of the indigenous peoples, in permanent and harmonious collaboration with the government entities established in the regions, seeking to maintain the form and worldview of cultural life and the balance of the environment and the biodiversity in which these peoples develop.

¹¹ According to the updated NDC submitted on December 2020, available at: <https://unfccc.int/sites/default/files/NDC/2022-06/CDN1%20Actualizada%20Rep%C3%BAblica%20de%20Panam%C3%A1.pdf>

¹² National Strategy for Electric Mobility, 2019. Available at: <https://movelatam.org/wp-content/uploads/2019/07/ENME-Panama-Estrategia.pdf>

¹³ [El Mundo Indígena 2022: Panamá - IWGIA - International Work Group for Indigenous Affairs](#)

¹⁴ https://www.minsa.gob.pa/sites/default/files/proyectos/marco_indigena.pdf

4.1.2. Paraguay

Paraguay has an area of 397.300 km² and about 7.3 million inhabitants. In 2019, the GDP per capita was 3,900 USD.

Overview of applicable regulatory framework

Title	Description	Responsible institution
Paraguay National Constitution – 1992, Article 6, 7 and 8	Provisions relating to the environment Article 6: Of the Quality of Life The quality of life shall be promoted by the State through plans and policies that recognize conditioning factors, such as extreme poverty and the impediments of disability or of age. The State shall also promote research on the factors of population and their links with socioeconomic development, with the preservation of the environment and with the quality of life of the inhabitants. Article 7: Of the Right to a Healthy Environment Everyone has the right to live in a healthy and ecologically balanced environment. The preservation, the conservation the re-composition and the improvement of the environment, as well as its conciliation with the complete [integral] human development, constitute priority objectives of social interest. These purposes orient the legislation and the pertinent governmental policy. Article 8: Of Environmental Protection The law will regulate the activities susceptible of producing [an] environmental alteration. In the same way, it may restrict or prohibit those activities that it qualifies as dangerous.	Congress
Law 294/1993 - Environmental Impact Study (as amended by Law 345/94) and the complementary and regulative decrees.	The law declares the Environmental Impact Study (section 1) mandatory when an activity or undertaking may generate an environmental impact. Environmental impact is legally defined as "any modification of the environment brought about by human works or activities which have a positive direct or indirect effect on life in general, on biodiversity, on the quality or significant quantity of natural or environmental resources and their exploitation, on well-being,	Ministry of the Environment and Sustainable Development

	on health, on personal safety, on habits and customs, on the cultural heritage or on legitimate livelihoods".	
Law 1.561/2000	Created National System of the Environment integrated by a group of public entities of the national, departmental and district governments with environmental competence. These regulations also created the National Council for the Environment (CONAM) and the National Environmental Policy (PAN)	Ministry of the Environment and Sustainable Development
Law 5.211/14	This law aims at protecting the air and the atmosphere, through the prevention and regulation of chemical pollution. It follows the principles of precaution, prevention and compensation. GHG gases are comprised within the regulative framework set out by this law. The document further defines the means of protecting the air and atmosphere. ¹⁵	Ministry of the Environment and Sustainable Development
Resolution SEAM 259/15 – States the permissible air quality parameters (according to Law 5.211/14 Air Quality)	Air quality regulation	Ministry of the Environment and Sustainable Development
Law 6.676/2020	Prohibiting the activities of transformation and conversion of areas with forest cover in the Eastern Region. This law aims to regulate the protection, recovery and improvement of the native forest in the Eastern Region so that the forest fulfils its environmental, social and economic functions, contributing to the improvement of the quality of life of the inhabitants of the country.	National Forest Institute
National Law on Climate Change no. 5.875/17	Law no. 5875/17 on Climate Change establishes a normative framework in Paraguay for mitigation and adaptation, in line with its adhesion to the Paris Agreement and the National Development Plan. It aims in particular at implementing actions that reduce the country's vulnerabilities to climate change and actions which allow to reduce its greenhouse gases emissions. These actions will be developed in a National Plan for Climate Change	Ministry of the Environment and Sustainable Development

¹⁵ <https://climate-laws.org/geographies/paraguay>

	<p>which will detail and actualise the dedicated policies.</p> <p>The law further mandates the creation of a number of institutions: 1) the National Commission on Climate Change as a multi-institutional body in charge of setting up and updating the country's policy strategies, 2) a National Directorate on Climate Change as the executive body in charge of applying climate change policies, and 3) the Climate Change Fund that will be under managed by the executive's Environment Secretariat (Seam). More broadly, the Secretariat will oversee public and private funds directed towards mitigation and adaptation.</p> <p>The Decree no. 14.943/01, implementing the National Climate Change Program, will be updated in accordance with the new law.</p>	
Framework law on natural gas no. 3.254/07 (mitigation of environmental impact)	<p>This law aims at promoting jobs and energy alternatives, protecting consumer interests, protecting the environment, and promote energy conservation through the promotion of natural gas. It also seeks to identify solutions adequate to each region in Paraguay. A favourable fiscal regime for natural gas is instituted.</p>	Ministry of Public Works and Communications
Law N ° 3.001/06 strengthening the adaptation capacity of ecosystems and the protection of their biodiversity	<p>This law promotes the conservation, protection, recovery and sustainable development of the country's biological diversity and natural resources, through the fair, timely and adequate valuation and remuneration of environmental services. Article 2 lists carbon absorption as one of the environmental services in scope.</p>	Ministry of the Environment and Sustainable Development
Law 2.748/05 on the promotion of biofuels	<p>This law aims at favouring the uptake of biofuels production and consumption in the country. It focuses on biodiesel, absolute and hydrated bioethanol. The industrial production of biofuels is declared of national interest in art. 4. The law allows for people and entities engaging into biofuel production to benefit from tax incentives defined in laws 60/90 and 2421/04. The document further sets regulatory rules around the scheme.</p>	Ministry of Industry and Commerce

Law no. 1.561/00 (creating the National Environmental Council)	This law creates and regulates the functioning of the agencies responsible for the development, standardisation, coordination, execution and oversight of national environmental policy and management. It notably creates the National System of the Environment (SISNAM), integrated by the set of organs and public entities of the national, departmental and municipal governments, with environmental competence; and private entities created with the same purpose. The system also aims at avoiding institutional conflicts, gaps or competition overlaps. The System's supervisory attributions include climate-related matters.	Ministry of the Environment and Sustainable Development
Law 536/95 to promote afforestation and reforestation	This law states that the State shall provide the afforestation and reforestation action in forest priority areas, based on a Forest Management Plan and with the incentives established in this document. The priority areas are exempt from other legal obligations, such as the Agrarian Reform. The document details the specific rules associated to priority areas. To incentivise growing forestry, the State will apply a one-time cost rebate by 75% for each afforested or reforested area. These concerns the direct costs of implantation and management costs (art. 7).	National Forest Institute
National Forest Strategy for Sustainable Growth	This strategy was approved by Resolution 293/2019. It aims to enable the long-term sustainable development of forests in Paraguay.	Ministry of the Environment and Sustainable Development
Decree 6.092/2016: Energy Policy of the Republic of Paraguay	This decree implements the country's energy policy. The strategic vision of the policy is to respond satisfactorily to the population and productive sectors energy needs, while respecting socio-environmental and efficiency criteria. One of the main objective of the policy is to use hydro, biomass and other renewable resources to attend the demand. The document lists a number of action plan, such as the action plan for energy efficiency, to be implemented in order to reach Paraguay's overarching energy goals.	Ministry of Public Works and Communications

Decree 4.056/15 to establish regimes for sustainable use of bioenergy resources	This Decree mandates the Ministry of Public Works and Communications to set regimes of certification, control and promotion of the use of bioenergy in Paraguay. The Regulation for the Certification of Solid Biomass for Energy purposes will be implemented gradually and must contain the following percentages: for the first year of its implementation, consumers must use at least thirty percent (30%) of Certified Bioenergies by the national enforcement authority; in the second year, at least fifty percent (50%); for the third year, at least seventy percent (70%) in the fourth year, ninety percent (90%); and for the fifth year one hundred percent (100%) of the consumption with sources of Certified Bioenergies.	Ministry of Public Works and Communications
National Climate Change Adaptation Strategy (National Climate Change Plan)	The National Climate Change Adaptation Strategy (ENACC) aims to increase the country's response capacity and reduce vulnerability to climate change by integrating into development planning risk management and control of foreseeable impacts. The document presents the institutional framework, the current public policy instruments, and lines of action grouped into 5 components: research and technological innovation, diffusion of climate change challenges and opportunities, strengthening of environmental governance, mainstreaming of climate change issues, and implementation of risk reduction and adaptation policies. An implementation plan was submitted to UNFCCC in 2017 ¹⁶ .	Ministry of the Environment and Sustainable Development
Decree 2.794/14: National Development Plan 2030	This Decree approves the National Development Plan 2030. The PND Paraguay 2030 is a strategic document that will facilitate the coordination of actions in the sectoral instances of the executive power, as well as with different levels of government, civil society, private sector and, eventually, the Legislative and Judicial branches. The Plan sets	Ministry of Finance

¹⁶

https://www4.unfccc.int/sites/NAPC/Documents/Parties/Plan%20Nacional%20de%20Adaptaci%C3%B3n%20al%20Cambio%20Clim%C3%A1tico_Paraguay_final.pdf

	<p>Climate change mitigation as one goal of global insertion for the country. The Plan further aims at making Paraguayan's economic production sustainable. Adaptation to climate change is also pursued through the following goals:</p> <ul style="list-style-type: none"> • Restore at least 20 % of degraded ecosystems. • Increase national income from the sale of environmental services (credits by carbon sinks). • Reduce recovery costs in the event of disasters caused by climatic effects. • Exploit aquifers based on environmental plans duly monitored. • Increase the coverage of forest areas and protected biomass (% coverage) forest and % weighted by global biomass). 	
Mitigation Strategy (National Climate Change Plan)	<p>This strategy aims to allow for the implementation of processes and competencies of all the sectors involved to reduce the adverse impacts of climate change responsibly, in an efficient and participatory manner, also favouring environmental protection.</p>	Ministry of the Environment and Sustainable Development
National Climate Change Policy	<p>This document set the country's climate change mitigation and adaptation policy. It aims to install the topic of Climate Change at the national level and to promote the implementation of articulated measures that are coherent with the priorities of national development and the consolidation of a social state of law, and that point to the sustainability of the system. Gender, cultural diversity and the state of law are established as three transversal priorities.</p> <p>The Policy notably seeks to 1) strengthen transversal and specific institutional capabilities, 2) promote the search and obtain funding sources to face climate risks, 3) improve education and raise public awareness, 4) improve technology and human capacities, and 5) reduce greenhouse gases emissions based on general and sectoral objectives.</p>	Ministry of the Environment and Sustainable Development

Resolution 941/07 defining 'forest' for carbon capture and reduction projects	This resolution defines the exact meaning of "forest" as regard its carbon sink property. Art. 2 recommends to take the following values for the national definition of forests for the development of projects within the framework of the Clean Development Mechanisms in Paraguay: 1) Minimum area: 0.5 hectares, 2) Cup coverage. 25%, 3) Height at maturity: 5 meters.	Ministry of the Environment and Sustainable Development
Law n. 6.123/2018 - elevates the Secretariat of the Environment to the rank of Ministry and changes its name to the Ministry of the Environment and Sustainable Development	The national environmental system was altered, changing to the Ministry of Environment and Sustainable Development.	Ministry of the Environment and Sustainable Development
Law n. 1.100/1997	Aims to prevent noise pollution on public roads, squares, parks, sidewalks, exhibition halls, meeting centers, sports and social clubs and in all public and private activities that produce noise pollution in Paraguay. Article 9 th of the aforementioned law establishes the noise limits, according to the type of environment.	Ministry of the Environment and Sustainable Development
Law 422/1973 – Forestry Law	That law sets principles for use and rational management of forests and forest lands of the country, as well as the renewable natural resources that are included in the regime of this law. Likewise, it is declared of public interest and mandatory protection, conservation, improvement and enhancement of forest resources. This law also creates the National Forest Service, dependent on the Ministry of Agriculture and Livestock, with specific powers and attributions: to manage, promote and develop the country's forest resources, in terms of their defence, improvement, expansion and rational use.	National Forest Institute
Law 96/92 De Wildlife Act	Prohibits the hunting, commercial exploitation and export of wild animals in order to guarantee the adequate protection, conservation and rational use of Paraguay's biodiversity; this prohibition applies only to wildlife species not covered by express authorization of the Environmental Secretariat.	Ministry of the Environment and Sustainable Development
Law N° 369/72 National Environmental Sanitation Service (SENASA)	The National Environmental Sanitation Service (SENASA) is a body under the Ministry of Public	Ministry of Public Health and Social Welfare (MSPBS)

	<p>Health and Social Welfare (MSPBS) created by law 369/72, of December 1, 1972.</p> <p>It develops various functions in environmental sanitation activities: planning, promotion, execution of works tending to extend the supply of drinking water and sanitation. It has jurisdiction over localities of up to 10,000 inhabitants.</p>	
Law 836/80 – Sanitation Code	Environmental sanitation, soil contamination and pollution, and surface or groundwater (Health Code)	Ministry of Public Health and Social Welfare
Law n. 3.966/2010 – Municipal Organizational Law	<p>Planning, urbanism, and territorial ordering, among others:</p> <p>a) The planning of the municipality, through the Sustainable Development Plan of the Municipality and the Urban and Territorial Planning Plan</p> <p>Environment issues:</p> <p>b) The preservation, conservation, re-composition, and enhancement of significant natural resources</p> <p>c) The regulation and supervision of standards and patterns that guarantee the environmental quality of the municipality.</p>	Ministry of the Environment and Sustainable Development
Law 816/96	Law Defending Natural Resources	Ministry of the Environment and Sustainable Development
Law 716/96 That sanctions crimes against the environment.	This Law protects the environment and the quality of human life against those who order, execute or, by reason of their attributions, allow or authorize attacking activities against the balance of the ecosystem, the sustainability of natural resources and the quality-of-life human.	Ministry of the Environment and Sustainable Development
Law No. 515/94 That prohibits the export and traffic of rolls, pieces and beams of wood and Law No. 6611/2020 that modifies Art. 1 of the law 515/94	This law prohibits the export and international traffic of round wood, pieces and beams of any kind, quantity, weight or volume.	National Forest Institute
Decree Nº 954 / 2013	This decree amends and expands Articles 2, 3, 5, 6, Subsection e), 9, 10, 14 and the Annex to Decree No. 453 of October 8, 2013, which regulates Law No. 294/1993 "Environmental Impact Assessment" and its amendment, Law No. 345/1994, and Decree No. 14,281/1996 is repealed.	Ministry of the Environment and Sustainable Development

Law n. 3.239/2007 and decree 7017/2022 - Paraguay Water Resources	The purpose of this law is to regulate the sustainable and integral management of all waters and the territories that produce them, regardless of their location, physical state, or their natural occurrence within Paraguayan territory (article 1).	Ministry of the Environment and Sustainable Development
Law 1.183/1985, Civil Code.	Legal provision on the harmful use of property and pollution.	Congress
Law N° 352/94	This law creates The National System of Wild Protected Areas of Paraguay (SINASIP) to reorganize the country's protected areas.	Ministry of the Environment and Sustainable Development
Law 716/95	Law on Environmental Crimes	Ministry of the Environment and Sustainable Development
Law 3.956/09 – Integral Solid Waste Management in the Republic of Paraguay and decree No. 7391/2017	The purpose of these regulations is to establish and apply a legal regime for the generation and responsible management of solid waste, whose regulatory content and practical usefulness should lead to the reduction of such waste to a minimum and avoid situations of risk to human health and environmental quality (article 1).	Ministry of the Environment and Sustainable Development
Law 3.464/2008 - Creates INFONA	This Law creates the National Forestry Institute, which constitutes the body for the application of the rules established by the Forestry Law and by the Law to promote afforestation and reforestation and also determine that INFONA will have as a general objective the administration, promotion and sustainable development of the country's forest resources, in terms of their defense, improvement, expansion and rational use.	Ministry of the Environment and Sustainable Development

Source: JICA, 2021 / www.mades.gov.py/leyes/

The guarantees indigenous people rights¹⁷

Paraguay has a legal framework that guarantees and recognises a wide range of rights to Indigenous Peoples, having ratified the main instruments of international human rights law, both in the universal and Inter-American systems. The legal and policy basis on indigenous law and on its institutions of natural resources defence and protection are established under:

- The National Constitution declares that Paraguay is a multi-ethnic and multi-cultural country. In this sense, several of its articles ensure specific and customary rights of indigenous peoples. Articles 63, 64 and 65:

¹⁷ https://www.indi.gov.py/application/files/6816/2091/3496/PE_INDI_2021-2025.pdf

- Art. No. 63 recognizes and guarantees the indigenous right to preserve and develop their identity and to apply their systems of political, social, economic, cultural organization and religious, in addition to the voluntary submission to their customary norms in internal affairs.
- Art. No. 64: recognizes the right to communal land ownership. (In this aspect, the National Constitution defends the recognition of the right to communal property, not individual, of the lands that must be protected against deforestation, environmental contamination and, above all, against economic and social exploitation).
- Art. No. 65: It is guaranteed for indigenous peoples to have the right to participate in the economic, social, political, and cultural life of the country, in accordance with its customary practices, this Constitution and national laws.
- Law No. 2311: which ratifies ILO Convention 169 on Indigenous Peoples. The cornerstone for the application of Convention 169 is the right of indigenous peoples to be consulted and to participate in the decision-making process that affects them. And the consent must be given freely, obtained before the implementation of the activities, and be based on an indigenous people full understanding of the issues involved in the activity or decision in question.
- The UN Declaration on the Rights of Indigenous Peoples (2007) Article 29. Indigenous peoples have rights to the conservation and protection of the environment and the productive capacity of their lands or territories and resources (...) Article 39. Indigenous peoples have the right to financial and technical assistance from States and through international cooperation to access the rights set forth in this Declaration.
- Law No. 43/89. Land Regularization. This law creates the official institution in charge of indigenous affairs (the INDI) and establishes the administrative procedure for the recognition of legal status and the regulation of land tenure of indigenous communities through INDI and the Rural Welfare Institute (currently the Rural Development Institute and from Earth, INDERT).
- Law 904/81. Statute of Indigenous Communities (ECI for its initials in Spanish). This is the main legislative instrument referring to the rights of indigenous peoples in Paraguay. (Law No. 919/96. Modifies Art. 30 and 62 of the Statute of the Indigenous Communities)
- Law No. 43/89. Land Regularization. With the scope of this Law, indigenous people can request the prohibition of carrying out improvements and destruction of the forests in the areas determined as traditional settlement of their communities, while the procedures for land regularization in their name last.
- Decree No. 10,039/2018 Protocol for the process of Consultation and Free, Prior and Informed Consent with the indigenous peoples that inhabit Paraguay (CCPLI for its initials in Spanish). This decree establishes that the elaboration of each project or program with the Indigenous Peoples will be accompanied by a CCLPI process with each of the participating communities. The consultation will be carried out in the language of the ethnic group.

Gender¹⁸

Paraguay's Ministry of Women (Ministerio de la Mujer) is currently implementing the National Equality Plan 2018-2024¹⁹ (Paraguay Ministry of Women, 2018). The policy identifies obstacles to women's equality and then sets objectives and targets.

Legal Framework and Institutional Mechanisms

¹⁸ <https://generoeninfraestructura.iadb.org/en/country/paraguay>

¹⁹ https://oig.cepal.org/sites/default/files/paraguay_2018-2024_plan_de_igualdad.pdf

- Convention on the Elimination of All forms of Discrimination Against Women (CEDAW). Accession in 1987. Ratification of Optional Protocol in 2001. Main reference document for equality between men and women. Through its ratification or accession to it the States are legally bound to adopt all necessary measures, including special temporary measures and laws, in order for women to fully enjoy all their human rights and fundamental freedoms.
- Beijing Declaration and Platform for Action (1995). The signatory countries take responsibility for the implementation of the Platform for Action, in which 12 critical areas of concern for the advancement of women are defined.
- Political Constitution (1992). Art. 48: On Equal rights between men and women. Men and women enjoy equal civil, political, social, economic, and cultural rights. It establishes that the State shall promote conditions and create adequate mechanisms for equality to be real and effective, thus levelling obstacles which hinder or interfere with its exercise while facilitating women's participation in all spheres of national life.
- Ministry of Women (2012). It promotes and implements public policies with gender perspective, for the full enjoyment of women's human rights.

Equal opportunities

- Plan for Equality between Men and Women 2008-2017. It promotes the inclusion of the gender perspective into the development, coordination, implementation, monitoring and evaluation of public policies, through efficient regulatory instruments and actions aimed at eliminating all forms of gender discrimination and promoting equality of opportunity and results, encouraging the democratization of the society.
- National Development Plan 2014-2030. It includes gender equality policies for the achievement of equality of opportunity and treatment between men and women.
- Labour Code (1993). It ensures that women enjoy the same labour rights and have the same obligations as men.

Personal and labour conciliation

- Act 5.508 on promotion and protection of maternity, and support of breastfeeding (2015). This act's goal is to promote, protect and support breastfeeding among working women. In its 11th article, it establishes that all working women shall have the right to fully access maternity leave for a period of 18 (eighteen) uninterrupted weeks; besides, it grants – in its 13th article and bearing "non-waivable status" – 2 (two) weeks after birth, to any father of a new-born, whose full payment is to be covered by the employer.

Violence due to gender

- Act 1.600 against Domestic Violence (2000). It is a provisional measure to protect a victim of violence's life, whether the person cohabitates with the aggressor or not. It stipulates protection measures, as ordered by the zone's justice of the peace, anticipating police protection.
- Criminal Code (1997). The concept of punishable acts against sexual autonomy is introduced in the existing Criminal Code.

Transport Sector

Paraguay has a vehicle fleet of about 2.5 million units (2019). Road transport GHG emissions (tank to wheel) of Paraguay are estimated at 7.99 million tCO₂eq in 2018. Commercial vehicles including taxis, buses and LCVs are responsible for 22% of GHG emissions. Trucks and LCVs comprise around 58% of NO_x, PM_{2.5} and BC emissions, yet trucks and LCVs are only 12.6% of the total vehicle stock. This result is due to being the main consumer of diesel in the transport sector. GHG emission from the transport sector are expected to grow under a BAU scenario by around 69% reaching 13.53 million tCO₂eq by 2030.

The vehicle fleet in all segments is relatively old due to the fact that most of these are imported second-hand, between the range of 15-18 years and 20-21 years; therefore, with poor standards of efficiency and emissions.²⁰

Legal framework for biofuels:

- Law No. 2.748 on the Promotion of Biofuels (*Ley de fomento de los biocombustibles*) was passed in October 2005, and was followed in 2006 by Decree No. 7.412 which provides for the implementation of regulations under the law. Law Nr. 2.748 declares the industrial production of biofuel and its feedstock as well as its use within the national territory to be matters "of national interest". Article 15 of also provides that any person or company eligible to pursue biofuels-related activities will benefit from biofuel production incentives provided under Law. Nro. 60/90 and Law. No. 2.421/04.
- Law N° 6.389/2019 and Decree N° 3.500/2020 which establishes the promotion regime for the sustainable production and mandatory use of biofuel suitable for use in diesel engines.
- Paraguay is currently developing the "Multimodal Electric Mobility Master Plan for Urban and Logistic Public Transport", which responds to the guidelines established in the National Development Plan Paraguay 2030²¹, the National Determined Contributions (NDC)²² and the National Electric Mobility Strategy.

Climate and Energy Policies

According to Climate Watch data, total emissions in Paraguay in 2018 were 95.23 million tCO₂eq. Paraguay's NDC aims to reduce 20% of the fossil fuel consumption by 2030, compared to the projected baseline. Unilaterally, the country aims to reduce 10% of projected emissions by 2030. Additionally, a conditional goal of 10% reduction in emissions projected by 2030 depends on international cooperation. Among the measures to be implemented in the transport sector, action lines for more efficient technologies in this sector are being evaluated together with the Vice Ministry of Transport, with electric mobility being one of these possibilities.

Paraguay has an important development in terms of policies and plans related to climate change. The main legal basis is the National Climate Change Law, which establishes the National Climate Change Policy (PNCC) as the main instrument to define and achieve national objectives on the subject. The National Climate Change Policy (PNCC) will have a National Climate Change Plan that will detail an integrated model of action to achieve the objectives established in said policy. This plan will define national strategies for adaptation and mitigation of climate change. Also, the National Policy on Climate Change must be in line with the National Development Plan by 2030, and the necessary updates will be made for this purpose. Additionally, the Climate Change Fund was established, for which financial resources are provided from the Nation's Expenditure Budget, contributions and payments of rights provided for in the legislation, donations or contributions from natural and legal persons, governments, and international organizations.

The Paraguayan power system has an installed capacity of 8.810 MW in hydro power plants, well above its own peak load. Paraguay shares ownership of large binational hydro power plants Itaipú (7.000 MW) and Yacyretá (3.200 MW) with Brazil and Argentina respectively, therefore the portion of energy generated by the Paraguayan bank of such plants exceeds the national demand and is exported to the neighbouring countries Brazil and Argentina. Hence, the carbon grid factor is 0.0 tCO₂/MWh and is projected stay at zero by 2030. Thus, EVs provide the opportunity to reduce various environmental and financial externalities resulting from mobility dependent on fossil fuels.

²⁰ https://www.ssme.gov.py/vmme/pdf/H2/H2%20Marco_Conceptual_DIGITAL.pdf

²¹ <https://observatorioplanificacion.cepal.org/es/planes/plan-nacional-de-desarrollo-paraguay-2030>

²² <https://unfccc.int/NDCREG>

In this context, the country is taking its first steps in the transition towards electric mobility, advancing with the development of technical standards for EVs, and implementing “green routes” with chargers installed between the three main cities – Asunción, Ciudad del Este, and Encarnación. The National Development Plan 2030 and the National Energy Policy 2040 consider e-mobility as one of the dimensions to achieve the country's development goals.

4.1.3. Uruguay

Uruguay has an area of 167.215 km² and about 3.5 million inhabitants. In 2021, the GDP per capita was 17,020 USD.

Overview of applicable regulatory framework

The national legal and administrative framework related to environmental, social and gender related matters is the guideline and determines the procedures for detecting environmental, social and gender risks of the sub-project, as well as the proposed management and mitigation measures.

Title	Description	Responsible institution
National Constitution. 2004, Arts. 27 and Art. 47	Establishes the national and water policies. Protecting the environment is of national interest. Citizens should refrain from any act that causes degradation, destruction, or serious environmental pollution.	Congress
-Law 16.466. Environmental Impact Assessment.	Regulation of Environmental Impact Assessment and Environmental Permits. Main Uruguayan legislation aims to protect the environment from development activities.	Ministry of Housing Land Planning and Environment (MVTOMA) -DINAMA
- Law No. 17283. General Law for the Protection of the Environment. 2000	Indicates that all citizens have the right of healthy environment. It is national interest the conservation of environment, air quality, water, soil, and landscape, and also the prevention, elimination, mitigation, and compensation for negative environmental impacts.	Ministry of Housing Land Planning and Environment -DINAMA
- Decree No 349/005.	Regulates the previous environmental authorization procedure requested for activities, constructions or buildings or works. Defines environmental negative impact, prohibitions and responsibilities for damages and determines the procedures requested for project authorizations.	Ministry of Housing Land Planning and Environment -DINAMA
-Law No 17.234. Protected Areas -Decree No.52. regulations of the Law 16.466.	Declaration of interest of the creation and management of a National System of Protected Natural Areas as a tool for implementation of environmental policies and management plans for the national protection of biodiversity.	Ministry of Housing Land Planning and Environment -DINAMA
Resolution No 1.354/009 and Resolution No 209/009	Approve the guidelines for environmental previous authorization request and the environmental project questionnaire.	Ministry of Housing Land Planning and Environment -DINAMA
Norm No 101/020	Defines a list of activities which require environmental previous authorization.	Ministry of Housing Land Planning and Environment -DINAMA

Title	Description	Responsible institution
- Law No15.939. Law Forest protection	Defines the importance of the conservation of native forest and the promotion of forest plantations and reforestation. All national forests belong to the state except the trees found in public areas such as in the right of way in which case, MTOP and the municipalities are responsible of their management.	Ministry of Cattle, Agriculture and Fishing (MGAP) Native Forest Department
Law No 18.308. Territorial order	Defines the territorial order and sustainable development, sets the fundamentals in the national context.	Ministry of Housing and Land Planning
Law No 19.525. Territorial order	Approves the national guidelines for territorial order and sustainable development for urban, suburban, rural and environmental protected sites.	Ministry of Housing and Land Planning
Law No 19.829 Integral waste management	Sustainable development model promotion and environmental protection by prevention and reduction of negative impacts in the generation, handling and management of wastes.	Ministry of Environment
- Law No 16.221. Transboundary movements of hazardous wastes	Approves the International Agreement of Transboundary hazardous wastes movements control and their elimination.	Ministry of Environment
- Law No 16.867. Hazardous wastes.	Approves the amendment of the International Agreement of Transboundary hazardous wastes movements control and their elimination.	Ministry of Environment
- Law No 17220. Hazardous wastes	Prohibits non authorized income of hazardous wastes to the country.	Ministry of Environment
- Decree No 358/015. Used tires	Defines management practices requested to be implemented for waste tires and establishes as generators to those companies that provide transport services.	Ministry of Environment
- Decree No 373/003. Lead batteries	Regulates the management and disposal of lead- acid used and disposable batteries.	Ministry of Environment
- Decree No 15/019. Mercury wastes.	Regulates waste management activities to be developed for lamps wastes and other wastes containing mercury.	Ministry of Environment
- Decree 541/007. Waste management for Ports, Airports, International Passenger Cargo Terminals	Approves the sanitary management of solid wastes management from Ports, Airports, International Passenger Cargo Terminals and frontier points of Mercosur.	Ministry of Environment
- Law No 17.283, Art 17	Defines the prohibition of releasing or emitting into the atmosphere, directly or indirectly, substances, materials or energy above the maximum limits or in a contravention of the conditions defined by the authorities.	Ministry of Environment
- Decree No 135/021. Air quality regulation	Defines objectives for air quality to reduce human health and ecosystems risks, and maximum emission limits for both mobile and fix sources.	Ministry of Environment

Title	Description	Responsible institution
- Law No 10.007	Prohibits the use of automobile vehicles that consume heavy carburants without the tools that inhibit fume or toxic excess emissions when going through urban centres.	Ministry of Environment
- Decree No 118/984. National Regulation of Road Circulation	Approves the National Regulation of Road Circulation and establishes that automobile vehicles should not exceed maxim enforced emission limits defined by the authority.	Ministry of Environment
- Law No 15.986	Approves the Vienna Convention.	Ministry of Environment
- Law No 16.157	Approves the Montreal Protocol.	Ministry of Environment
- Law No 16.517	Approves the United Nations Convention for Climate Change.	Ministry of Environment
- Decree Law No 14.859. Water Code / Decree No 123/99	Approves the Water Code and defines authorities' competencies, water domain, usage rights and permits.	Ministry of Environment
- Law No 14.440 / Decree 216/76	Standards on waste water discharges in places where separate sewage system exists.	Ministry of Environment
- Decree No 253/79	Regulates the contamination control of water resources containing water bodies classification, quality parameters, wastewater discharges parameters, sanctions.	Ministry of Environment
- Law No 18.610. National Water Policy	Defines the fundamental principles applicable for the National Water Policy including the water resources management as well as water uses and services.	Ministry of Environment
- Decree No 78/010. National Water Policy	Regulates Law 18.610 and defines sanitation measures.	Ministry of Environment
- Decree No 205/017	Approval of the National Water Plan.	Ministry of Environment
- Law No 18.597	Declares of national interest the energy efficiency to contribute to the national economy competitiveness, sustainable development and GHG emission reduction. Requires to the Ministry of Industry, Energy and Mining to develop the Energy Efficiency National Plan.	Ministry of Industry, Energy and Mining
- Law No 17.852	Sets standers to prevent, monitor and correct acoustic contamination situations to protect human beings, other living species and the environment.	Ministry of Industry, Energy and Mining
- Decree No 125/022 - Decree No 429/009	Regulates that equipment, artefacts and vehicles that consume energy will be assessed according to their energy efficiency.	Ministry of Industry, Energy and Mining
- Decree No 34/015	Gives two-year period grant to the tax for those vehicles exclusively electric motored.	Ministry of Industry, Energy and Mining
- Decree No 390/021 – Decree 370/021 - Decree No 411/010 – Decree No 96/990	Regulates the specific intern tax. Defines the classifications for automotive vehicles	Ministry of Economy and Finance
- Res No 209/012.- Res No 208/012 - Res No 150/008	Defines the quality standards for intermedium marine fuel oil, marine gas oil fuels, marine diesel oil and other liquid fuels.	Regulatory Unit for Energy and Water services

Title	Description	Responsible institution
- Res No 28/004	Prohibition of use of LPG balloons in vehicles.	Regulatory Unit for Energy and Water services
- Res No 26/003	Regulates the supply and the use of compressed natural gas on vehicles.	Regulatory Unit for Energy and Water services
-Law No.15.965. Health and Safety	Adoption of international conventions on safety, hygiene, and health at work (OIT 148, 155 and 161)	Ministry of Work and Social Security
- Decree No 125/014 – Decree No 125/017	Health and safety in the construction industry	Ministry of Labour and Social Security
Decree 291/007	Regulates the prevention and protection against risks related to any activity.	Ministry of Labour and Social Security
- Law No 5.032 – Decree 406/988. Labour accidents prevention	Establishes for employers, construction directors, or any other work with risks for workers, the requirement to implement safety measures for personnel to avoid work accidents.	Ministry of Labour and Social Security
Decree No 159/997 of the MTOP.	Establishes a series of regulations controlling emission levels: Maximum emission limits for polluting gases and noise for motor vehicles.	Ministry of Transport and Public Works (MTOP)
Resolution 4541/17 of the IdM.	Measures for improving the quality and comfort of the public transport. The resolution limits the places where loudspeakers can be placed (restricting the driver and collector area) and limits the sound pressure level inside the vehicles (it can't exceed 60dB).	Ministry of Transport and Public Works (MTOP)
Decree No 603/008 of the MTOP	Determines the age of touristic and long and medium distance international regular service buses, which shall not be more than 10 years; for the rest of the services, the maximum age requirement is 18 years, with the company fleet not being authorized to exceed an average of 12 years. For services related to traffic considered secondary for the DNT (such as own, official, and secondary tourism), may reach 25 years.	Ministry of Transport and Public Works (MTOP)
Decree 1010/975 of 1975 and amendments, Decree 682/987 of 1987 and Decree 152/985 of 1985 of the MTOP	Companies interested in importing buses must request and process a bus Need Certificate before the DNT, MTOP. In addition, they must receive the approval of the relevant Departmental Municipality, signed by the highest departmental authority (Intendente).	Ministry of Transport and Public Works (MTOP)
IdM Resolution No. 4037/013.	Establishes requirements for the renewal of the passenger urban mass transport fleet (Euro III, low floor with ramp or lifting platform, among others.	Ministry of Transport and Public Works (MTOP)
UNIT 1130:2013, Energy efficiency - Lightweight motor vehicles	Labelling Establishes the requirements for the energy efficiency label of new lightweight motor vehicles, with internal combustion engines, Otto or Diesel cycles, and electric hybrids rechargeable through the grid.	Ministry of Transport and Public Works (MTOP)

Title	Description	Responsible institution
Resolution 5055/2011 of the IdM	Approves the Authorization Protocol granting the Environmental Quality Laboratory Service for final disposition of public and private waste producers from industries, retailers, and services. Transport operators shall have a Waste Management Plan (WMP) approved by the Montevideo Municipality.	Ministry of Housing Land Planning and Environment -DINAMA
- Decree Law No 10.382. Road classification	Defines the classification of national, departmental, and neighbourhood roads. Regulates buildings, transit and financing.	Ministry of Transport and Public Works (MTOP)
- Decree 111/008	Regulates the effective control of the emission standards and noise standards from heavy duty vehicles.	Ministry of Transport and Public Works (MTOP)
- Decree No 280/018. Regulates Art 173 of Law 18834	Defines the principles that rule the general operation of the national railway system, its administration and related infrastructure.	Ministry of Transport and Public Works (MTOP)
- Decree No 218/006. Passenger transport	Defines the renewal fleet of motor vehicles of collective passenger transport as part of the national transport policy.	Ministry of Transport and Public Works (MTOP)
- Law No 19.580. Violence based on gender	Modifies Civil and Penal Code to assure the effective women's right of a gender-based violence-free life. Defines that administrative, public and private spaces must adopt measures for prevention, protection, investigation and sanction of gender-based violence.	Ministry of Social Development
Law No 18.561. Sexual harassment	Regulates employer duties that must be adopted to prevent and sanction sexual harassment	Ministry of Social Development

Gender

- Act 15,164 from 1981, Ratification of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)
- Act 16,045 from 1989, Act on equal opportunities and treatment between men and women in employment.
- Act 16,735 from 1996, Ratification of the Belem International Convention on Human Rights
- Act 17,514 from 2002, Eradication of domestic violence act
- Act 17,707 from 2003, Creation of courts specialized in domestic violence act
- Act 17,815 from 2004, Act for protection against commercial sexual exploitation of children, adolescents and disabled
- Act 18,104 from 2007, Act on equal rights and opportunities for men and women. This act creates the National Council on Gender.
- Act 18,561 from 2009, Act on sexual harassment
- Act 19,353 from 2015, Act on the creation of a national system of integrated care
- Act 19,580 from 2017, Act on violence against women based on gender
- Law 17886, creates the National Women Institute within the Social Development Ministry to promote gender policies, and public policies with gender perspective design, implementation, monitoring and assessment.
- Law 18.104 Declaration of general interest. Rights equality between men and women.
- In 2018/2019 is created the Gender and Climate Change Strategy with the objectives to classify NDC's measures according to their impact in the gender equality.

Sources: Ministry of Environment, Ministry of Economy and Finance, Social Development Ministry, Ministry of Industry, Energy and Mining, Transport and Public Works Ministry, <https://generoeninfraestructura.iadb.org/>, <https://www.climate-laws.org/>

Transport Sector

Uruguay has a vehicle fleet of about 1.2 million units (2019). Road transport GHG emissions (tank to wheel) of Uruguay are estimated at 3.68 million tCO₂eq in 2018. Commercial vehicles including taxis, buses and LCVs are responsible for 19% of GHG emissions. Trucks represent around 52% of NO_x, PM_{2.5} and BC emissions, yet trucks are only 8.3% of the total vehicle stock. This result is due to being the main consumer of diesel in the transport sector. GHG emission from the transport sector are expected to grow under a BAU scenario by around 40% reaching 5.29 million tCO₂eq by 2030. Uruguay is recognized for its recent transition to renewable energy in the power system, with 95% renewable sources in the power mix. Uruguay has adopted several national strategies that promote energy efficiency, increased renewable energy supply, and the reduction of fossil fuel consumption.

Climate and Energy Policies

According to Climate Watch data, total emissions in Uruguay in 2019 were 34.36 million tCO₂eq. In its NDC Uruguay aims at a 24% unconditional and a 29% conditional²³ reduction in CO₂ emissions intensity per unit of GDP. Also, the country's NDC sets specific goals for E-motion categories towards 2025: e-Buses (110 units), e-taxis (550 units) and electric light commercial vehicles (LCVs) (900 units), a network of electric vehicle charging stations throughout the main roads across Uruguay (52% completed in 2020), and a fast-charging network (no progress yet). However, these goals are part of a scenario conditional on access to international financing.

On 2017 Uruguay defined its National Climate Change Policy to promote adaptation and mitigation in the country, with a temporal horizon until 2050. Among the main lines of action, this Policy specifies the actions for the emission reduction in the transport systems by the quality and efficiency improvement, the use of vehicles with lower emission intensity per unit transported, increase the participation of electric, hybrid or other low carbon emission technologies, coordinate transport systems and territorial order planning and infrastructure design and the development of financial and legal instruments.

In 2008, the Ministry of Energy and Mining (MIEM) introduced the Energy Policy, which includes the main energy strategies in the country. From a demand perspective, it seeks to promote energy efficiency in all sectors of national activity (industry, construction, transport, agro, homes, etc.) and for all uses of energy (lighting, appliances, vehicles, etc.), driving a cultural change in relation to consumption habits, through the formal and informal education system.

Concerning the transport sector and considering that this sector has been the country's main consumer of fossil resources, the policy states that it is necessary to seek the integration of the energy perspective into transport policies. The Energy Policy includes initiatives for the promotion of a more efficient and attractive urban and intercity public transport system and the introduction of hybrid and electric vehicles, the replacement of conventional vehicles by low or zero emission vehicles in freight transport and passenger transportation fleets, the promotion of efficient driving and tax adaptations to new technologies. The Urban Sustainable Mobility Plan promotes a transition towards transport technologies with better energy efficiency. The Agrofuels Law promotes a minimum requirement of nationally produced biodiesel and bioethanol in the gasoline and gasoil mixes supplied in the country for automotive use.

²³ Global intensity objectives related to the evolution of the economy, mainly Energy but Transport and industrial processes included.

Approved in 2009, the Energy Efficiency Law establishes the efficient use of energy as a matter of National Interest, to contribute to the competitiveness of the economy, the sustainable development of the country and to reduce GHG emissions. It also states that the National Energy Efficiency Plan will include "the implementation of energy efficient use in the transport sector" as one of the criteria for ensuring energy savings.

It mentions that the DG establish minimum energy-efficiency requirements for new public transport means (already official), as well as in buildings and city lightening, following regionally established energy and environmental efficiency guidelines and standards.

Current generation composition is as follows (2019): 55.6% hydro, 2% thermal and 42.4% renewable. Hydro plants are located in the north and centre of the country whereas thermal plants, originally conceived to cover peak demand (backup in the event of dry hydro conditions), are located in the south near Montevideo. Uruguay's carbon grid factor is 0.013 tCO₂/MWh and is projected to decrease to 0.022 tCO₂/MWh by 2030.

4.2. International context relating to EV Batteries

In the target countries, the waste inventories do not include specifically lithium batteries and as such are not classified. The United States classifies lithium batteries as non-hazardous waste (Universal Waste Rule). Nonetheless, the State of California does classify it as a hazardous waste due to the presence of cobalt. The European Union does not classify those wastes as hazardous either, as demonstrated in the excerpt of the waste listing included in Decision 2014/955/EU (wastes marked with * are considered hazardous). China, as in the previous cases, also used to classify them as non-hazardous²⁴. A new technical specification approved in 2021 started to implement pollution control for the treatment of waste power lithium-ion batteries from beginning of 2022 as a trial²⁵. It consists of a treatment process including pollution control technical requirements, pollutant emission control as well as related environmental monitoring and management requirements.

Excerpt from the EU waste listing of accumulators:

Code	Waste
1606	Cells and accumulators
16 06 01*	Lead batteries
16 06 02*	Ni-Cd accumulators
16 06 05	Other batteries and accumulators
16 06 06*	Cells and accumulators electrolytes selectively collected
20 01 33*	Batteries and accumulators specified in codes 16 06 01, 16 06 02 o 16 06 03, and batteries and accumulators without classification containing those batteries
20 01 34	Batteries and accumulators other than those specified in Code 20 01 33

Source: EU, 2014²⁶

²⁴ Retired Electric Vehicle (EV) Batteries: Integrated Waste Management and Research Needs. Yuanan Hu, Hefa Cheng and Shu Tao. Beijing, China: American Chemical Society, Environ. Sci. Technol, 2017, Vol. 51 (10927–10929).

²⁵ Ministry of Ecology and Environment of the People's Republic of China:

https://www.mee.gov.cn/ywgz/fqgz/bz/bzwb/qthw/qtxgbz/202108/t20210820_858544.shtml

²⁶ 16. Comisión Europea. Decisión de la Comisión 18 de diciembre de 2014 por la que se modifica la Decisión 2000/532/CE, sobre la lista de residuos, de conformidad con la Directiva 2008/98/CE del Parlamento Europeo y del Consejo. Bruselas: Diario Oficial de la Unión Europea, 2014.

Nevertheless, the final disposition in a sanitary landfill is not considered adequate due to lixiviation potential of the organic electrolytes and to the presence of metals such as copper and nickel, among others. Electrical Vehicle (EV) batteries may be comprised of lithium-ion phosphate, lithium and manganese oxide, among others. Even though there are several battery typologies for electric vehicles, these are being replaced by lithium batteries because are considered less hazardous. Lithium batteries (LIB) are made of several lithium ion cells and peripheral components such as cables, casing, connectors, and electronic components made of copper, aluminium, steel, and plastic. Peripheral components usually represent around 50% of the battery's weight.

On the other hand, the United Nations Model Regulations for the Transport of Dangerous Goods places lithium batteries under Class 9 of Miscellaneous dangerous substances and goods, including substances dangerous to the environment. The following chart presents the United Nations (UN) codes for each lithium battery typology. (17) (18)

Chart 3 UN Codes for dangerous goods transport:

UN Code	Good
3090	Lithium metal batteries (including lithium alloy batteries)
3091	Lithium metal batteries installed in equipment (including lithium alloy batteries)
3091	Lithium metal batteries packed with an equipment (including lithium alloy batteries)
3480	Lithium-ion batteries (including lithium-ion polymer batteries)
3481	Lithium-ion batteries installed in equipment (including lithium-ion polymer batteries)
3481	Lithium-ion batteries packed with an equipment (including lithium-ion polymer batteries)

Source: UN, 2009²⁷

Finally, there exist several international conventions restricting the production, use and trade of certain hazardous chemicals including those relevant for the production or processing of batteries with the intention to protect the environment and human health. Among those are e.g.:

- The Basel Convention, on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention);
- The Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade (Rotterdam Convention);
- Minamata Convention on Mercury (Minamata Convention).

It has become clear, that electromobility will play a significant part in mitigation efforts for combating climate change, hence the EV market has seen significant growth in past years. According to a study published by IDTechEx, by 2030 there will be over 6 million battery packs retiring from electric vehicles per year (Jiao, 2021), which poses a challenge to develop the adequate regulatory environmental, promote improvements in reuse and recycling technology and promote market-based responses in terms of the development of the supply chain.

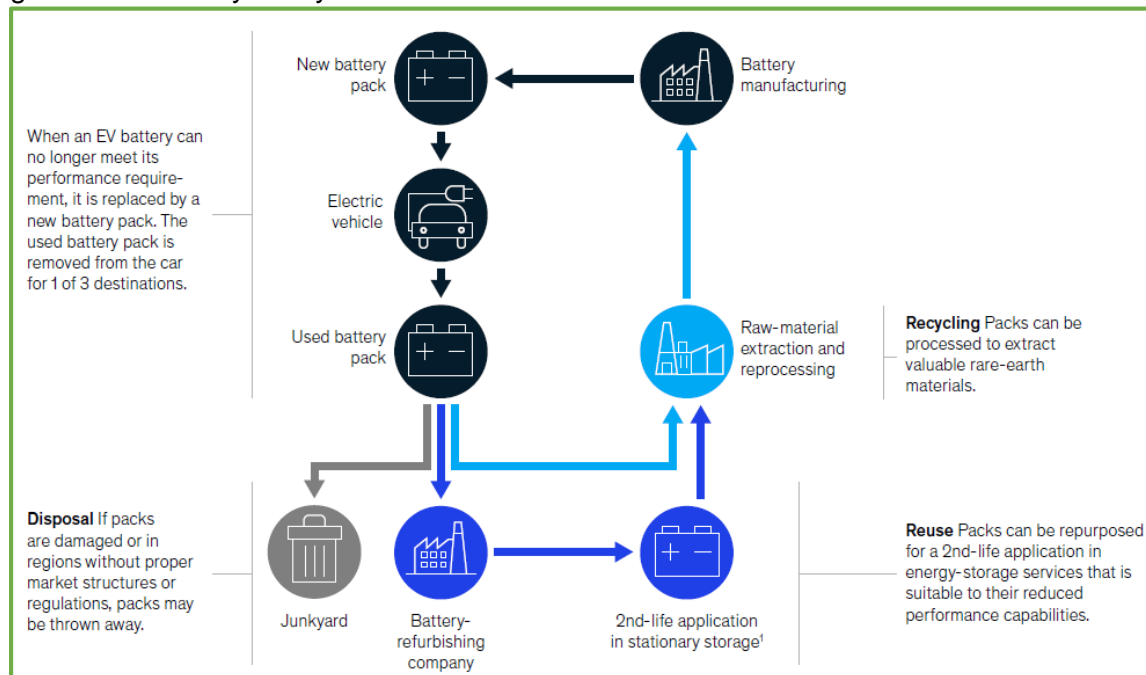
The EU has recently addressed this challenge by proposing an extensive reappraisal on its Battery Directive 2006/66/EC to manage the increase of EVs and industrial use of batteries. At the end of 2020, the EU established requirements on sustainability, safety, labelling and information to allow the placing on the market or putting into service of batteries, as well as requirements for the collection, treatment, and recycling of waste batteries.

²⁷ Naciones Unidas. Recomendaciones relativas al Transporte de Mercancías Peligrosas, Reglamento Modelo Nueva York y Ginebra: s.n., 2009. Vol. 1, 978-92-1-339043-6. ST/SG/AC.10/1/Rev.16.

The reappeal on directive 2006/66/EC explicitly states its overarching effect on directive 2000/53/EC. This second directive is on improving the sustainability of vehicles by managing their end-of-life. With the inclusion of this document, the need to prevent the release of hazardous waste into the environment for vehicles is expanded towards the new EVs. It achieves this by requiring the design and production of new vehicles to take into full account, and facilitate the dismantling, reuse, recovery, and recycling, of end-of-life vehicles, their components, and material. It also encourages vehicle manufacturers, in liaison with material and equipment manufacturers, to integrate an increasing quantity of recycled material in vehicles and other products, in order to develop the markets for recycled materials (Directive 2000/53/EC, 2000). The directive 2000/53/EC stated, as a goal for the year 2015, the reuse and recovery of at least 95% by an average weight per vehicle and year, as well as the recycling with a minimum of 85% by an average weight per vehicle and year (Directive 2000/53/EC, 2000). Thus, by extension of the reappeal of directive 2006/66/EC, similar high goals for recycling and reuse in Europe are to be expected for end-of-life EVs, and their batteries.

The lifecycle of batteries and the respective three end-of-life options are illustrated in the following figure.

Figure 2: EV battery life cycle



Source: McKinsey, 2019

Recycling provides a pathway to lower environmental impacts and a source of high-value materials that can be used in producing new batteries. It seems to be the perceived default option for spent batteries. For the recycling of used batteries to be efficient and economically beneficial, the reverse supply chain must be optimized and fully realized (Stewar, 2019). This chain is composed of collecting, dismantling, and recycling. For the Latin American countries, these logistic and industrial steps are non-existing. Moreover, the battery recycling process as such is complex.

Almost all dismantling occurs manually and there are very few options for automatization (Stewart, 2019). As the composition of materials in each battery is different according to the respective model, a manual process is currently necessary 100% recycling of the high-value elements of batteries has not yet been achieved.

The BAU solution for **final disposal** of simply dumping batteries into secure landfills or dedicated storage facilities do not grant any further profitability and pose a latent danger to the community and environment in which these installations are located. Therefore, this solution is the least acceptable one.

Second-life constitutes, as shown in figure 2, a variation of the traditional recycling circular economy, in which the expended batteries are refurbished and then used for the original or an alternative application. This extends the life of the battery before being recycled, and therefore optimizing the use of its resources.

Currently, there is very little information on the costs of both recycling and the second-life approach. This strongly depends on the costs of collection, transport, storage, sorting, dismantling, reuse and eventually recycling of the batteries. The universal financial viability for these proposals for lithium-ion batteries can therefore still not be determined.

The two environmentally sustainable alternatives of recycling and second life evidently due to many shared supply chain elements, present similar technical, regulatory, and financial challenges. Although the added benefits of a second life are significant and thus the most attractive opportunity to date. Extending the usable life of an EV battery becomes even more attractive when the definition of “expended” EV batteries is inspected. Batteries are classified as “expended” as soon as they no longer meet the high EV power delivery and usable charge requirements. But these batteries could still retain up to 70-80% of the original capacity, they most definitely can be used for applications with reduced requirements (Rößiger, 2018). These, otherwise fine batteries, provide huge value opportunities for a range of stakeholders across the automotive and energy storage sectors. This potential value for a wider scale implementation is impacted by how the batteries are designed and used in their first life in the electric vehicles, how they are collected and used in second-life applications as well as the value of recycling (Jiao, 2021).

To meet safety standards for a second-life use, the batteries must be more regularized. For example, the proposed appeal to the EU’s battery directive 2006/66/EC describes the needed legal and technical actions, such as safety of use for end user, health assessment of used batteries, provision of information such as chemical composition and capacity, implementation of battery passports, and implementation of extended producer responsibility. Battery passports are going to be used for health assessment and information provision of the battery into which they are installed. This diagnostic will simplify the administration of batteries in a long term, even easing the implementation of second-life operation (Reappeal on Directive 2006/66/EC, 2020).

The potential uses for second-life of an EV battery depend strongly on battery health but can range from other mobility application, such as for e-scooters or electric pallet jacks, to semi-stationary, like a battery for illumination on remote construction sites or completely stationary as a buffer for peak demand or production for the electric grid. Based on these “expended” EV batteries, new markets will emerge.

4.3. Applicable environmental and social safeguards

CAF's strategy for environmental sustainability and climate change promotes a paradigm shift towards low-carbon and climate-resilient economies with green infrastructure and a transformation to sustainable production systems, through the provision of technical, financial and knowledge resources to countries to support the implementation of the United Nation's Agenda 2030. CAF ensures that all the operations it finances comply with national legislation and that all operations and activities are in accordance with the highest international standards in the management of environmental and social risks and climate change. For this, institutions accessing to funds from E-Motion Subprogram 2 must comply with CAF's Environmental and Social Safeguards, which integrate the principles postulated by CAF in matters of social and environmental sustainability and climate change, as well as GCF's interim environmental and social safeguards and performance standards, the revised environmental and social policy, the indigenous peoples' policy, and the gender policy. CAF's social and environmental safeguards have been designed with the objective to:

- Prevent mitigate and/or compensate adverse impacts for the population and the environment
- Consider climate risks at the sub-project level, in a transversal way within its operations.
- Encourage the participation of stakeholders.
- Conserve biological diversity and natural habitats.
- Promote the sustainable use of natural resources and ecosystem services.
- Avoid and minimize negative impacts on people's health, biodiversity, and ecosystems through the prevention of pollution.
- Recognize, protect, and value the cultural heritage of the region.
- Ensure compliance with international commitments regarding rights of indigenous peoples and other minorities and vulnerable groups.
- To ensure compliance with the regulations regarding working conditions.

These safeguards contribute to the promotion of sustainable development, seeking to increase competitiveness, reduce social lags, stop environmental deterioration, support economic development, and green growth, and improve the living conditions for the inhabitants of Latin America. Considering climate change is one of the greatest global challenges, these measures further allow to strengthen mitigation and adaptation actions that seek to promote environmental, social, and economic sustainability within the region. The following Table provides an overview of the nine environmental and social safeguards established by CAF:

Table 5: Overview of CAF's Environmental and Social Safeguards

CAFs E&S Safeguards	Objectives
S01: Evaluation and management of environmental and social impacts	<ul style="list-style-type: none"> • CAF establishes the need to carry out i) environmental and social assessments of operations, ii) the evaluation of risks derived from climate change, iii) the design, implementation and follow-up of environmental and social management measures associated with the operation, and iv) strengthening of the informed, active and timely participation of the inhabitants of the areas of influence in the operations that it supports. • All projects financed by CAF are in accordance with the environmental legislation of the country where the project is executed, as well as with international agreements and commitments signed by member countries. CAF may request the application of additional precautions or select (internationally accepted) technical references, if deemed necessary. • While all relevant risks and possible environmental and social impacts must be considered in the context of the evaluation, safeguards 2-8 describe the possible risks and environmental and social impacts that require special

CAFs E&S Safeguards	Objectives
	attention that result in complementary processes related to evaluation, management and monitoring.
S02: Utilization of renewable natural resources	<ul style="list-style-type: none"> • CAF promotes and ensures the sustainable use of natural resources, and manages mechanisms to i) prevent, mitigate and control negative environmental impacts (e.g. pollution, loss of arable land, severe drought or desertification, among others), and ii) promote positive environmental impacts / co-benefits. For this reason, CAF requires the client to establish and implement measures and tools that guarantee the sustainable and effective use of resources, and the application of good conservation practices.
S03: Conservation of biological diversity	<ul style="list-style-type: none"> • CAF promotes the conservation of protected areas, critical habitats and other sensitive areas according to the relevant legislation of the country in which the operation is carried out and the international norms that apply, financing projects in these areas insofar as this guarantees that the project does not jeopardize the objective of establishing the protected area, nor the sustainability of critical habitats and sensitive areas. • CAF considers it essential that all credit operations consider the potential negative impacts from investments on biodiversity and that appropriate measures to prevent, mitigate, control, and compensate such impacts are applied.
S04: Pollution prevention and management	<ul style="list-style-type: none"> • CAF recognizes that pollution is a critical factor that deteriorates the living conditions of people and contributes to the degradation of natural resources and loss of biodiversity in the region. It is thus essential that all credit operations include pollution prevention, mitigation, and control measures in all environmental components, and promotes in its operations the introduction of measures oriented in this sense. • Likewise, in industrial operations, CAF ensures that such measures are integrated into the production process, including the reduction of pollution and the consumption of natural resources, and the use of clean or renewable energies that contribute to the reduction of GHGs, in the framework of cleared production and energy efficiency. • CAF applies the precautionary principle, that is, the application of protective measures is requested before the suspicion that certain products or technologies create a serious risk to public health or the environment, in cases where it is deemed necessary
S05: Cultural Heritage	<ul style="list-style-type: none"> • CAF recognizes the importance of cultural heritage for communities, and in some cases the global population. Therefore, when there is physical or intangible cultural heritage in the area of influence of the project, CAF requests the presentation of plans for the protection of archaeological, historical or sacred sites, which must be approved by the competent scientific and/or cultural institutions and relevant legislation of the respective country. • In the operations to be developed in areas where archaeological, historical, or sacred sites of indigenous peoples and/or people of African descent, the client must guarantee protection and avoid actions that directly or indirectly may cause damage.
S06: Ethnic Groups	<ul style="list-style-type: none"> • CAF recognizes the importance of human cultural diversity in the region and ensures its preservation and strengthening. In this context, for the cases of projects whose area of influence includes ethnic groups or important sacred places, CAF requests the preparation of a specific plan for said groups in cases where there is direct linkage and attention to particular peoples and ethnic groups involved, a specific plan to guarantee their rights will be requested, safeguard their physical, territorial, social, cultural and economic integrity. A culturally appropriate, free and informed prior consultation

CAFs E&S Safeguards	Objectives
	process will be guaranty and promotes direct benefits to the populations involved will also be sought.
S07: Resettlement	<ul style="list-style-type: none"> In operations that require the acquisition or use of lands that imply the physical or economic displacement of the people residing there and/or deriving their livelihood, and/or the resettlement and/or relocation of human groups, CAF requests the elaboration of a Resettlement Plan or Socio-Economic Conditions Resettlement Plan. Such plans will be established in order to improve or at least restore the living conditions of displaced people, as well as of any organization or entity that develops a project or activity on a territory that causes compulsory displacement, resettle people to reduce the risk of impoverishment of the displaced and the deterioration of the quality of life of the people who will continue to live in the place.
S08: Working Conditions and Training	<ul style="list-style-type: none"> CAF ensures the voluntary, dignified and just work of the people, and that workers have the right to safe and healthy working conditions, through prevention and control of diseases and accidents, and the elimination of factors and conditions that put in danger the health and safety of workers. CAF does not finance projects that involve the direct or indirect exploitation of minors. In addition, CAF promotes the training of workers in the operation it finances.
S09: Gender Equity	<ul style="list-style-type: none"> CAF promotes gender equity in the operations it finances. For this, it demands in operations that finance there is no gender discrimination, women's access is encouraged to positions of decision and equal remuneration for men and women in similar positions, as well as the positive differentiation towards women who are in a situation of accentuated vulnerability, risk or inequality. Issues associated with Gender-Based Violence are specifically addressed in this safeguard, as well as through S01, S06 and S08.

Source: CAF 2016a

5. Evaluation of environmental and social impacts – Environmental and Social Analysis (ESA)

Overall, it is expected that the Sub-Program 2 presents a risk category B, low to moderate risk, financing only category C and B risk sub-projects. High risk “category A” sub-projects will be excluded. A list of excluded sub-projects that will not be eligible for financing is presented in Annex 1.

The Sub-Program 2 is anticipated to generate numerous positive social, economic, and environmental co-benefits in addition to the direct climate benefits. Nonetheless, there are potential impacts that could occur as a result of the implementation of the sub-project.

This section provides an overview of positive impacts and potential adverse impacts as well as related mitigation options. The table in the chapter 6. Sub-Program 2's Environmental and Social Management Framework, section 6.1. Analysis of compliance with the standards of Environmental and Social Safeguards, presents additional measures suggested by CAF to ensure the ESMF of Sub-Program 2 meets all the standards in CAF's Environmental and Social Safeguards, including which safeguards are triggered for the program and what will be required at the sub-program/ sub-project level. All activities financed under Sub-Program 2 will require compliance with the applicable CAF's E&S Standards part of the Loan Agreement clauses.

5.1. Positive impacts

The positive impact of EVs comprises reduced GHG emissions, reduced air pollution, reduced noise levels, reduced dependence on fossil fuels and increased energy efficiency.

Direct mitigation potential from EV investments

The expected GCF fund-level impacts are a reduction of GHG emissions through increased access to low-emission transportation resulting in direct emissions reductions of 780,000 tCO_{2e} over the assets lifetime of investments co-financed by the Sub-Program 2²⁸ (see Table 3).

Table 6: Direct emission reduction potential from Sub-Program 2 financing of EVs

Country	Parameter	Unit	e-buses	e-LCVs		Total
			public	public	private	
Panama	No. of EVs	no.	150	400	50	600
	ER lifespan per EV	tCO ₂ /EV	1,250	39.4	39.4	
	ER (WTW)	tCO₂	187,500	15,760	1,970	205,000
Paraguay	No. of EVs	no.	300	300	100	700
	ER lifespan per EV	tCO ₂ /EV	984	63	63	
	ER (WTW)	tCO₂	295,200	18,900	6,300	320,000
Uruguay	No. of EVs	no.	200	200	100	500
	ER lifespan per EV	tCO ₂ /EV	1,176	57	57	
	ER (WTW)	tCO₂	235,200	11,400	5,700	252,300
Total	No. of EVs	no.	650	900	250	1,800
	Emission reduction (WTW)	tCO₂	718,000	46,000	14,000	778,000

Source: Hinico / the greenwerk, Feasibility Study, Report T5 Estimated Impacts of the Sub-Program 2, 2021

Direct mitigation potential from mode shift

Mode shift is triggered through program investments and technical assistance from modes with high levels of carbon emissions per passenger-km to low carbon transport modes. The projected GHG impact of the Sub-Program 2 in Uruguay, Paraguay, and Panama due to modal shift is estimated to 2.5 MtCO_{2e} over the lifetime of the EVs financed by the program based on the initial pipeline of sub-projects.

Parameter	Value			Unit
	PA	PY	UY	
Projected additional ridership due to multiple measures	20%			
Additional patronage from cars	100%			
Assumed lifespan	25			years
Average occupancy rate PT	23	13	16	passengers
Average occupancy rate cars	1.3	1.4	1.4	passengers
EF per km diesel buses WTW	1,212	1,062	1,359	gCO ₂ /km
EF per km electric buses WTW	204	115	220	gCO ₂ /km
EF per km cars WTW	230	330	230	gCO ₂ /km

²⁸ Over the lifetime of the project based on the initial pipeline of projects, Actual Sub-Program 2 emission reductions will depend on which projects are actually implemented and will be monitored by the Sub-Program 2.

Parameter	Value			Unit
	PA	PY	UY	
EF per pkm public transport	41	36	46	gCO2/pkm
EF per pkm cars	179	236	164	gCO2/pkm
Energy usage diesel bus per pkm	0.56	0.85	0.92	MJ/pkm
Energy usage electric bus per pkm	0.20	0.35	0.30	MJ/pkm
Energy usage car per pkm	1.9	2.6	1.9	MJ/pkm
Average trip distance	17	8	6	km

Share of electric vehicles on PT (Share of electric buses on bus / PT fleet in the respective city (with the implementation of the projects)	10%	10%	10%	
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PT impact	PA (not included)	PY	UY	
PT current patronage per annum		198,000,000	243,821,376	passengers
GHG impact per annum of PT measures		63,325	36,304	tCO2
GHG impact cumulative PT measures		1,583,116	907,597	tCO2
Energy savings per annum		547	287	TJ
Energy savings cumulative		13,671	7,184	TJ

Total programme

GHG impact per annum of PT measures	99,600	tCO2
GHG impact cumulative PT measures	2,490,700	tCO2

Source: Calculation based on Khan, 2021 and booz&co, 2009, Hincio, baseline model, 2021, Feasibility Study Task 3, See Excel Sheet tgw_ER_FP_v1.4_2022-06-07 with all sources.

Major environmental co-benefits are reduced emissions of pollutants and reduced noise emissions. The major concern for air pollution in the cities is PM_{2.5} and NO_x emissions. The projected reduction of pollutants of the Sub-Program 2 in Panama, Paraguay and Uruguay is 80 tPM_{2.5} and 4,080 tNO_x (see Table 77 and 8Table 88).

Table 7: Projected Lifetime PM_{2.5} Pollutant Reductions (tons) per country

Country	Parameter	Unit	e-buses	e-LCVs		Total
			public	public	private	
Panama	Units	no.	150	400	50	600
	ER lifespan per EV	t	0,06	0,006	0,006	
	Total ER PM	t	9	2	0	12
Paraguay	Units	no.	300	300	100	700
	ER lifespan per EV	t	0,05	0,050	0,050	
	Total ER PM	t	14	15	5	34
Uruguay	Units	no.	200	200	100	500
	ER lifespan per EV	t	0,0	0,086	0,086	
	Total ER PM	t	10	17	9	35

Total	Units	no.	650	900	250	1800
	Total ER PM	t	30	30	10	80

Source: Hinico / the greenwerk, Feasibility Study, Report T5 Estimated Impacts of the Sub-Program 2, 2021

Table 8: Projected Lifetime Nox Pollutant Reductions (tons) per country

Country	Parameter	Unit	e-buses	e-LCVs		Total
			public	public	private	
Panama	Units	no.	150	400	50	600
	ER lifespan per EV	t	7	0,10	0,10	
	Total ER Nox	t	1.050	40	5	1.095
Paraguay	Units	no.	300	300	100	700
	ER lifespan per EV	t	6	0,10	0,10	
	Total ER Nox	t	1.800	30	10	1.840
Uruguay	Units	no.	200	200	100	500
	ER lifespan per EV	t	6	0,09	0,09	
	Total ER Nox	t	1.119	17	9	1.144
Total	Units	no.	650	900	250	1800
	Total ER Nox	t	3.970	90	20	4.080

Source: Hinico / the greenwerk, Feasibility Study, Report T5 Estimated Impacts of the Sub-Program 2, 2021

EVs are more energy-efficient than fossil-fuelled vehicles and are powered by mainly renewable capacities (low grid emission factor) in the Sub-Program 2 countries. Hence, the direct fossil fuel savings resulting from the Sub-Program 2 (all countries) are estimated to reach up to 31,400 terajoule (TJ) over the lifetime of vehicles, which corresponds to direct fossil fuel savings of up to 920 million litres.

The COVID'19 pandemic has created an unprecedented challenge for many Latin American countries, from the health and economic perspectives, but it is also opening new opportunities for an accelerated sustainable transformation of its energy, transport, and urban landscapes, while contributing to economic recovery. A recent report prepared by the ILO shows that fostering electric mobility can have a significant positive job impact primarily due to the induced impact of savings of consumers on petrol and maintenance resulting in increased spending on goods with a high income elasticity which tends to be labour intensive service-goods (ILO, 2020). A report by McKinsey also reveals that with the COVID-19 pandemic the interest in EVs has risen amongst customers as a result of raising awareness of the negative impacts of fossil-based transport modes, once people suddenly being able to experience clean air during lockdowns²⁹.

The Sub-Program 2 contributes significantly to sustainable development goals (SDG) 3 ("good health and well-being"), SDG goal 7 ("affordable and clean energy"), SDG goal 9 ("industry, innovation and infrastructure"), SDG goal 11 ("sustainable cities and communities"), and SDG 13 ("climate action").

5.2. Potential adverse impacts and mitigation measures

The assessment of the potential risks and impacts that might arise from the implementation of the E-Motion Subprogram 2 are presented below. The analysis was conducted considering the characteristics of the Program and the four components, since the specific subprojects to be undertaken in each participating country will be defined at a later stage. Based on the severity of

²⁹ McKinsey (2019)

the potential impact, general mitigation measures are proposed, which will be further detailed on specific Environmental and Social Management Plans that will be developed as part of each subproject.

The following tables provide an analysis of those potential environmental, social adverse impacts along with potential mitigation measures related to the components of the Sub-Program 2. Vehicles).

Table 9: Potential adverse impacts and mitigation measures related to the deployment of e-bus fleets, e-public fleets and e-LCVs (Light Commercial Vehicles).

Activity	Environmental and social aspects	Potential Adverse impacts	Risk	Potential Mitigation Measures to be included in the Subprojects ESMP
Deployment of fleets of e-buses, e-LCV, and other e-vehicles	Physical (Special waste generation)	<p>Generation of End-of-Life EV batteries (major battery typologies, especially lithium-ion batteries): bulk waste streams will be generated 8 years after EV are put into operation and thereafter will increase gradually.</p> <p>At the international level, the technology that will allow optimizing lithium batteries recycling in several countries is under development and/or improvement. This development is expected to be mature by the time battery wastes is being generated.</p>	Medium	<p>In the participating countries, there are no specific regulations or policies for the handling, transportation, disposal, reuse, or recycling of batteries for electric vehicles. Under its Component 1, E-Motion Subprogram 2 will provide technical support to the governments in the participating countries to develop the necessary regulatory framework, develop the necessary infrastructure and build capacities to manage the waste streams, particularly End-of-Life EV batteries, generated because of the deployment of fleets of e-buses, e-LCV and other forms of e-vehicles. The specific activities planned under subcomponent 1, include the following:</p> <ul style="list-style-type: none"> - Policy Advice on battery re-usage, recycling and disposal and capacity development at a national level. - Capacity building, training and permanent technical advice made available on EVs and charging infrastructure operation, maintenance, health and safety and optimal management of EV fleets. Technology suppliers will lead these activities. <p>End-of-Life batteries can be destined for in-country reuse (if developed) and/or recycling through export.</p> <ul style="list-style-type: none"> - Reuse: EV batteries can typically be re-used for surplus electricity storage purposes both at the commercial as well as the domestic level. E-Motion Subprogram 2 will support governments to kick start research and development, as well as training initiatives to encourage in-country re-use. - Recycling. This will be done through the export of the lithium batteries to authorized recycling companies or to manufacturer. The participating countries, have in place facilities and have capabilities for collecting, conditioning

Activity	Environmental and social aspects	Potential Adverse impacts	Risk	Potential Mitigation Measures to be included in the Subprojects ESMP
				<p>and exporting batteries in order to allow the recycling of its main components. Articulation mechanisms will be created to improve the national capacity for conditioning and exporting batteries for recycling in facilities abroad.</p> <p>Participating countries must define the waste classification of EV batteries and establish corresponding management, treatment and disposal specifications and requirements, to properly address the potential adverse environmental and health impacts. In addition to complying with national laws and regulations, these measures should also meet CAF and GCF Environmental and Social Standards.</p> <p>Establish an integral EV battery waste management program, which will comply with the regulatory requirements established by each country for their management, treatment and disposal. All the implementing partners will need to comply with the EV battery waste management program, reporting on its performance and results.</p> <p>The final disposal of the batteries must be clearly identified in the final design studies, and have the corresponding authorizations, when the local regulations indicates it. If the local legislation does not have specific regulations in this regard, the best international practices must be applied.</p>
		<p>Generation of ELV (gasoil buses) and other wastes, such as oils, lubricants, lead-acid batteries, tires, etc.</p> <p>The stock of petrol-fueled buses that will be replaced by the new fleets of e-buses, if retired, are likely to be dismantled and recycled.</p>	Medium	<p>All participating countries have adequate recycling facilities, technical capabilities and good practices to manage the following wastes streams:</p> <ul style="list-style-type: none"> - End-of-Life Vehicles: dismantling in the workshops of transport operator companies (or outsourced services) and separation of components for reuse (spare parts) and recycling (iron scrap, non-ferrous). - Lead-acid batteries: recycling or export for recycling, under the existing regulations. - Used tyres: recycling and/or energy recovery, under the existing MMPs.

Activity	Environmental and social aspects	Potential Adverse impacts	Risk	Potential Mitigation Measures to be included in the Subprojects ESMP
				<ul style="list-style-type: none"> - Oils and lubricants: energy recovery. <p>As per national legislation, metal scrap and lead battery recycling facilities must be licenced by the competent environmental authority to operate and be subject to specific environmental management plans and reporting requirements.</p> <p>The subproject's ESMP must contain adequate contingency and emergency response plans, satisfactory to CAF.</p>
	Social	Change in employment dynamics and job loss due to a change in skill-set requirements in the vehicle repair and maintenance services.	Medium	<p>There is not enough information available to determine the potential loss of labour for repair and maintenance tasks, due to the change in technology. Nevertheless, it is estimated that the impact of this reduction will be low.</p> <p>Under Component 1, the Program will also provide technical assistance to help implement specialized training and retraining schemes to help workers acquire the necessary new skills to transition to the new market demands, as well as retirement schemes of maintenance staff working on fossil engines taking advantage of natural staff fluctuation.</p> <p>International provider/seller of the units will provide the national dealer with training and tools that the operators will also exploit. Operator companies will prioritize training existing personnel, though hiring new staff may eventually be necessary.</p> <p>Both scenarios constitute an opportunity for integrating gender and equality concepts into the training.</p>
	Social	Increase in road accidents: Due to the low or non-existent noise of electric vehicles during operation, the occurrence of accidents with other road users is likely.	Medium	<ul style="list-style-type: none"> - Inform the community and road actors through campaigns, of the precautions needed with the circulation of vehicles with low or no noise generation. - Include this aspect in the training programs aimed at drivers, and thus allow the development of dexterity skills during vehicle operation. - Select manufacturers that incorporate sound alert systems in vehicles, which alert pedestrians, cyclists and

Activity	Environmental and social aspects	Potential Adverse impacts	Risk	Potential Mitigation Measures to be included in the Subprojects ESMP
				/ or the public, as well as people with visual disabilities who need a sound stimulus to become aware of the proximity of a vehicle.
	Social	SEAH risk in the public transport sector “bus transport”	Medium	<ul style="list-style-type: none"> - Establish an adequate regulatory framework for public transport operating companies to implement gender policies preventing SEAH and GBV. - Have in place a fully functional grievance redress mechanism, (GRM) - Have in place a survivor centred and gender-responsive GRM for SEAH-specific complaints/ incidents. - Promote shared responsibility through awareness raising campaigns and creating spaces free of gender-based violence, such as sexual harassment and discrimination. - Training of transport operating companies so they can be able to support the detection of such situations.

Table 10: Construction phase: small scale infrastructure works may be required for the installation of charging stations, grid connections and/or required bus depot upgrades (smart facilities):

Activity	Environmental and social aspects	Potential Adverse impacts	Risk	Potential Mitigation Measures
Construction and Installation of charging stations, grid connections and/or required bus depot upgrades (smart facilities):	Ground preparation and initial installations Physical	Decrease in vegetation cover: During the execution of this activity, a modification of the plant physiognomy and a decrease in biomass can be caused.	Low	<ul style="list-style-type: none"> - Carry out stripping and removal of vegetation only in previously demarcated and authorized areas. - The felling of trees will not be carried out unless prior authorization is given by the competent environmental authority. - Carry out the stripping in such a way that the correct extraction of the organic layer of the soil is guaranteed without it being mixed with the sterile material. Dispose of these materials correctly for storage and subsequent use, if required, in revegetation processes.
		Modification in the soil structure: Alteration in the	Low	<ul style="list-style-type: none"> - Depending on the type of soil, periodic inspections should be carried out in search of cracks in the

Activity	Environmental and social aspects	Potential Adverse impacts	Risk	Potential Mitigation Measures
		physical, chemical, and biological characteristics and properties of the soil		surface, eroded areas, underground water outcrops, leaning trees or any factor that suggests the possibility of a landslide.
		Alteration to air quality due to the emission of gases and / or particulate matter: Particulate material will be generated mainly due to the lack of vegetal cover of the ground; Additionally, emissions will be generated by the combustion processes of the equipment, vehicles and machinery used for the construction.	Low	<i>Particulate matter mitigation:</i> <ul style="list-style-type: none"> - Periodic moistening should be done in areas devoid of plant cover. - Cover materials that are prone to generating particulate matter. - Carry out the transport of materials and construction debris with the dump truck deck covered. - Make periodic monitoring of particulate material and comply with current environmental regulations that apply. <i>Control of atmospheric emissions:</i> <ul style="list-style-type: none"> - Equipment, vehicles, and machinery that generate atmospheric emissions must remain on only for the time strictly necessary. These must be in good condition and the preventive maintenance schedule must be met and corrective maintenance must be carried out in a timely manner. - The current environmental regulations that apply must be complied with.
		Change in noise levels: Short-term and localized noise may be generated during construction, especially if underground cabling chosen	Low	<ul style="list-style-type: none"> - Implement noise control barriers whenever possible. - Carry out preventive and corrective maintenance of the equipment to minimize vibrations that can generate noise. - Workers exposed to high noise levels should wear hearing protection. - Comply with the maximum noise levels allowed in workplaces and in populated areas and generate awareness campaigns to mitigate sound pressure levels (if necessary). - Enforcement of occupational health and safety (OHS) standards.
	Stripping and removal of	Decrease in vegetation cover: During the execution of this	Low	<ul style="list-style-type: none"> - Carry out stripping and removal of vegetation only in previously demarcated and authorized areas.

Activity	Environmental and social aspects	Potential Adverse impacts	Risk	Potential Mitigation Measures
	vegetation	activity, a modification of the plant physiognomy and a decrease in biomass can be caused.		<ul style="list-style-type: none"> - The felling of trees will not be carried out unless prior authorization is given by the competent environmental authority. - Carry out the stripping in such a way that the correct extraction of the organic layer of the soil is guaranteed without it being mixed with the sterile material. Dispose of these materials correctly for storage and subsequent use, if required, in revegetation processes.
	Excavations, cutting and earthworks	Alteration to air quality due to the emission of gases and / or particulate matter: Particulate material will be generated mainly due to the lack of vegetal cover of the ground; Additionally, emissions will be generated by the combustion processes of the equipment, vehicles and machinery used for the construction.	Low	<p><i>Particulate matter mitigation:</i></p> <ul style="list-style-type: none"> - Periodic moistening should be done in areas devoid of plant cover. - Cover materials that are prone to generating particulate matter. - Carry out the transport of materials and construction debris with the dump truck deck covered. - Make periodic monitoring of particulate material and comply with current environmental regulations that apply. <p><i>Control of atmospheric emissions:</i></p> <ul style="list-style-type: none"> - Equipment, vehicles, and machinery that generate atmospheric emissions must remain on only for the time strictly necessary. These must be in good condition and the preventive maintenance schedule must be met and corrective maintenance must be carried out in a timely manner. - The current environmental regulations that apply must be complied with.
		Change in noise levels: Short-term and localized noise may be generated during construction, especially if underground cabling chosen	Low	<ul style="list-style-type: none"> - Implement noise control barriers whenever possible. - Carry out preventive and corrective maintenance of the equipment to minimize vibrations that can generate noise. - Workers exposed to high noise levels should wear hearing protection. - Comply with the maximum noise levels allowed in workplaces and in populated areas and generate

Activity	Environmental and social aspects	Potential Adverse impacts	Risk	Potential Mitigation Measures
				awareness campaigns to mitigate sound pressure levels (if applicable).
		Change in landscape: A change in the perception of the visual quality of the landscape will be generated, which, depending on the project execution area	Low	<ul style="list-style-type: none"> - Demarcate and signpost the areas authorized for construction, as well as the access roads. - Organize the areas where solid and liquid waste is disposed of, in order to prevent it from invading the environment and affecting the landscape. - Cover the materials to prevent environmental elements such as rain, wind, and sun from contributing to the dispersion and visual pollution that may be generated by the inappropriate disposal of these materials.
		Increase in the generation of construction debris: construction and demolition debris will be generated during the entire construction activity, whether they are susceptible or not susceptible to use. Hazardous waste and ordinary waste are included.	Low	<ul style="list-style-type: none"> - Perform the segregation in situ of the construction debris and deliver them to authorized companies for further use and / or final disposal by managers that are authorized by the competent environmental authority. - Whenever technically possible, reuse demolition debris on site. - The final disposal of waste/debris will be carried out in the sites that have the current environmental permits, licenses or authorizations required by the regulatory entities.
	Construction machinery and equipment	Modification of accessibility, mobility, and local connectivity.	Low	<ul style="list-style-type: none"> - Design and implement the Traffic Management Plan so as not to affect more roads than necessary. - Perform road maintenance, especially on those roads on which vehicles and heavy machinery pass (if applicable).
		Increase in vehicular traffic: There will be an increase in vehicular traffic due to the vehicles and machinery required for the execution of the construction.	Low	Design and implement the Traffic Management Plan, according to the requirements established by the regulations and guidelines of the city in which the project will be developed.
	Installation and cabling of	Improper distance from houses, trees, and other building	Low	Distances from public receptors maintained as per the mandatory requirements.

Activity	Environmental and social aspects	Potential Adverse impacts	Risk	Potential Mitigation Measures
	charging stations: Stringing of cable onto the erected poles, accessories manually or using equipment	effected due to distribution line.		
		Stringing the wire loosely may result in cable touching the buildings, trees and other obstructions that could cause damage and accidents during operations.	Low	Proper sag and tension maintained between conductors installed to keep it clear of the buildings, trees and other obstructions that could cause accidents/short circuits during operation
		Temporary restrictions on access to property and damage to the properties	Low	Consultation to the owners and community (if applicable) Establish alternative access compensation for damage of the personal properties (if applicable)
		Conflict generation between institutions, companies and community: During the installation and cabling activities, fluctuations in the electric power service may occur in the projects area of influence, therefore, the community may have power outage; however, it is considered to be of a temporary nature and of low impact.	Low	<ul style="list-style-type: none"> - Through communication programs, keep the community informed of the intervention schedule (days, hours, and frequencies). Additionally, communications may include preventive measures such as disconnection of electrical and electronic equipment that is more sensitive to energy fluctuations. - Management of intervention schedules, identifying and carrying out the works at hours where the demand for energy by the affected community is the lowest. - Have in place a fully functional grievance redress mechanism, (GRM)
		Occupational safety risks: Safety risks related to potentially dangerous voltages and human exposure to conductive parts.	Medium	<ul style="list-style-type: none"> - Special precautions applied as the standard practices of occupational health and safety, including electrical and fire safety of the charging stations. - Enforcement of occupational health and safety (OHS) standards. - The subproject's ESMP must contain adequate contingency and emergency response plans, satisfactory to CAF.
	Gender risks	GBV and SEAH risks during construction phase	Low	<ul style="list-style-type: none"> - Prepare / implement a gender action plan may include: (i) Code of Conduct establishing a zero-

Activity	Environmental and social aspects	Potential Adverse impacts	Risk	Potential Mitigation Measures
				<p>tolerance for SEAH against community members and project workers; (ii) workers training schemes; (iii) reporting measures; (iv) community communication and awareness raising; and (v) developing networks with community services and specialized centres</p> <ul style="list-style-type: none"> - Have in place a survivor centred and gender-responsive GRM for SEAH-specific complaints/incidents.
Operation charging stations, grid connections and/or required bus depot upgrades (smart facilities)	Worker safety	Occupational safety risks: Safety risks related to potentially dangerous voltages and human exposure to conductive parts.	Low	<ul style="list-style-type: none"> - Special precautions applied as the standard practices of occupational health and safety, including electrical and fire safety of the charging stations. - Enforcement of occupational health and safety (OHS) standards. - The subproject's ESMP must contain adequate contingency and emergency response plans, satisfactory to CAF.
Dismantling of charging stations/infrastructure	Solid waste	Debris of construction materials from the dismantling of existing facilities Construction and demolition debris may be generated during the entire decommissioning activity, Hazardous waste and ordinary waste are included.	Low	<ul style="list-style-type: none"> - Perform the segregation in situ of the construction debris and deliver them to authorized companies for further use and / or final disposal by managers that are authorized by the competent environmental authority. - The final disposal of waste/construction debris will be carried out in the sites that have the current environmental permits, licenses or authorizations required by the regulatory entities. - Enforcement of occupational health and safety (OHS) standards.
	Air quality	Alteration to air quality due to the emission of gases and / or particulate matter: Particulate matter will be generated mainly due to the demolition of structures; Additionally, emissions will be generated by	Low	<p><i>Particulate matter mitigation:</i></p> <ul style="list-style-type: none"> - Periodic moistening should be done in areas devoid of plant cover. - Cover materials that are prone to generating particulate matter. - Carry out the transport of materials and construction debris with the dump truck deck covered.

Activity	Environmental and social aspects	Potential Adverse impacts	Risk	Potential Mitigation Measures
		the combustion processes of the equipment, vehicles and machinery used to carry out the demolition.		<ul style="list-style-type: none"> - Make periodic monitoring of particulate material and comply with current environmental regulations that apply. <p><i>Control of atmospheric emissions:</i></p> <ul style="list-style-type: none"> - Equipment, vehicles, and machinery that generate atmospheric emissions must remain on only for the time strictly necessary. These must be in good condition and the preventive maintenance schedule must be met and corrective maintenance must be carried out in a timely manner. - The current environmental regulations that apply must be complied with.
		Change in noise levels: Short-term and localized noise may be generated during Dismantling of charging stations.	Low	<ul style="list-style-type: none"> - Implement noise control barriers whenever possible. - Carry out preventive and corrective maintenance of the equipment to minimize vibrations that can generate noise. - Workers exposed to high noise levels should wear hearing protection. - Comply with the maximum noise levels allowed in workplaces and in populated areas and generate awareness campaigns to mitigate sound pressure levels (if necessary). - Enforcement of occupational health and safety (OHS) standards.
	Soil	Change in landscape: A change in the perception of the visual quality of the landscape will be generated. Change in the physical characteristics of the soil	Low	<ul style="list-style-type: none"> - Organize the areas where solid and liquid waste is disposed of, in order to prevent it from invading the environment and affecting the landscape. - Cover the materials to prevent environmental elements such as rain, wind, and sun from contributing to the dispersion and visual pollution that may be generated by the inappropriate disposal of these materials. - Carry out a correct process of revegetation and landscaping once the demolition of the structures is completed.

Activity	Environmental and social aspects	Potential Adverse impacts	Risk	Potential Mitigation Measures
		Change in the physical characteristics of the soil	Low	<ul style="list-style-type: none"> - Carry out stabilization and erosion control works (if applicable). - Carry out the restructuring of the land and the final revegetation of the areas.

6. Sub-Program 2's Environmental and Social Management Framework

The Environmental and Social Management Framework (ESMF) for the E-Motion Subprogram 2 is proposed a set of general guidelines that will orient the development of the specific Environmental and Social Management Plans (ESMP) that must be structured and deployed at the subproject level.

In addition, an integral EV Battery Waste Management Program (EV Battery Program) must be developed together with the ESMP, which will need to be in compliance with current or proposed new regulatory requirements established by each country for the management, treatment and disposal of End-of Life EV Batteries, according to their classification. If the local legislation does not have specific regulations in this regard, the best international practices must be applied.

Taking into consideration the time it will take to reach a stage, in Subprogram 2, for e-bus fleet deployment or commercial deployment of e-LCV, plus the additional 8-10 years lifetime of EV batteries and any additional time due to reuse, there will ample opportunity to put in place the necessary legal framework and the capacities developed and deployed. In regulatory terms, there are two possible scenarios depending on the legal framework of each participating country.

- Liability of the generator: In this scenario, the transport operator company or commercial company (e-LCV) owner will be responsible for managing the EV batteries (eVehicles) via a certified waste management operator. The operators must be registered in the competent environmental authority and have all valid environmental permits for handling, transporting, storing, recycling in situ or exporting for recycling, and safe disposal. In the case of final disposal, the operation of the disposal facilities must also be legally authorized by means of a valid environmental permit.
- Extended liability of the producer (ELP): In this scenario, the battery or the e-vehicle importer will be responsible for managing the EV batteries (under a concept of lifetime cycle). The importer will need to replace the battery packs and collect the used batteries (end-of-life) which will normally be re-exported to the car factory for recycling. The liability ceases as soon as the e-vehicle is commercialized to a second owner.

Capacities are being developed internationally for environmentally and socially appropriate recycling, which is expected to increase given the global trends in electric mobility. Currently, the market of end-of-life batteries is very fluctuating, so the costs vary constantly. E-Motion Subprogram 2 must encourage market response in each participating country to develop the supply chain associated to the recycling and/or reuse of EV batteries.

The Implementing Partners, be them government entities, public sector entities, private sector business or financial institutions, will be responsible for developing the subproject's specific ESMP including the EV battery Program, based on the following general guidelines established in accordance with CAF Safeguards. the standards of CAF's Environmental and Social Safeguards, as listed in the table below:

Safeguard	ESMF's Guideline requirements applicable to all components of E-Motion Subprogram 2
S01	<p>All Implementing partners must undertake the necessary environmental, social and gender impact assessments warranted by the scope of the subproject and develop / strengthen an EMSP purpose designed for the subproject. The impact assessment studies, the ESMP and the Gender Action Plan must be made available for public consultation through a valid disclosure process. Disclosure must occur at least 30 days in advance of the loan approval.</p> <p>All involved Local Financial Institutions must have in place a fully operational ESRAS or ESMP.</p> <p>Sub-projects may seek good practices independent third-party certifications such as GIIP.</p> <p>All Implementing Partners must be awarded the legally required environmental permits for construction and operation and must implement the subproject in full compliance with the ESMP and the environmental permit.</p> <p>Subcontractors must be required to adhere and contractually meet the subproject's ESMP, local occupational health and safety standards as well as EHS guidelines.</p> <p>The subproject's ESMP must contain adequate contingency and emergency response plans, satisfactory to CAF.</p> <p>Implementing partners must have in place a fully functional grievance redress mechanism (GRM) as well as a gender-responsive GRM for SEAH-specific complaints/incidents, throughout the construction and operation phases of the subproject, as well as undertake regular community engagement and awareness raising processes.</p> <p>All Implementing partners must identify potentially affected parties and conduct communication and consultation processes, according to the gravity and nature of the impact.</p>
S02	<p>The safeguard is not triggered because the scope of E-Motion Subprogram 2 does not involve bulk exploitation and/or risk of contamination of renewable resources, particularly soil and water. The increase in electricity consumption does not pose any risk in terms of the availability of the resource for other uses. The energy consumed for re-charging comes from energy surplus (demand off-peak periods).</p>
S03	<p>The safeguard is not triggered because the scope of E-Motion Subprogram 2 does not pose any risks on critical habitats, such as legally protected areas, natural habitats, or modified habitat with significant value for biodiversity, and no potential adverse impacts are expected in relation to land use change and deforestation.</p> <p>Any subproject potentially affecting critical habitats, such as legally protected areas, natural habitats or modified habitat with significant value for biodiversity will be categorized as high E&S risk (Cat. 1 or A) project, and thus will not be eligible.</p>
S04	<p>As already indicated, an Integrated EV Battery waste Management Program must be developed as part of each subproject's ESMP. The Program will dictate the requirements to be met for handling, transporting, storing, recycling in situ or exporting for recycling, and safe disposal.</p> <p>The party responsible for implementing the Program must be defined by the country's regulations, if already in place, or agreed upon at the country level for the purpose of Subprogram 2.</p>

Safeguard	ESMF's Guideline requirements applicable to all components of E-Motion Subprogram 2
	<p>The option of re-use will occur as a response to market incentives as more viable technical options and applications are developed.</p> <p>Only licensed operators should manage the batteries at the end-of-life.</p> <p>The subproject specific ESMP must also include management specifications for the handling, treating, recycling and final disposal of hazardous waste material flows originating from the scrapping of conventional vehicles such as lead-acid batteries, oils and lubricants, used tyres and scrap metals.</p> <p>Only regulated operators and sites should be allowed to undertake scrapping and dismantling work both from conventional vehicles as well as e-vehicles.</p>
S05	<p>The subproject specific ESMP, when warranted, must contain measures to ensure the protection of the cultural heritage from loss or damage and support its preservation.</p> <p>These measures may include the design and application of a cultural resources management plan to the application of field-based studies and documentation of findings as well as chance findings protocols during any construction activity.</p> <p>The management and preservation of cultural resource findings must be undertaken by or in coordination with the competent authorities.</p>
S06	<p>Sub-projects with potential adverse impacts on Ethnic Groups or Indigenous People will be categorized as high E&S risk (Cat. 1 or A) project, and thus will not be eligible.</p> <p>Implementing partners will conduct stakeholder engagement strategies with affected parties that must be culturally appropriate in the case ethnic group members are identified in the subprojects area of influence. If warranted, implementing partners may activate an Ethnic Group Plan, agreed by consent, depicting the necessary measures to facilitate the positive impacts to occur, to mitigate or compensate for the negative impacts and to ensure that the benefits generated by the project are inclusive and culturally appropriate. This plan must incorporate a culturally appropriate engagement approach.</p>
S07	<p>If a subproject requires lands for the development of any infrastructure and cannot avoid forced resettlement (due to economic and/or physical displacement), the implementing partners must structure a resettlement plan, determining the compensation and benefits for displaced persons or livelihood restoration plan. Either plan must be consulted and agreed upon by the affected parties.</p> <p>Must be noted that the scope of the E-Motion Subprogram 2 does not contemplate the construction of major infrastructure works, such as BRT systems, multimodal stations or new large bus depots.</p> <p>The Subprogram 2 involves the installation of small-scale public EV charging infrastructure in different urban sites, upgrading bus depots and smart facilities and installing e-bus charging stations at bus depots. To power the charging stations, it is necessary to lay underground low voltage electrical lines. The new urban charging stations as well as the new connecting power lines, will be located on lands of public domain property of municipal / state authorities. On the other hand, e-bus charging stations will be in the sites belonging to the bus companies. For this reason, no resettlement processes are expected.</p> <p>Nevertheless, there is a possibility that governments may propose facilitating the installation of new recycling facilities, for which lands may be required albeit publicly owned sites will be the preferred option.</p>

Safeguard	ESMF's Guideline requirements applicable to all components of E-Motion Subprogram 2
S08	<p>Road safety: The transport operator company must ensure that the electric buses have an acoustic system in place and operating, or any alternative to ensure road safety.</p> <p>User safety: Transport operator companies will be responsible for ensuring the adaptation of infrastructure (in particular the installation of charging stations) with the necessary security measures, as well as the company's update of the prevention and work health plan.</p> <p>Labour safety: Implementing partners, bus operator companies and subcontractors must ensure the preparation, continues improvement and training, and application of occupational health and safety plans during the subproject's construction / implementation as well as the operation phases. Special attention should be taken to ensure adequate environment, health and safety plans to be conducted in the scrapping and recycling facilities.</p> <p>Job security: Implementing partners must identify the risk of job loss and labour displacement as a result of the introduction of new technology and implement specialized programs to minimize such impacts and ensure maximum reabsorption of labour. These programs will operate under equal opportunity and positive gender discrimination principles.</p>
S09	<p>Implementing partners must design subprojects with a gender focus, ensuring to minimize risk of sexual and gender-based violence in affected communities and sub-project workers. Risk of Sexual exploitation, abuse and sexual harassment (SEAH) and gender-based violence (GBV) must be identified at the E&S due diligence and the borrower and EE must develop the corresponding gender action plan to introduce all necessary mitigation measures. The gender action plan may include: (i) Code of Conduct establishing a zero-tolerance for SEAH against community members and project workers; (ii) workers training schemes; (iii) reporting measures; (iv) community communication and awareness raising; and (v) developing networks with community services and specialized centres.</p> <p>All subprojects' grievance redress mechanism (GRM) must be survivor-centred and gender-responsive, incorporating specific procedures to receive, register and manage SEAH complaints and incidents.</p> <p>The GAP including SEAH and GBV safeguarding will be required to be part of the documentation package to be disclosed.</p>

All activities financed under Sub-Program 2 will require compliance with the applicable CAF's E&S Standards part of the Loan Agreement clauses.

In the event of a lack of capacity of the partners, an external evaluation team should be brought in to carry out risk and benefit enhancement analyses as well as help in the design of the ESIA, ESMP, GAP analysis and other specialized studies.

6.1. CAF environmental and social due diligence

In Sub-Program 2, all eligible subprojects will undergo CAF's environmental and social due diligence, including the review risks that may affect the environmental and social sustainability of the operation. The focus of the due diligence will be to assess and confirm the aptitude of the environmental and social management frameworks of implementing partners, that in the case of Local Financial Institutions involves having in place a fully operational environmental and social risk assessment systems (ESRAS) or environmental and social management systems (ESMS) that comply with CAF's S01. All of CAF's existing IF clients in the target countries already have a fully operational and mature ESRS that are consistent with international standards (UNEP-FI Responsible Investment Principles, the Equator Principles or IFC Performance Standards, among others) as well as CAF's standards.

During the due diligence, CAF will also confirm that the implementing entities has, in accordance with CAF's E&S Standards: (i) identified key potential gender, social, environmental and climate change related risks and impacts; (i) has formulated the corresponding impact mitigation and management plan to avoid, reduce, restore and or compensate for the adverse impacts, and that such plan is feasible, (iii) has the technical and financial capacity to monitor and supervise the correct application of the mitigation plan, (iv) has clearly identified the role and risk of third and affected parties and (v) has developed and put in practice adequate communication and consultations processes with affected people and other stakeholders.

The findings of CAF's E&S due diligence process will be documented in the Environmental and Social Report (ESR), which is annexed to the Credit Assessment Document. The ESR contains the Environmental and Social Action Plan (ESAP), which depicts those additional measures that the Executing Entity or LFI must undertake in order to bridge any gap identified with CAF's E&S Standards. The ESAP is a mandatory document that is included in the Loan Agreement.

During the execution stage, CAF will monitor the environmental and social performance of sub-projects on an ongoing basis to assess the level of compliance with the ESAP and E&S standards. The supervision work involves on-site missions and reporting requirements to be met by the implementing partners. The ESR, ESAP and E&S Performance Reports (six-monthly) will be integrated to the materials to be reported to the GCF.

CAF's environmental, social and gender appraisal methodology of subprojects led by Local Financial Institutions (LFI) varies in approach to the methodology applied in those subprojects that are led by government or public entities. The approach in the case of subprojects led by government entities is described in table 11, whereas table 12 depicts the methodological approach in the case of LFI. Undertaking E&S due diligence is mandatory for all operations financed by CAF, including technical assistance projects.

Table 11 Environmental and Social Risk Management Process for Subprojects led by Government Entities

Project Cycle Step	Environment and Social Risk Management (ESRM) actions ³⁰	Role and responsibilities
<i>Origination</i>	Project screening through CAF exclusions list (Annex 1) and eligibility criteria listed in section 3.2 above.	Dirección de Acción Climática y Ambiente (DACA)/Coordinación de Evaluación y Seguimiento Ambiental y Social (CESAS) Executive in CAF's Country Office
	E&S risk and impact screening: <ul style="list-style-type: none"> - Undertake preliminary analysis to identify and evaluate environmental, social, gender and climate risks and impacts of the subproject. - Assign an environmental I and social risk category [Category A subprojects are excluded], based on the type, scale and scope of the subproject (positive lists), as well as the location (environmental and social sensitivity) of the project, as shown in Annex 5.³¹ - Trigger applicable safeguards. 	
	Scoping: <ul style="list-style-type: none"> - High E&S risk subprojects (Cat. A or 1) will not be eligible and will be excluded). - Moderate E&S risk subprojects (Cat. B or 2), implementing partners will be required to conduct: (a) environmental, social, gender and climate impact assessments;(b) prepare a corresponding ESMP, in accordance to applicable regulatory requirements and CAF's standards; and (c) communication, consultation or enhanced stakeholder engagement, only in case ethnic groups / indigenous people are identified in the area of influence or there are people to be affected by potential resettlement requirements. - Low E&S risk subprojects (Cat. C or 3), will be required to prepare an ESMP, in accordance to applicable regulatory requirements and CAF's standards. 	Implementing partners (TA support will be provided upon request).
<i>Evaluation</i>	Conduct ESDD during project appraisal: <ul style="list-style-type: none"> - Prospect and review documentation related to the subprojects scope, technical designs, E&S assessments, site characterization, stakeholder and interested parties inventory, baseline studies, among others, provided by the implementing partner and prepare field mission's scope and agenda. Undertake field mission, hold technical meetings, undertake regulatory related reviews, and meet with relevant stakeholders. - Undertake detailed review of ESIA and ESMP proposed by the implementing partner and analyze alignment with the standards of the Environmental and Social Safeguards. - Identify potential gaps with CAF's Environmental and Social Safeguards and determine need for additional studies and / or mitigation measures. 	DACA/CESAS Executive in CAF's Country Office

³⁰ Financed as part of the PMU and sub-project sourcing activities under Output 1.5.3

³¹ The Sub-Program 2 will exclude sub-projects that involves land acquisition and involuntary resettlement, or modification to natural and critical habitats or legally protected and internationally recognized areas, or any modification to natural and critical habitats or legally protected and internationally recognized areas, or affect indigenous peoples.

Project Cycle Step	Environment and Social Risk Management (ESRM) actions ³⁰	Role and responsibilities
	- Verify conformity with national regulations. In sub-projects that are categorized as B, CAF may require addition environmental, social, gender or climate change risk studies to ensure adequate coverage of all potential risks and impacts.	DACA/CESAS Executive in CAF's Country Office / reviewed by Coordinator
	Prepare Environmental and Social Report (ESR)	
	Prepare the Environmental and Social Action Plan, establishing those additional E&S mitigation and management measures to ensure compliance with CAF's Safeguards as well as GCF E&S Policies and Performance Standards	
<i>Formalization</i>	Negotiate and agree with the borrower the ESAP. Formalize the ESAP in the Credit Agreement. The conditions established in the Credit Agreement will include the obligation to present reports on the environmental and social performance of the operations.	DACA/CESAS Executive in CAF's Country Office and project task team leader.

Table 12 Environmental and Social Risk Management Process for Subprojects led by Local Financial Institutions

Project Cycle Step	Environment and Social Risk Management (ESRM) actions ³²	Role and responsibilities
<i>Origination</i>	Screening: <ul style="list-style-type: none"> - Undertake preliminary analysis to identify and evaluate environmental, social, gender and climate risks and impacts related to the LFI's credit portfolio. - Assign an Environmental and social category (FI-2 or FI-3). Category FI-1 subprojects are will not be eligible and will be excluded.³³ Scoping: Appraise the FI's ESRAS or ESMS)	DACA/CESAS Executive in CAF's Country Office
<i>Evaluation</i>	Conduct ESDD during project appraisal: <ul style="list-style-type: none"> - Prospect and review all documentation relating to the LFI policies and information and prepare mission's scope and agenda. - Undertake mission and hold technical meetings with relevant departments of the LFI to assess the banks ESRAS/ESMS: (a) policy and standards of performance, exclusion list (b) roles and responsibilities for E&S management, coordination, and training, (c) review procedures and action planning to ensure compliance with the FI's own policies and national regulations, (d) supervision and monitoring of the loan portfolio, and (e) reporting requirements on compliance with 	DACA/CESAS Executive in CAF's Country Office

³² Financed as part of the PMU and sub-project sourcing activities under Output 1.5.3

³³ The Sub-Program 2 will exclude sub-projects that involves land acquisition and involuntary resettlement, any modification to natural and critical habitats or legally protected and internationally recognized areas, and any modification to natural and critical habitats or legally protected and internationally recognized areas, and affect indigenous peoples.

	the ESMS requirements, and (f) incorporation of a grievance mechanism as applicable. - Verify mechanisms in place to ensure credit beneficiaries' compliance with national regulations and CAF's Environmental and Social Safeguards	
	Prepare Environmental and Social Report (ESR)	DACA/CESAS Executive in CAF's Country Office / reviewed by Coordinator
	Prepare the Environmental and Social Action Plan, establishing those additional E&S mitigation and management measures to ensure compliance with CAF's Safeguards as well as GCF E&S Policies and Performance Standards.	
<i>Formalization</i>	Negotiate and agree with the borrower the ESAP. Formalize the ESAP in the Credit Agreement.	DACA/CESAS Executive in CAF's Country Office and project task team leader.

6.2. CAF environmental and social monitoring and supervision

CAF will monitor the environmental and social performance and compliance with contractual requirements of the specific sub-projects financed by Sub-Program 2 through supervision by CAF's DACA/CESAS team. The Implementation Partners will monitor and document the application of the environmental and social management measures during the implementation of project activities and implement any necessary corrective action should a failure be noted. CAF must be kept informed of developments through periodic monitoring reports.

All Loan agreements will include monitoring and reporting requirements by the EE on environmental and social safeguards compliance. DACA/CESAS specialists will carry out supervision mission, review level of environmental and social safeguard performance and prepared a supervision report that includes recommendations to address non-compliances. Supervision mission includes support and collaboration with the EE.

6.3. Information disclosure, stakeholder engagement, indigenous people and ethnics groups and grievance redress

6.3.1 Stakeholder engagement and information disclosure:

Community and stakeholder engagement are a key component of the Sub-Program 2. Stakeholders are defined as groups or individuals who are directly and/or indirectly affected by a project, who have or may have interest in it, or may influence it positively or negatively. As such, stakeholders can be local communities, individuals, their representatives, governmental bodies, civil society organizations, etc.

In the framework of the Sub-Program 2 and in line with the GCF approach to stakeholder engagement, CAF requires the project owner to ensure the effective engagement of different stakeholders that may be affected or potentially affected by the activities to be implemented within the scope of the Project. The project owner will also make available all information related to environmental and social issues on activities financed by the project, including the Environmental and Social Impact Assessment, Environmental and Social Action Plan, Gender Action Plan and Grievance Redress Mechanisms as well as the Integrated EV Battery Waste Management Plan. The information developed might be culturally adequate and in attention on the ethnical diversity.

The project owner must identify the stakeholders who should be engaged according to their level of interest and influence in the project during the project appraisal process. Such identification is expected to be analysed through feasibility studies and/or ESIA. In addition, in case an ESIA is needed, stakeholder analysis must be conducted and the projects' aspects that might generate adverse environmental and social impact to local communities and individuals and other stakeholders must be clearly identified. Each project under the Sub-Program 2 will require a Stakeholder Engagement Plan (SEP) scaled to the project risks and impacts, and tailored to the needs of affected communities, must be developed and implemented, including a grievance mechanism.

The stakeholder engagement and information disclosure will be coordinated and integrated in the stakeholder consultation, trainings and interactions delivered under Output 1.1.1a, Output 1.1.1b, Output 1.4.3, and Output 1.5.3 under Component 1 of the FP.

The disclosure procedure to be followed entails: in the case of Category B sub-projects, the ESIA and an Environmental and Social Management Plan (ESMP) at least 30 days in advance of the loan approval, and in the case of Category I-2 sub-projects, the ESMS at least 30 days in advance of the loan approval. The disclosure will mainly be done through CAF's web site.

6.3.2 Grievance redress:

As part of CAF's Environmental and Social Safeguards requirements, all subprojects of E-Motion Subprogram 2 must design and implement a Grievance Redress Mechanism in accordance with the magnitude of the project and the nature of its environmental and social risks. In addition, the project must carry out an extensive information process to publicize the project and ensure that affected people can have recourse to it.

As such, all implementing partners will be required to implement effective grievance redress mechanisms to receive and assist with the resolution of any concerns and grievances of stakeholders that may arise in connection with a sub-project's gender, social and environmental performance, including survivor-centred and gender-responsive SEAH redress procedures or requirements. Project level grievance mechanisms can provide the fastest solutions for complaint and better management of stakeholder expectations. An indicative outline of Stakeholder Engagement Plan and Grievance Mechanisms in available Annex 4.

CAF currently has two institutional mechanisms through which individuals or communities can file a complaint with the Institution: The Integrity and Ethics Committee and the Prohibited Practices Prevention Committee, which can be accessed through the following links:

[Comité de Integridad y Ética](#)
[Comité de Prevención de Prácticas Prohibidas](#)

An additional mechanism is available for filing complaints and grievances about projects financed by the Green Funds, specifically for projects financed by the GEF (Global Environmental Facility), which can be accessed through the following links:

[BuzónCAF-GEF Accountability Mechanism](#)
[Document on Prevention of Gender Discrimination and Workplace Sexual Harassment in CAF-GEF Projects](#)

6.3.3 Indigenous peoples, local communities, and ethnic diversity:

Considering the different conditions and characteristics of ethnic groups, a differential approach is necessary in the actions and interactions developed with and for them, so that access to rights, goods and services is relevant and responds to their distinctive features. Within this framework, the socialization of the operation in culturally appropriate terms will be defined, as well as the definition of affirmative actions for the enhancement of benefits and finally, the establishment of specific measures for the enhancement of benefits for the ethnic groups in question. The activation tool and the detail of the safeguard S06 is included in the Annex 6.

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2. Annexes

Annex 1 – CAF's Exclusion list

CAF does not finance projects with the following characteristics:

- Production or trade of any product or activity considered illegal under the laws host country or international regulations or conventions and agreements, or subject to international bans, such as pharmaceuticals, pesticides / herbicides, ozone depleting substances, PCBs, fauna or products regulated by CITES.
- Production or trade in arms and ammunition.
- Production or trade of alcoholic beverages (excluding beer and wine).
- Tobacco production or trade.
- Gambling games, casinos and equivalent companies.
- Production or trade of radioactive materials. This does not apply to the purchase of medical equipment, quality control equipment (measurement) and any equipment in which CAF considers the radioactive source to be trivial and / or adequately protected.
- Production or trade of unbonded asbestos fiber. This does not apply to purchase and use of asbestos cement sheets, when the asbestos content is less than 20%.
- Production and use of polychlorinated biphenyl compounds (PCB).
- Production of pharmaceutical products that are being phased out from the market or have been banned internationally, according to the publication of the United Nations on prohibited products. (Consolidated list of products whose consumption or sale have been prohibited, withdrawn, subjected to severe restrictions or have not been approved by governments, according to their latest version, 2001: www.who.int/medicines/library/qsm/edm-qsm-2001-3/edm-qsm-2001_3.pdf).
- Pesticides or herbicides that are being phased out of the market or have been internationally prohibited under the Rotterdam Convention (www.pic.int) and the Stockholm Convention (www.pops.int).
- Production of substances that are harmful to the ozone layer and are being withdrawn progressively from the international market. These substances, known as ODS (ODS), are regulated by the Montreal Protocol. On he finds a list of these substances and the dates they were established as objective for its reduction and withdrawal from the market. Some of the chemical compounds regulated by the Montreal Protocol are aerosols, refrigerants, agents foaming agents, solvents and fire protection agents (www.unep.org/ozone/montreal.shtml).
- Production or use of persistent organic pollutants (POPs).
- Fishing in the marine environment with nets of more than 2.5 km in length.
- Commercial logging operations with raw material from the tropical humid forest primary or primary tropical dry forest
- Production or trade in wood or other forest products that do not come from sustainably managed forests.
- Production, trade, storage or transport of large volumes of products hazardous chemicals, or commercial scale use of hazardous chemicals.
- Production or activities that affect the ownership of territory or land belonging to indigenous peoples, or claimed by them for adjudication, without full documented consent of said peoples.
- Operations in protected areas (protected areas) with special legislation, when the operation has the potential to jeopardize the purpose for which the area was created protected.

- Activities that involve the introduction of exotic species and / or organisms genetically modified (GMO) without the corresponding technical studies and authorization to enter the country by the relevant regulatory institutions.

Likewise, CAF does not finance operations to clients or executing agencies that carry out the production or activities involving harmful or exploitative forms of labor forced / child labor.

Annex 2 – Indicative Outline of Environmental and Social Impact Assessment

The Environmental and social impact assessment (ESIA) is an instrument to identify and assess the potential environmental and social impacts of a proposed project, evaluate alternatives, and design appropriate mitigation, management, and monitoring measures.

1. Executive summary
 - Concisely discusses significant findings and recommended actions.
2. Legal and institutional framework
 - Analyzes the legal and institutional framework for the project, within which the environmental and social assessment is carried out, as per CAF's social and environmental safeguards and IFC Performance Standard (PS).
 - Compares the borrower's existing environmental and social framework and the CAF's safeguards/PS and identify the gaps between them.
 - Identifies and assesses the environmental and social requirements of any co-financiers.
3. Project description
 - Concisely describes the proposed project and its geographic, environmental, social, and temporal context, including any offsite investments that may be required, as well as the project's primary suppliers.
 - Through consideration of the details of the project, indicates the need for any plan to meet the requirements of CAF's safeguards/PS.
 - Includes a map of sufficient detail, showing the project site and the area that may be affected by the project's direct, indirect, and cumulative impacts.
4. Baseline data
 - Sets out in detail the baseline data that is relevant to decisions about project location, design, operation, or mitigation measure. This should include a discussion of the accuracy, reliability, and sources of the data as well as information about dates surrounding project identification, planning and implementation.
 - Identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated with predictions.
 - Based on current information, assesses the scope of the area to be studied and describes relevant physical, biological, and socioeconomic conditions, including any changes anticipated before the project commences.
 - Takes into account current and proposed development activities within the project area but not directly connected to the project.
5. Environmental and social risks and impacts
 - Takes into account all relevant environmental and social risks and impacts of the project.
6. Mitigation measures

- Identifies mitigation measures and significant residual negative impacts that cannot be mitigated and, to the extent possible, assesses the acceptability of those residual negative impacts.
- Identifies differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable.
- Assesses the feasibility of mitigating the environmental and social impacts; the capital and recurrent costs of proposed mitigation measures, and their suitability under local conditions; the institutional, training, and monitoring requirements for the proposed mitigation measures.
- Specifies issues that do not require further attention, providing the basis for this determination.

7. Analysis of alternatives

- Systematically compares feasible alternatives to the proposed project site, technology, design, and operation--including the "without project" situation--in terms of their potential environmental and social impacts.
- Assesses the alternatives' feasibility of mitigating the environmental and social impacts; the capital and recurrent costs of alternative mitigation measures, and their suitability under local conditions; the institutional, training, and monitoring requirements for the alternative mitigation measures.
- For each of the alternatives, quantifies the environmental and social impacts to the extent possible, and attaches economic values where feasible.

8. Design measures

- Sets out the basis for selecting the particular project design proposed and specifies the applicable CAF's guidelines and/or World Bank Group Environmental, Health, and Safety Guidelines or if these are determined to be inapplicable, justifies recommended emission levels and approaches to pollution prevention and abatement that are consistent with Good International Industry Practice.

9. Key measures and actions for the Environmental and Social Management Plan (ESMP)

- Summarizes key measures and actions and the timeframe required for the project to meet the requirements of the CAF's safeguards/PS. This will be used in developing the Environmental and Social Management Plan (ESMP).

10. Appendices

- (i) List of the individuals or organizations that prepared or contributed to the environmental and social assessment.
- (ii) References—setting out the written materials both published and unpublished, that have been used.
- (iii) Record of meetings, consultations and surveys with stakeholders, including those with affected people and other interested parties. The record specifies the means of such stakeholder engagement that were used to obtain the views of affected people and other interested parties.
- (iv) Tables presenting the relevant data referred to or summarized in the main text.
- (v) List of associated reports or plans.

Annex 3 – Indicative Outline of Environmental and Social Management Plan

The Environmental and social management plan (ESMP) is an instrument that details (a) the measures to be taken during the implementation and operation of a project to eliminate or offset adverse environmental and social impacts, or to reduce them to acceptable levels; and (b) the actions needed to implement these measures.

1. Description of mitigation measures:

- a) Outlines the negative impacts of the project as described in the environmental and social impact assessment (ESIA), for both the works phase and operating phase and indicates (i) the target affected by the impact, (ii) the relative importance of the impact, (iii) its probability of occurrence and (iv) its duration (short, middle and long term).
- b) Describes, with all necessary technical details, each mitigation measure, indicating the type of impact or pollution it remedies, the period concerned, the organism or people responsible of its implementation and the conditions for which it is necessary (permanently or in unexpected cases for example), with, if necessary, detailed technical information (plans, material description, population census), and potential norms to observe.
- c) Assess the scope and costs of the measures as well as the institutional and training needs to implementing these measures. If necessary, identify compensation mechanisms for people affected by effects which cannot be mitigated.

2. Implementation of environmental and social monitoring:

The objective of the environmental and social monitoring is (i) to verify that the environmental and social commitments taken by the project owner have been fulfilled, (ii) to give information on the main environmental and social issues of the project, above all on its impacts and (iii) to analyse the efficiency of the applied mitigation measures. This information makes it possible to assess the success of the mitigation measures within the supervision of the project and to take, if necessary, corrective measures.

The ESMP defines monitoring objectives and precise monitoring methods, relative to the effects assessed in the ESIA report and mitigation measures described in the ESMP. This part comprises:

- a) a precise description, with technical details, of the types of follow-up, indicators, supervising measures, including where applicable, parameters to measure, methods to use, places to take samples, frequency of measures, duration, detecting limit (where applicable), and definition of thresholds indicating the need of corrective measures.
- b) a description of methods to implement monitoring: supervision procedures, drafting monitoring reports (regular monitoring, accident forms), organization required.

The objective is (i) to quickly detect conditions which require specific mitigation measures and (ii) give information on the progress made and on the outcomes within the framework of these measures.

3. Closing of site:

When a project has a limited life or when the site closes, the ESMP provides for the measures required for site closure, at the end of project life.

It describes:

- the technical and operational conditions of this stoppage/closure,
- the possible conditions of dismantling equipment, buildings.
- The conditions required to professionally reintegrate employees.

4. Organizational procedure:

ESMP gives a detailed description of the institutional provisions which are necessary for the implementation of the mitigation and monitoring measures, either during works or after completion of the project. It gives precise information on who (organisms or people) will be responsible for the implementation of these measures concerning for example, operating, supervision, checking of application, follow-up of implementation, corrective measures, financing, drafting reports and staff training.

Where applicable, ESMP covers the following subjects: a) technical assistance: b) procurement and c) organizational methods implemented by the project owner.

Proposals for strengthening the organization and capacities can be made in the ESMP. The implementation of an external expertise can be promoted to guarantee a suitable control of the implementation of ESMP.

5. Calendar for performance and cost estimation

For each of the three areas (pollution reduction, environment monitoring and organizational procedures), the ESMP provides:

- a) a calendar for performance of the mitigation measures, indicating their scheduling and their coordination with the execution plans of the project;
- b) an estimation of the investment and functioning costs,
- c) the origin of necessary funds for ESMP implementation.

Annex 4 – Indicative Outline of Stakeholder Engagement Plan and Grievance Mechanism

Each project under the Sub-Program 2 will require a Stakeholder Engagement Plan, including a grievance redress mechanism, including SEAH redress procedures or requirements. CAF will disclose on its website appropriate environmental and social information for each project under the Sub-Program 2.

The stakeholder engagement will be carried out in line with World Bank Group's Environmental and Social Standards: <http://pubdocs.worldbank.org/en/837721522762050108/Environmental-and-Social-Framework.pdf#page=111&zoom=80>

The indicative Outline of the Stakeholder Engagement Plan and Grievance Mechanism is the following:

1. Introduction
 - 1.1. Project presentation
 - 1.2. Project context
 - 1.3. Principles of stakeholder engagement related to the project
2. Applicable regulations related to stakeholder engagement
 - 2.1. Applicable national regulations and related requirements
 - 2.2. Applicable international standards and related requirements
 - 2.3. Other applicable standards
3. Analysis of project stakeholders
 - 3.1. Approach to stakeholder's identification
 - 3.2. Definition and proposed approach to groups of stakeholders
4. Activities related to stakeholder engagement
 - 4.1. Communications and information disclosure for the project and related studies
 - 4.2. Consultation activities carried out to date
 - 4.3. Activities and monitoring indicators for stakeholder engagement
5. Grievance redress mechanism
 - 5.1. Principles
 - 5.2. General Procedure
 - 5.3. Survivor-centred and gender-responsive SEAH redress procedure or requirements.
6. Monitoring and reporting for stakeholder engagement activities
 - 6.1. Monitoring
 - 6.2. Reporting of activities
 - 6.3. Annual reporting
7. Appendixes
 - 7.1. List of stakeholders
 - 7.2. Communications and information disclosure scheme
 - 7.3. Grievance redress scheme

It is important to state in the Plan that the GCF independent Redress Mechanism and the Secretariat's indigenous peoples focal point, will be available for assistance at any stage, including before a claim has been made.

Annex 5 – Risk alignment CAF / GCF and Screening of safeguard evaluation

Risk alignment CAF - GCF

Environmental and Social Risk Management Process Manual for Operations MN / VPR – 093 CAF Banco de Desarrollo de América Latina	Environmental and Social Policy, Green Climate Fund
<p>Category I: High Environmental and Social Risk. Comprise those operations that have the potential to cause significant, diverse and irreversible adverse environmental and/or social impacts that are unprecedented or difficult to evaluate. Also includes operations that are developed in areas or ecosystems of high environmental sensitivity, which can affect significantly and irreversibly the natural resources or significantly alter the nature, characteristics, or functional relationships of communities. Typically, impacts manifest themselves over wider areas than the sites of physical intervention.</p>	<p>Category A. Activities with potential significant adverse environmental and/or social risks and impacts that, individually or cumulatively, are diverse, irreversible, or unprecedented;</p>
<p>Category II: Moderate Environmental and Social Risk. Comprise those operations that have the potential to cause localized, short-term adverse environmental and/or social impacts and for which effective mitigation measures are readily available, and within the reach of the executors and other actors involved. Typically, impacts manifest themselves specifically on the sites of physical intervention.</p>	<p>(b) Category B. Activities with potential limited adverse environmental and/or social risks and impacts that individually or cumulatively, are few, generally site-specific, largely reversible, and readily addressed through mitigation measures; and</p>
<p>Category III: Low Environmental and Social Risk. Comprise those operations that have the potential to cause minimal or no adverse environmental and/or social impacts. These operations may not require a due diligence, but can include requirements which, in the opinion of the environmental specialist, are necessary to ensure that the environmental and social management meets CAF's principles and standards</p>	<p>(c) Category C. Activities with minimal or no adverse environmental and/or social risks and/or impacts.</p>

Screening of safeguard evaluation

Sensitivity of the project site and area of influence			
Component	Aspect	Features	Risk scale (High 1, medium 2, low 3)
Bioophysical	High conservation value or vulnerable areas	Existing or proposed protected areas/ Areas recognized in the framework of international conventions/Ecological or biological corridors	
		Vulnerable and/or fragmented ecosystems/habitats of concern (e.g. corals, wetlands, mangroves, dry forests, nesting or breeding sites, etc).	
		Restoration zone ecosystems of the interest.	
		Intervened territories with presence of secondary vegetation, whether or not adjacent to protected areas / Ecosystem edge zones habitats	
		Urban or rural areas already deforested or heavily intervened	
		Regions without areas of high conservation value.	
		Presence of endemic species	
		Presence of Migratory Species	
		Presence of threatened or endangered species.	
	Presence of non-climate natural hazards	Geological instability	
		Erosive processes	
		Seismic risk	
		Volcanic activity	
		Tsunamis	
	Pressure on natural resources	Areas with a high likelihood of natural resource use conflicts (or conflicts already underway)	
		Water bodies impounded by reservoirs or located in basins impounded by one or more reservoirs.	
		Area of springs or water sources	
		Areas with a moderate likelihood of natural resource use conflicts or temporary restrictions on resource availability.	
		Areas with high availability of natural resource use conflicts or temporary resource availability restrictions.	
Social economic and cultural.	Indigenous peoples and communities	Area of influence includes areas where communities/ethnic groups live together.	

		Possible (or already ongoing) conflicts due to proximity and overlap of indigenous territories with other areas or projects.	
		Ethnic communities outside the area of influence but close/adjacent to it.	
		Ethnic communities outside the area of influence but close/adjacent to the area of influence with a history of low levels of conflict.	
	Areas of socio-cultural importance	Areas of influence include areas where communities/ethnic groups live together.	
		Paleontological, archaeological, historical and anthropological sites of interest	
		Sites of Tourist Importance	
		Areas of importance to ethnic communities	
	Aspects of social - cultural interest	Areas with social conflicts, armed conflicts or security conflicts (e.g. conflicts with authorities)	
		Areas in which civil society organized against certain projects, companies or activities, partially or totally paralyzing them.	
		Areas of endemic diseases or zoonotic origin (for example presence of dengue, malaria, leishmaniasis, etc or vulnerable to the entry of diseases.	
		Areas with potential social/political conflicts.	
		Areas in which civil society organized against certain projects, companies, activities but without generating paralysis.	
	Conflicts over land use and public services	High energy consumption in areas of low abundance/low quality or intensive use.	
		High consumption of drinking water in areas of low abundance/low quality or intensive use.	
		Pre-existing effects on urban everyday life.	
		Visibly contaminated areas (also includes polluted water bodies and/or low air quality).	
		Areas with incompatible uses for the purposes of the project.	

	Population resettlements	Population area potentially affected by resettlement is equal to or greater than 200 people and/or risk of presence of irregular or informal possessors.	
		Area with population potentially affected by resettlement is less than 200 people and more than 20 people.	
		Areas with a population potentially affected by resettlement is less than 20 people.	
	Management of regulatory entities and application of environmental regulations.	Areas with uncertainty of the application or existence of the legal framework.	
		Areas where regulatory entities act randomly or with disproportionate measures or with the presence of a conflict of jurisdiction.	
		Areas with existing regulation that have not been reviewed or are under review.	
		Areas where regulatory entities act with foresight.	
		Areas with well-defined legislation but with entities with limited capacity to act.	
		Areas of well-defined legislation and strong and stable regulatory entities.	
	Executing agency and related entities	Management capacity of the Executing Agency.	
		Attitude of the executing agency towards CAF.	
		Political - institutional context.	
	Gender perspective	Territories/countries with the absence of public institutions against gender violence or with institutions with limited capacity for action, generally accompanied by the absence of statistical data and/or qualifications from reliable sources in relation to gender inequalities; high levels of gender gaps and/or gender-based violence and/or; and/or national or local legislation that discriminates against women.	
		Territories/countries where there is public institutional capacity to respond to existing and documented gender gaps with verifiable information, being able to present one or more negative indicators regarding the gender perspective applicable to the project.	

		Territories/countries where there is strong public institutions and the presence of gender gaps present favorable or low-risk situations.	
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Annex 6 – Safeguard S06 – Ethnic groups and Cultural Diversity

CAFs Environmental and Social Safeguards have a safeguard activation tool, which consists of a questionnaire, which must be answered for each case. When any of the questions in the questionnaire is answered in the affirmative, the Safeguard is activated, and consequently must be applied.

Summary

CAF acknowledges the importance of human cultural diversity in the region and watches over its preservation and strengthening. In that context, for cases of projects with ethnic groups or important sacred sites in its area of influence, CAF requires the preparation of a specific Plan for said group, in order to safeguard its physical, territorial, social, cultural, and economic integrity; CAF also requires that the operation ensures a consultation and participation process that is free and informed, to provide benefits that are culturally appropriate.

Activation conditions

For the activation of this Safeguard, the following questions must be answered:

Criterion	YES	NO
Does the project have an influence on legally constituted indigenous territories?		
Does the project have an influence on indigenous communities?		
Does the project directly affect indigenous families?		
Does the project affect areas normally used for indigenous people to hunt, fish, or gather food?		

The safeguard is applicable if the response is positive for one or several of the above questions. If the safeguard is applicable, the client is asked to include in the project's social and environmental evaluation the relevant detailed analysis established in the corresponding safeguard.

Below is the complete S06 – Ethnic groups, which will be implemented if activated.

SAFEGUARD S06 ETHNIC GROUPS AND CULTURAL DIVERSITY

Introduction

Human cultural diversity constitutes a heritage of knowledge, creativity, practices, and customs that humanity has developed over millennia of processes to adapt to the different ecosystems of the planet. Cultural diversity represents a wealth for humanity, as it provides alternatives, possibilities, and other forms of thought necessary to face the challenges of achieving sustainable development in a context of climate change and the construction of a globalized society.

Ethnic groups, among which in Latin America stand out the indigenous peoples and Afro-American communities, represent that cultural diversity.

Indigenous peoples have ancestral origins and have developed a deep knowledge of nature, and a spiritual development that has enabled them to establish harmonious relations with the ecosystems where they live. They are socially and culturally different to majority societies, with close links with the territories they inhabit and the resources they use, which are intrinsically related to their culture and identity. If anything affects their territories, resources, or the links they have with them, their cultural survival may be threatened.

The conquest and colonization processes in Latin America significantly decimated the indigenous population, and imposed a different society which became dominant, changing them to minority groups that are generally excluded and marginalized, without mechanisms to participate in decision making processes that may affect them. For these reasons, and because of the meaning that the territory and the resources have for them, they are more vulnerable to impacts resulting from development projects of the majority society than other population groups. This majority society may threaten their identity, culture, and means of subsistence, and expose them to factors that increase their morbidity and mortality. In other cases, these groups are excluded from the benefits of the projects, or if they receive benefits, they may not be culturally appropriate, which may cause them more harm than good.

The negative impacts on indigenous peoples not only affect them, but all of humanity, as they lead to a loss of ancestral knowledge regarding nature, ecosystems, and specific resources, as well as the adequate forms to relate to them. A large part of the planet's biodiversity is found in indigenous territories, and is being cared by indigenous peoples.

During the period of colonization, African population was forcibly brought to the Latin American territory to work as slaves. Some of the survivors of this practice ran away and created their own settlements where they recreated their culture. Generally, these groups have no rights over the territories they occupy, and are also excluded and marginalized from the development processes of the majority society. These groups contributed a great cultural heritage to Latin American and Caribbean societies.

For the above mentioned reasons, there are currently different international regulatory development which have provided ethnic groups with legal and institutional mechanisms for protection and development based on self-determination. In Latin America, the States have advanced a gradual process to recognize ethnic groups and cultural diversity.

Therefore, it is the responsibility of any organization or entity that develops a project or activity that may affect an ethnic group, to develop actions to avoid negative impacts, to include them in

decision making processes that may affect them and provide benefits that are culturally appropriate.

Definitions

Ethnic group,³⁴ refers to human groups whose social, cultural, and economic conditions distinguish them from other sectors of the national population, and who are totally or partially governed by their own customs or traditions or by a special legislation.

Indigenous people,³⁵ are descendants from the people who inhabited America before the conquest, totally or partially retaining their own institutions and social, economic, political, linguistic, and cultural institutions and practices, whatever their legal status is, and they define themselves as belonging to indigenous or pre-colonial peoples or cultures.

Culture, refers to the multiple human dimensions expressed, among others, in uses, customs, knowledge, world vision, relation with spirituality, social organization, and forms of interaction, as well as their material and intangible expressions.

Afro-American community, refers to the population with African roots, descendants from people who were enslaved during colonial times and who were able to survive, keeping some of the cultural characteristics from their birth places in Africa, which they have used to adapt to the new ecosystems where they settled, and have contributed to the societies of the countries where they came to live.

Free, prior, and informed consultation, this is a good faith process which is free and voluntary, without manipulation, interference, or coercion. It is prior because it is conducted before the start of any study or work in the project; it is informed because the communities that are consulted must have prior access to the information on the proposed project, its characteristics, scope, activities, responsible parties, expected timeline, their rights and duties during the process, and any relevant information to enable the understanding of the intervention that will take place, and the expected effects, before the execution of the project, and the impacts appear.

The public consultation (free and informed), is a process that is carried out during the preparation and execution of the project and the management plan, which must take into consideration the times and internal procedures for decision making of the consulted ethnic groups. For the consultation to be effective, the information and relationships must be carried out in an appropriate manner from the cultural point of view, and in the community's language. For this public consultation to be informed, the communities must have prior access to the information regarding the project, studies that have been carried out, the environmental impact evaluation process, the environmental management plan, and the plan for the particular ethnic group. The public consultation of the project does not replace the free, prior, and informed consultation that must be advanced with the ethnic groups.

Free, prior, and informed consent, is the result achieved by the consultation process described above, through which ethnic groups give their consent to the intervention of their territory, the measures to manage impacts, and the type of benefit they will receive. It is a collective right of indigenous peoples to adopt decisions through their representatives and traditional institutions.

³⁴ The first part of this definition is taken from the definition of tribal groups in Agreement 169 of the ILO.

³⁵ This definition is taken from Operational Policy 7.65 of the Inter-American Development Bank (IDB).

Differential approach: given the different conditions and characteristics of the ethnic groups of the majority society, a differential approach is necessary for the actions and interactions developed with and for them, so that access to rights, goods, and services may be relevant and respond to their distinctive features.

Self-determination: The international regulatory framework related to ethnic groups includes their right to development and self-determination, meaning that they have the right to decide the type and approach of the development they aspire.

Objectives

- Acknowledge and respect ethnic groups, their traditional knowledge, their traditional rights, human rights, rights over their territory and natural resources they use, their culture, social organization, knowledge, practices, uses, and customs.
- Safeguard the physical, territorial, social, cultural, and economic integrity of ethnic groups.
- Ensure a free, prior, and informed consultation process regarding actions that may cause impacts, and the measures for their management, before the start of the detailed studies.
- Ensure a public, free, and informed consultation process during the development of the detail studies, which include the active participation of ethnic groups.
- Anticipate and avoid actions that may negatively affect ethnic groups.
- Mitigate or compensate negative aspects when they cannot be avoided, by means of measures designed jointly with the participation of ethnic groups.
- Ensure the access of ethnic groups to the benefits of the project, and ensure they are culturally appropriate and inclusive.
- Support ethnic group development with identity, including strengthening of their management capacities.

Scope

This safeguard applies to all projects and operations financed by CAF, in whose direct or indirect area of influence there are ethnic groups, or sacred places of importance for an ethnic group, even if the territories they inhabit or with which they have links have not been legally recognized by the country.

If an operation with these characteristics already started activities and requests CAF financing, an evaluation will be conducted of the actions carried out in said operation in order to determine if it is necessary to formulate and execute remedial plans that guarantee compliance with the objectives proposed in this safeguard.

In case all or a significant part of the beneficiaries of the project belong to an ethnic group, the whole project must be designed and executed under the guidance of this safeguard.

The safeguard applies to all the project's components, independently of the financing source.

In case there are indigenous peoples that have not been contacted, guarantees must be given that the project will not impact these peoples, and that contact with them must be avoided, respecting their right to remain in such condition and live freely according to the culture.³⁶

CAF will not finance project that may cause significant negative impacts, and that imply a high risk for the physical, territorial, economic, and cultural integrity of an ethnic groups.

³⁶ Taken and adapted from the IDB's Operational Policy on Indigenous peoples.

Requirements

About regulations and institutions

- Comply with the national legislation on ethnic groups and the international agreements related to the rights of ethnic groups.
- From the early stages of a project's cycle, connect the entities in charge of the affairs of ethnic groups in the country.

Identification of ethnic groups or important sites for these groups

- With the entities responsible for the affairs of ethnic groups in the country, enquire about the presence of a group in the direct or indirect area of influence of the project.
- Review secondary sources and visit the direct and indirect area of influence of the project, to identify the presence of ethnic groups or important sites for these groups.

About the evaluation of impacts

- In a participative manner, evaluate the potential positive impacts and benefits that the specific ethnic group may receive from the project, and define whether it is necessary to take measures for these to be accessible to all the members of the community independently of their gender and age, when applicable, and if they are culturally appropriate.
- In a participative manner, evaluate the negative impacts that the specific ethnic group may face as a result of the actions of the project in each technical stage, before the impacts may occur. Special attention must be given to the impacts on the territory, even if it has not been legally recognized, as well as impacts on the natural resources they use, sacred places, uses, customs, and social and political organization.
- In case of significant negative impacts,³⁷ other alternatives of the project must be analyzed in order to reduce them much as possible, to develop mitigation or compensation measures that are accepted by the ethnic, and that are culturally appropriate.
- Avoid obligatory displacement of ethnic groups from their territories, even if right over these territories have not been legally recognized by the country. A resettlement of these groups can only take place if it can be guaranteed that they will improve their situation compared to the one they had before the resettlement, if their culture is not threatened, and if the communities grant their prior, free, and informed consent. In this cases, the population resettlement safeguard will also apply.

About consultations and relationships

- Respect traditional authorities and organizational form of ethnic groups in the consultation and building of relationships process, as well as not generating parallel organizations.
- Conduct consultations and interactions with ethnic groups in their own language and in their territory to facilitate the understanding of the consulted issues and to achieve wide participation.
- Carry out a free, prior, and informed consultation with the ethnic groups regarding the project that will be executed.

³⁷ To determine the level of significance and magnitude of an impact, the evaluation must be conducted in a participative manner taking into consideration the level of vulnerability of the specific group given its characteristics and its relationship with the land and resources.

- Carry out a free, prior, and informed consultation with the ethnic groups regarding the characteristics of the project, the potential impacts on the natural and social environment, and the management measures proposed.
- Provide ethnic groups with enough and comprehensible information for an adequate and informed decision making.
- Respect the times of ethnic groups and their decision making systems for the development of the prior, free, and informed consultation.
- Develop the consultation process in an inclusive and participative manner, so that the conclusions and agreements reached are considered legitimate by most members of the community.
- The consultation mechanisms must adapt to the community's social organization, its language, cultural patterns and conditions, and they must be inclusive.
- Document the results of the consultation and the agreements reached with the community.
- Establish and maintain a permanent relationship based on the consultation and participation duly informed through all the stages of the project's cycle.
- Establish mechanisms to guarantee a wide participation of the members of the community, inclusive in terms of gender and age.
- Verify if there is wide support to the project, the for impacts, and the Plan for the Ethnic Group.

About prior, free, and informed consent

- Prior, free, and informed consent must be obtained when it is necessary to resettle the community and/or when there are impacts on: (i) the territory; (ii) the natural resources used; (iii) cultural heritage; or (iv) sacred places or elements, or with a special value to the community. Both the process and the agreements reached in the dialogs with the community regarding other aspects must be documented.

About the planning

- In a participative manner and respecting the organizational forms and decision making mechanisms of ethnic groups, design the management measures for the impacts to mitigate or compensate the negative impacts and ensure the existence of positive ones.
- Consult and agree on the measures with the ethnic groups, so that they are culturally appropriate and there is a majority support for these measures.
- Adapt the benefits offered by the project to ethnic groups so that they are culturally appropriate, and they can access them easily.
- Organize the management measures in a Plan for the specific ethnic group. Each measures must define the objectives, goals, activities, responsible parties, timeline, and budget.
- The plan's budget must be included in the total cost of the project, and mechanisms must be ensured for the timely availability of these funds

About the execution

- The entity responsible for the project must have sufficient capacity to adequately execute the Plan. For this, it must have professionals that are experts on ethnic groups, human resources, and sufficient physical and financial resources to conduct all the necessarily studies, the consultation process, and the formulation and execution of the Plan for Ethnic Groups.

- Design participative and culturally appropriate mechanisms to conduct a follow up and evaluation of the impact management plan for the indigenous or Afro-American communities
- Design a system to address petitions, complaints, and claims which is accessible and culturally appropriate
- Define an independent mechanism for the resolution of conflicts, accepted by both parties, in case conflicts emerge, and taking into consideration the traditional uses of the communities conflict resolution methods

About the dissemination

- Disseminate the impact evaluation study and management plans, and make accesible versions of these documents to the communities.

Documents

In order to organize and document the actions to comply with the above mentioned requirements, the proponent must prepare three documents: (i) Results of the free, prior, and informed consultation; (ii) Social study and impact evaluation, and (iii) Plan for the Ethnic Group. Following is a description of the content and scope of these documents:

Results of the free, prior, and informed consultation

This document must describe the prior consultation process carried out with the communities regarding the project. This document must present the methodologies used, the events of the consultations, who and how was the consultation carried out and their results. This must include film and photographic registries and the acts of documents signed with the communities. If there are guarantors and/or participation of government entities, these must also be included.

Social study and impact evaluation

This document must include the following four chapters:

- I. Social and ethnographic study. This study must describe the type of ethnic group in detail, its history, demographic, social, economic, cultural, and religious characteristics, the territories they inhabit and those with which they have close links, the use of the territory and its resources, their current situation, their social and political organization, the rights that the State has acknowledged over territories and other types of rights, the projects that have developed over their territory, its consequences, programs or projects that are currently being developed with the communities (objectives, responsible parties, state of execution, results), conflicts that these groups have faced and how they were solved, the existing social liabilities and the adequate manner to conduct the prior, free, and informed consultation so that their organization, cultural patterns, decision making processes, and time management are respected. The main actors that have relationships or influence with the community, their nature, functions, roles, and interests, must be identified.
- II. Legal and institutional framework. This document will describe the countries current legal framework for indigenous peoples or specific ethnic groups, relevant international agreements subscribed by the country, compliance with national legislation and agreements in the framework of the proposed project, and the governmental institutions in charge of managing the affairs of these groups, their functions, and responsibilities.

- III. Impact evaluation. This is the impact evaluation study for both positive and negative impacts that the project may cause to specific communities. This evaluation must specify the methodology used, the results of the impact evaluation, the participation of the communities in the studies, their opinions and comments to the results of this evaluation, and the documents that support this evaluation.
- IV. Public, free, and informed consultation. This document must describe the consultation process carried out with the communities regarding: (i) the project, (ii) the impact evaluation, (iii) the plan for impact management and relationship building with the communities and of the type of benefits that the communities will receive. This document must include the methodology used, the events of the consultations, who will be consulted and how, and the results. This must also include the film and photographic registries and the acts of documents that have been signed with the communities. If there are guarantors and/or participation of government entities, these must also be included.

Plan for the Ethnic Group

This plan can be named with the name of the group or specific ethnic community, or with a name agreed upon with said group. It is made up by the measures to facilitate the existence of positive impacts, to mitigate or compensate the negative impacts, and to ensure that the benefits received from the project are inclusive and culturally appropriate. Each proposed measure must establish its objectives, goals, activities, responsible parties, the timeline and budget for its implementation, the source for the allocation of resources, and follow-up and evaluation indicators. The timeline for the development of management measures must be connected to the project's timeline, so that the measures may be applied before the impact occurs. It should specify whether the budget to execute the Plan is included within the project's cost structure, and if these resources will come from the credit granted by CAF, from the national counterpart, or from a combination of these two sources. The Plan will also specify the strategy and relationship building and consultation mechanisms during the execution of the project and of the Plan for Ethnic Groups. The Plan must consider mechanisms to produce synergies with programs from other organizations, if possible.

Procedure

Origination

In the origination stage, CAF will verify if the Project's area of influence is close to or in indigenous territories, or if it has the potential to affect indigenous communities or ethnic groups.

Evaluation

When a project is presented to CAF for financing, the documentation related to the evaluation of impacts, risks, and environmental and social opportunities, and their management plans presented by the project's proponent it must specify if there are indigenous or Afro-American communities in the Project's direct or indirect area, or if any of these communities has links to the territories of said communities. If there are communities or territories with which these communities have links, the documents stated in the above-mentioned section must be presented.

If the project's proponent has not completed some of these documents when presenting the project to CAF, the necessary actions will be agreed upon for the development of the necessary studies, and of the Plan for the Ethnic Group. All of this must be prepared and approved by CAF

before the start of the execution of the project, an aspect which will be established in the environmental and social conditions of the credit contract. When a project includes several subprojects or annual investments that are not defined at the time of the project's presentation to CAF, when each sub project is defined, an analysis must be carried out to identify if there are ethnic groups in its direct or indirect area of influence in order to apply this safeguard. All these agreements will be reflected in the credit contract, which will include specific clauses for non-compliance by the project's executing agent.

Formalization

The formalization phase will ensure that a strict compliance of the Plan for the Ethnic Group is compulsory for the client.

Administration

Once the operation has been approved, the client will develop actions to comply with the agreements established in the credit contract regarding this matter and will execute the Plan for the Ethnic Group. The client must also conduct a participative monitoring of the execution of the Plan to determine the degree of advance and the need to take corrective measures if necessary. The client will periodically prepare a follow-up and monitoring report of the Plan, stating the activities carried out and the level of achievement of the proposed objectives. The follow-up and monitoring reports, specific for the Plan for the Ethnic group, will be presented to CAF, to the communities involved, and to interested actors. CAF will review these reports and may propose corrective measures, if necessary.

At the close of the project, the executing agent must evaluate the Plan for the Ethnic Group in a participative manner, in order to determine if the proposed objectives were achieved. The final report of the evaluation must be available for the communities involved and the interested actors. CAF will review the evaluation report of the management measures prepared by the Project's executing agent and may agree on additional measures for compliance with the objectives established in this safe guard, if necessary.

CAF will prepare a closing report of the project, specifying the level of achievement of the objectives proposed in the Plan for the Ethnic Group, as well as the lessons learned for future projects

Annex 7: Summary of Feasibility Study for Sub-Program 2 (Annex 2 to FP)

E-Motion program includes in total eleven countries where two feasibility studies have been developed in parallel to provide inputs for the final structuring of the program to be presented to the Green Climate Fund by completing each Funding Proposal (FP). Thus, the E-motion program is divided into **two sub-programs**, in particular, sub-program 2 includes Panama, Paraguay and Uruguay. The present document corresponds to the **Sub Program 2 Structuration** which has the **general objectives** of developing a proposal for the **technical** and **financial** design of this sub-program, based on the results taken from the country level reports (see Annex 1, 2 and 3) and the impacts assessment report (see Annex 4).

TECHNICAL STRUCTURATION

After carrying out the activities at the country level, in addition to multiple validation instances with the technical teams of each country and the market study performed, the proposal for the E-motion investment periods within Sub-Program 2 should be allocated in the first 5 years: starting in 2023 up to 2028. Concessional loans for financial assistance and grants for technical assistance are required to kick-start mass EV deployment in this decade as higher upfront EV costs are the main barrier indicated by country’s stakeholders (interviews and market study). Figure 3 and Figure 4 show the implementing period with regards to the BEB and e-public fleet adoption targets included in sub-program 2. Projects with high level of maturity would be able to start from quarter 2 (Q2) of 2023 in best scenario. As it can be seen in Figure 3 for BEB, the program funding will end in 2026 for PA, 2027 in UY and 2028 in PY (more buses). In the case of e-public fleets (Figure 4), program funding would end by 2027 in PA and PY (more units), and by 2026 in UY.

Figure 3: E-motion implementing period and quantities for BEB, sub-program 2 countries. Source: own elaboration

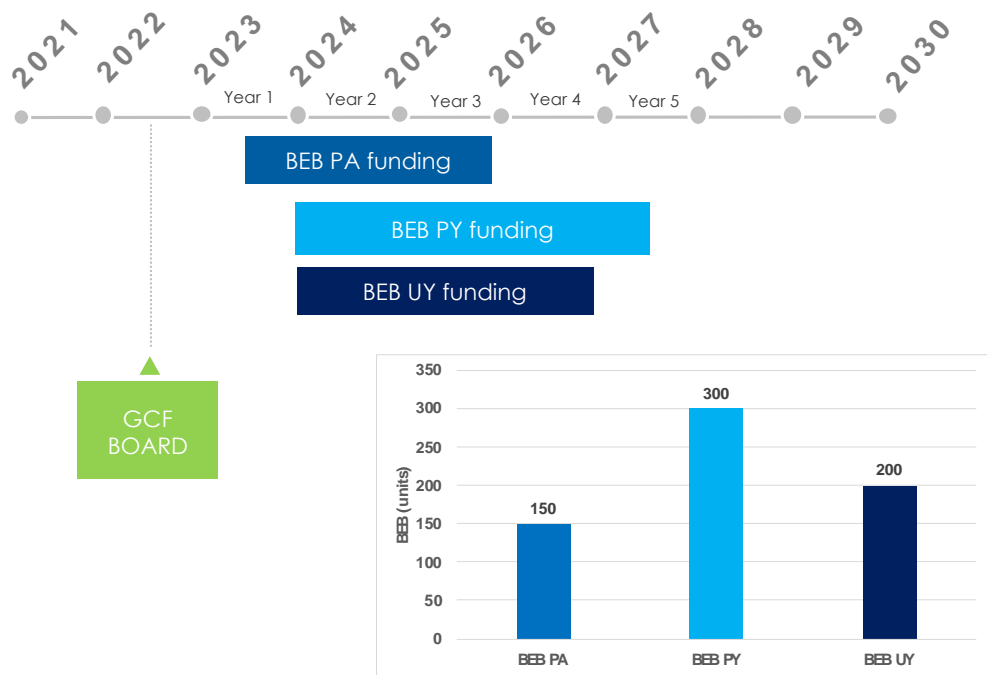
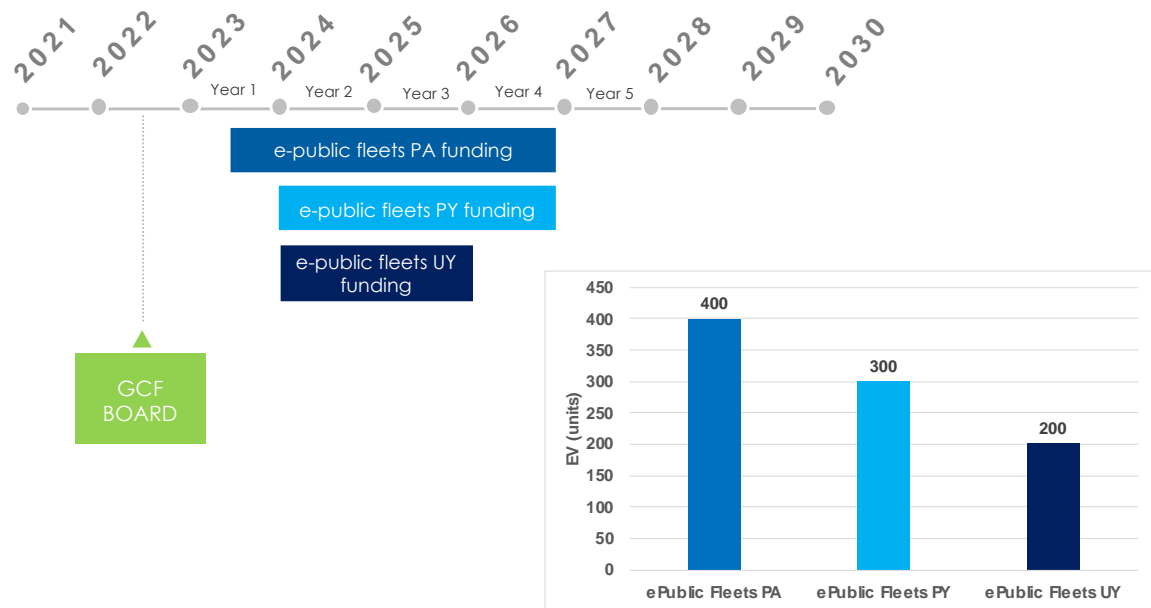


Figure 4: E-motion implementing period and quantities for e-public fleets, sub-program 2 countries. Source: own elaboration



Implementing period for fast charging network and e-LCVs are highly concatenated for PA and PY cases, as their current public charging stations are incipient. However, in UY there are already a public charging network, and UY need complement it with a fast-charging network, according to UTE interviews they would need first a TA for developing a strategic plan for public fast charging stations where E-motion would also contribute.

Figure 5 shows the implementing period with regards to the fast-charging stations (20 units by country) and e-LCV adoption targets included in sub-program 2. As it can be seen e-LCVs, program funding would end by 2027 in PA and PY, and by 2026 in UY. Fast charging network should be implemented in year 2 up to year 4 (design and implementing).

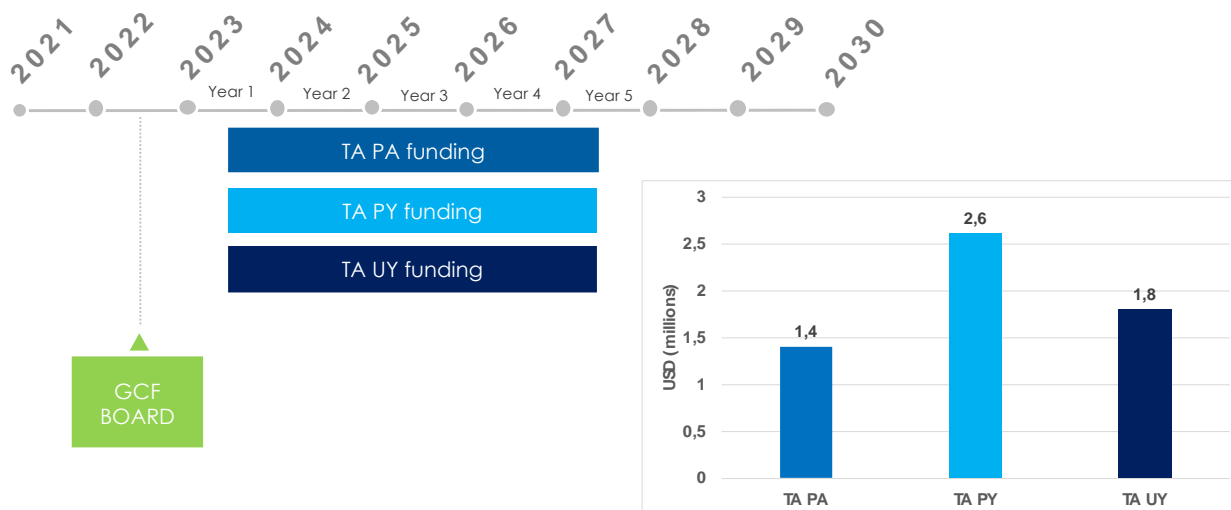
By year 2028, E-Motion Sub-Program 2 should have financed 650 BEB, 900 e-public fleets, 250 e-LCVs and 60 public fast chargers. Afterwards, EVs adoption would continue towards mass adoption as upfront cost of the electromobility technologies would have decreased and it is projected to have cost parity between EVs and ICEs by this period.

Figure 5: E-motion implementing period and quantities for fast charging network and e-LCVs, sub-program 2 countries. Source: own elaboration



Technical assistance package was developed in detail in a country level as well as a local level. Regional level TA package is considered in E-Motion Sub-Program 1. Figure 6 shows the implementing period preliminary estimated and budget³⁸ required with regards to the TA package included in sub-program 2. As it can be seen TAs in the three countries will be planned from Q2/year 1 to year 5. In addition, it is considered a total budget of 621,000 USD for the Gender Action Plan. More detail in TA can be found in section 2.1.

Figure 6: E-motion implementing period and budget for TA packages, sub-program 2 countries.
Source: own elaboration



³⁸ Detailed TA Budget can be found in Annex 7

Based on the strategy of intervention elaborated by each country and presented in Annex 3, **key criteria are recommended** to set the most favorable conditions in the E-motion implementation phase. Those are organized in nine dimensions (see **¡Error! No se encuentra el origen de la referencia.**): i) Vehicle standard, ii) Operational, iii) Maintenance, iv) Monitoring, v) New markets and electromobility value chain, vi) Charging infrastructure, vii) Social outreach, viii) Gender, and ix) Country Specific criteria. More detail can be found in section 2.3.

The total projected **GHG direct impact** of the Sub-Program 2 in Uruguay, Paraguay and Panama is estimated to 3.3 MtCO₂e over the lifetime of the EVs and the charging infrastructure financed by the program based on the initial pipeline of projects. Actual emission reductions will depend on which projects are actually implemented and will be monitored by the Sub-Program 2. Direct and indirect impacts, environmental co-benefits and economic co-benefits can be found in section 2.4

FUNDING PROPOSAL STRUCTURATION

In consideration of all the results obtained during the development of the feasibility studies in PA, PY and UY, it is suggested to structure the E-motion interventions planned for Sub-Program 2 into 4 components:

- **Component 1:** Establishment of an e-mobility conducive ecosystem by providing Technical Assistance to create a policy and business framework conducive for massive deployment of EVs on a local (project design, business model design and development, city EV policies, training etc.), national (sectoral electrification roadmaps, stakeholder coordination, support of national enabling policies for EV deployment, advice on battery re-usage, recycling and disposal) and a regional level (capacity building, knowledge materials, outreach and dissemination, program monitoring).
- **Component 2:** Deployment of large-scale e-bus fleets (major investment component) coupled, when possible, with innovative models based on a separation of asset ownership and operations modernizing and increasing the attractiveness of the public transport sector whilst also making it financially more efficient and sustainable.
- **Component 3:** Deployment of e-light commercial vehicles³⁹.
- **Component 4:** Deployment of large-scale fast-charging and gender aware infrastructure for the countries.
- **PMU:** Establishing a Program Management Unit (PMU) for project implementation and impact monitoring.

FINANCIAL STRUCTURATION

The total capital investment is USD 229.12 MM with a request to GCF finance of USD 74.4 MM.

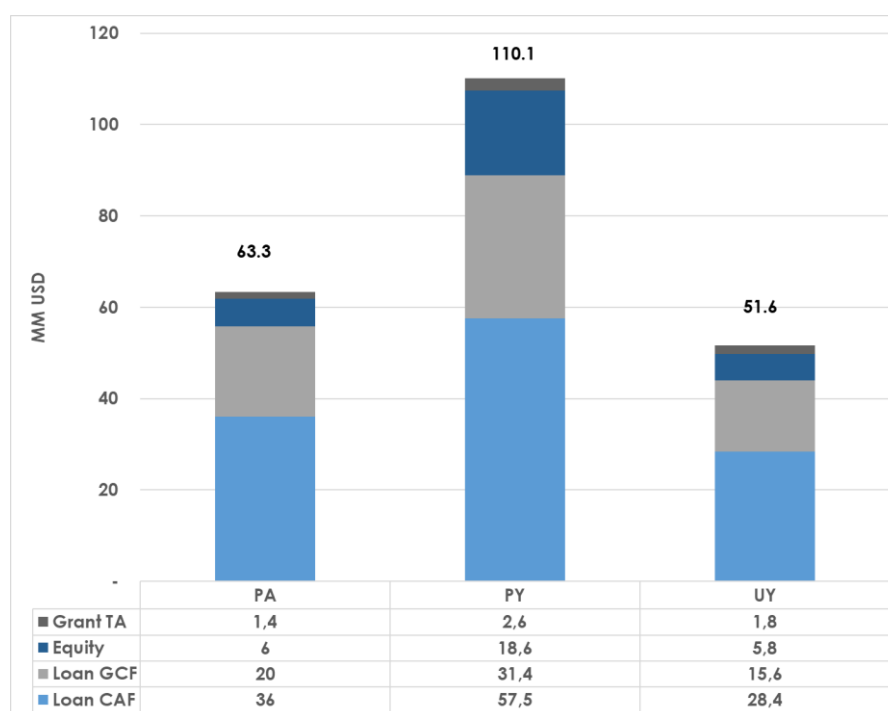
Figure 7 shows the financial split of the program by PA, PY and UY, and detailed financial package by country and by vehicle segment has been presented in Reports T4 (see Annex 3). Business models alternatives (diagrams) by component 2, 3 and 4 can be found in section 2.5.

³⁹ Light Commercial Vehicles (LCVs) would include public fleets and private LCV fleets. Public fleets are not buses for public transport, those are for public entities mobility operations.

As it was mentioned in section 2.4, direct GHG reduction of 3.3 MtCO₂e resulting in an effectiveness of the GCF investment in direct terms of 23 USD/tCO₂e, 68 % of the total investment is co-financed.

More detail in the financial structuration regarding to main types of financing structures, rationale and additionality of E-motion, as well as the risk assessment can be found in chapter 3. In addition, it is considered a total budget of 621,000 USD for the Gender Action Plan.

Figure 7: E-motion sub-program 2 financial split by country⁴⁰. Source: own elaboration



⁴⁰ This chart does not include PMU Budget which is 3,5 MM USD.

Annex 8: Gender Assessment: Key Areas of Intervention

Table 12: Key areas of intervention

<u>Mobility</u> : Inadequate transportation infrastructure to reach services (work, education, training)	Limited number of services designed for women incorporating women's specific needs	Identify opportunities to work with bus companies or corporates which support women-focused services (such school services etc), or working with the counterparties to develop initiatives.
	Women's specific requirements not adequately incorporated into project-design	Upfront gender assessment to identify whether there are opportunities to optimise the placement of charging points for increased use of EVs by women wherever applicable (e.g., considering well-lit areas, public areas).
		Periodic consultation with women's groups (e.g., women drivers associations, self-help groups for women from low income background, NGOs working on women employment) to identify potential risks and opportunities.
	Limited sex- disaggregated data to improve gender sensitivity in the sector or sub-sectors	
<u>Safety and security</u> : Gender Based Violence and Harassment	Facilities around transport hubs and vehicles (e.g., poor lighting, unsupervised spaces, absence of emergency buttons, etc.)	Conduct training to counterparties to review their existing policies and procedures for management of GBVH issues, including existing education programs, safety and security measures, trainings, and grievance mechanisms.
		Require projects to include adequate design and maintenance of lighting and CCTV cameras (or other relevant safety and security features at charging infrastructure points).
		Require reporting/representation from counterparties that the vehicles are aligned with safety and security requirements as mandated by authorities/relevant concession agreements.
		Conduct stakeholder consultations with public and private entities around the design of projects to provide views and data on relevant and improved safety and security features.
	Behavioural aspects (e.g. physical violence and sexual harassment, lack of clear codes of conduct for employees, etc.)	Review training programs periodically delivered by counterparties to drivers and transport workers on gender

		sensitivity and how to report and refer incidents of GBVH. Where counterparties do not have existing training programs, offer relevant training for drivers and other employees on gender sensitivity and how to manage incidents of GBVH.
<u>Jobs:</u> Women's involvement in transport related jobs	Due to societal and cultural practices, women are less likely to be involved in decision making which may exacerbate gender blindness in project design	Ensure women and vulnerable groups have an active role in project and sector level stakeholder consultations.
		Enhance accessibility of jobs related to the E-motion programme for women
Need for capacity building and knowledge dissemination for gender considerations in the e-mobility sector	Awareness of gender mainstreaming may be limited in the transportation, e-mobility and financing sectors	Capacity building through trainings and workshops to increase awareness of gender sensitivity. Promote multi- stakeholder discussions to integrate gender considerations across the sector.
	Limited availability of sex-disaggregated data in the e-mobility space	Ensure each sub-project collects sex-disaggregated data which can be used to identify risks, mitigants and opportunities.
	Knowledge sharing of lessons learned is limited	Promote examples of lessons learned through data collection or sub-project implementation through thought leadership or otherwise to contribute to developing best practice.

Source: Annex 8 to Funding Proposal: Gender Assessment Report

Annex 9: Indicative outline of resettlement Plan

Introduction:

Projects that require land for implementation can cause the mandatory displacement of people who reside or work there. These projects include infrastructure, urban renewal, extractive, environmental protection or recovery, disaster risk reduction and reconstruction after these have occurred.

Except for the last two types of projects, in which displacement is carried out for the benefit of the displaced population, in the others it is carried out as a precondition for the implementation of the project.

In some cases, only a piece of land is partially affected, and people can reconstruct the elements that were in it, as long as the remaining area is viable; but when a property is totally required, or the remainder is unviable, the people or economic activities carried out in it must be forcibly displaced.

The compulsory displacement of the population is one of the most severe negative socio-economic impacts that development projects can generate, since if appropriate measures are not taken, displaced people can lose their wealth and livelihoods, and plunge into poverty. The mandatory displacement of population does not only affect the people who move, but also the neighbors who continue to live in the place, the receiving population of the deferred group and the territorial units where both things happen. Global experience has shown that financial compensation alone is not enough to enable people to rebuild their lives and restore their pre-displacement socio-economic conditions. Therefore, it is the responsibility of any organization or entity that develops a project or activity that causes mandatory displacement, to resettle people, eliminate the risk of impoverishment of the displaced and avoid deterioration in the quality of life of the people who will continue to live in the place, as well as of the receiving population.

Objectives:

- a. To resettle the displaced population to improve, or at least restore, in a sustainable manner, the socio-economic conditions and living standards they had before displacement, regardless of the type of land tenure.
- b. Provide sustainable and inclusive alternatives to resettlement that respond to the differential characteristics of the people who must be displaced.
- c. Prevent, mitigate, and compensate for the negative impacts.
- d. Integrate the resettled population with the recipient.

Scope:

CAF requires a resettlement action plan (RAP) for any project that results in either the physical or the economic displacement of people.

The scope and level of detail of resettlement planning will vary with circumstances, depending on the project's complexity and the magnitude of its effects. As a minimum requirement, a RAP must ensure that the livelihoods of people affected by the project are restored to levels prevailing before inception of the project. However, simple restoration of livelihood may be insufficient to protect affected populations from adverse project impacts, especially induced effects such as competition for resources and employment, inflation, and the breakdown of social support networks.

For this reason, CAF seeks to promote the improvement of the living standards of people affected by the project. Thus, resettlement activities should result in measurable improvements in the economic conditions and social well-being of affected people and communities.

The essential components of a RAP are the following:

- identification of project impacts and affected populations;
- a legal framework for land acquisition and compensation;
- a compensation framework;
- a description of resettlement assistance and restoration of livelihood activities;
- a detailed budget;
- an implementation schedule;
- a description of organizational responsibilities;
- a framework for public consultation, participation, and development planning;
- a description of provisions for redress of grievances; and
- a framework for monitoring, evaluation, and reporting.