

CONFIDENTIAL
INTERNAL USE
PUBLIC UPON APPROVAL

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK
MULTILATERAL INVESTMENT FUND

DOMINICAN REPUBLIC

**ECO-DELIVERY: ELECTRIC MOBILITY, ENVIRONMENT,
AND INTELLIGENCE**

(DR-T1229)

DONORS MEMORANDUM

This document was prepared by the project team consisting of: Smeldy Ramirez (DIS/CDR), Project Team Leader; Carolina Carrasco (DIS/CCH); Svante Persson (DIS/DIS); Manuel Rodriguez (INE/TSP); Benoit Jean Marie Lefevre (CSD/CCS); Hector Baldivieso (INE/ENE); Manuel Jimenez (INO/FLI); Raúl Jiménez (DSP/DVF); and Daisy Ramírez (LEG/LEG).

This document contains confidential information relating to one or more of the ten exceptions of the Access to Information Policy and will be initially treated as confidential and made available only to Bank employees. The document will be disclosed and made available to the public upon approval.

CONTENTS

PROJECT SUMMARY EXECUTIVE SUMMARY

I.	THE PROBLEM	1
A.	Diagnostic assessment of the problem to be addressed	1
II.	THE SOLUTION	3
A.	Project description	3
B.	Project beneficiaries	5
C.	Project components:	5
D.	Project outcomes, impact, monitoring, and evaluation	7
III.	ALIGNMENT WITH THE IDB GROUP, SCALABILITY, AND PROJECT RISKS	8
A.	Alignment with the IDB Group	8
B.	Sustainability and scalability	9
C.	Project risks	9
IV.	COST AND FINANCING	10
V.	PROJECT PARTNERS AND IMPLEMENTATION STRUCTURE	10
A.	Description of the executing agency	10
B.	Implementation structure and mechanism	11
VI.	FULFILLMENT OF MILESTONES AND SPECIAL FIDUCIARY ARRANGEMENTS	12
VII.	ACCESS TO INFORMATION AND INTELLECTUAL PROPERTY	12

PROJECT SUMMARY

DOMINICAN REPUBLIC ECO-DELIVERY: ELECTRIC MOBILITY, ENVIRONMENT, AND INTELLIGENCE (DR-T1229)

The economic growth in the Dominican Republic over the past 20 years have undoubtedly improved the population's socioeconomic indices. However, this social and commercial boom has also brought about significant environmental challenges in the country's main cities, primarily due to the excess air and noise pollution from combustion-engine vehicles, especially motorcycles.

In cities like Santo Domingo, the transportation sector produces 35% of greenhouse gas emissions; 70% of the 4.8 million vehicles in the sector are over 10 years old. Motorcycles make up 55.7% of the fleet, and 37% of them (almost 1 million) are driven in Greater Santo Domingo. The use of clean technologies for transportation is very limited. Specifically, the number of electric vehicles— around 2,300—remains insignificant.

Moreover, the noise pollution in the National District is the worst in the country, and it affects residents' quality of life. Data from the National Statistics Office (ONE) indicate that around 52% of households in the National District are impacted by vehicular and motor noise. This noise is just as harmful as any other type of pollution, leading to issues that range from physiological conditions like progressive hearing loss to psychological ones that cause irritation, fatigue, headaches, and other types of physiological dysfunction. Approximately 80% of the noise pollution in big cities is traffic-related.

On par with the urban challenges of the fossil fuel and noise pollution caused by road traffic, the provision of home-delivery services has greatly expanded due to COVID-19. These new delivery service business models are becoming a significant part of urban commerce—and they pose new challenges for large cities, which need to find solutions for the traffic, CO₂ emissions, and noise that they generate.

The widespread use of motorcycles combined with insufficient road safety education makes the Dominican Republic one of the countries with the highest mortality rates from motorcycle road accidents. The death rate for motorcyclists of 149 per 1 million residents is much higher than in countries like Brazil, where the population is 20 times larger. In 2019 alone, 1,736 motorcycle traffic deaths were recorded.

To address these challenges, Nature Power proposes to implement a pilot experience that will reduce environmental and noise pollution and bring down the accident rate in the city of Santo Domingo by replacing the vehicles used for home-delivery services with electric ones, while gathering real-time data to track the positive effects of the technological change and provide support for decision-making to optimize mobility in the city.

As expected outcomes, 265 combustion engine motorcycles will be replaced with electric ones; 265 persons will be trained on soft skills and driving on roadways according to the eco-driving model; 265 motorcyclists will be provided with road accident insurance; the use of electric motorcycles will prevent the emission of 401 tons of CO₂ per year; and 50,000 residents of the pilot target areas will benefit indirectly.

The project falls within the framework of the **IDB Group Country Strategy with the Dominican Republic 2017-2020** (document GN-2908), specifically priority area 2 "Expansion of productive opportunities," insofar as it supports the lines of action that promote productive restructuring at the territorial level and lead to sustainable production consistent with climate change initiatives.

ANNEXES

Annex I	Results Matrix
Annex II	Budget Summary
Annex III	iDelta

APPENDICES

Proposed resolution

**INFORMATION AVAILABLE IN THE TECHNICAL DOCUMENTS SECTION OF THE IDB LAB
PROJECT INFORMATION SYSTEM**

Annex IV	Itemized budget and execution plan
Annex V	Diagnostic assessment of the executing agency's institutional capacity and integrity
Annex VI	Procurement plan
Annex VII	Table of Milestones

ABBREVIATIONS

DGII	Dirección General de Impuestos Internos [Internal Tax Department]
INTRANT	Instituto Nacional de Tránsito y Transporte Terrestre [National Institute for Overland Transportation and Traffic]
MSMEs	Micro, small, and medium-sized enterprises
NPF	Nature Power Foundation
ONE	National Statistics Office
PM	Particulate matter
SDGs	Sustainable Development Goals
SMEs	Small and medium-sized enterprises
WHO	World Health Organization

DOMINICAN REPUBLIC REPUBLIC
ECO-DELIVERY: ELECTRIC MOBILITY, ENVIRONMENT, AND INTELLIGENCE
EXECUTIVE SUMMARY

Country and geographic location:	Santo Domingo, National District, Dominican Republic		
Executing agency:	Nature Power Foundation (NPF)		
Focus area:	Inclusive cities/essential infrastructure services		
Coordination with other donors / Bank operations:	The project falls within the framework of the IDB Group Country Strategy with the Dominican Republic 2017-2020 (document GN-2908), specifically priority area 2 "Expansion of productive opportunities," insofar as it supports the lines of action that promote productive restructuring at the territorial level, leading to sustainable production consistent with climate change initiatives.		
Direct and indirect beneficiaries:	The direct beneficiaries are: (i) 1,260 individuals who will participate in the eco-driving, road safety education, and soft skills training programs; (ii) 100 small businesses whose transportation operating costs will be cut by 75% and whose carbon footprint will decrease through the procurement of 260 electric motorcycles; (iii) 65 small businesses, through the installation of solar solutions; (iv) 260 persons who acquire accident insurance; and (v) the environment in the target areas, due to the prevention of 401 tons of CO ₂ emissions as a result of the electric mobility transition. The project will indirectly benefit 50,000 people in the target areas, by reducing noise and environmental pollution by 25%, through the introduction of electric motorcycles.		
Financing:	Technical cooperation funding:	US\$750,000	50%
	Counterpart:	US\$750,000	50%
	Total Budget:	US\$1,500,000	100%
Execution and disbursement period:	30 months for execution and disbursements		
Special contractual conditions:	The following are conditions precedent to the first disbursement: (i) submission of the annual work plan; (ii) establishment of the work committee; and (iii) selection of the project coordinator.		
Environmental and social impact review:	This operation was screened and classified in accordance with the IDB's Environmental and Social Policy Framework (document GN-2965-21) on 22 September 2021. Since the impacts and risks are limited, the project is proposed as a category "C" operation.		

I. THE PROBLEM

A. Diagnostic assessment of the problem to be addressed

- 1.1 **Air pollution.** The carbon dioxide pollution caused by road traffic in the Dominican Republic's National District (capital city) is alarming. By 2020, the transportation sector already produced 35% of the country's greenhouse gas emissions, due to its fleet of old, polluting vehicles. In all, 70% of vehicles are over 10 years old. From 2010 to 2020, the fleet expanded from 2.7 million to 4.8 million vehicles—an absolute increase of 2.1 million vehicles, equivalent to 77.1% growth in one decade.¹ Motorcycles make up 55.7% of the fleet, and 37% of them (almost 1 million vehicles) are driven in Greater Santo Domingo,² consuming over 500,000 gallons of fuel every day³ and producing a high percentage of CO₂ emissions.
- 1.2 The principal air pollutants in the capital city are carbon monoxide, total organic gases, and particles, especially particulate matter PM₁₀, of which 19,616 tons are emitted annually. In the city of Santo Domingo, the levels of particulate matter emissions, which are harmful to the health of persons and ecosystems,³ exceed the 10 µg/m³ cap established by the World Health Organization (WHO) by 150%.⁴ The levels of PM_{2.5} (particulate matter with an aerodynamic diameter of 2.5 µm) reach 35.44 µg/m³ in Santo Domingo.⁵
- 1.3 These emissions levels are directly related to the preponderance of internal combustion engine vehicles, as well as the fact that the transportation sector consumes 40% of the country's total hydrocarbons. Consumption varies by type of vehicle; the fleet is 55.5% motorcycles, 20.6% cars, 10.5% jeeps, and the remaining 13.3%, freight vehicles, buses, etc. While motorcycles emit fewer greenhouse gases per kilometer, the size of the fleet, intensity of use, per-passenger carbon footprint, and the fact that technical inspections are usually less strict than for other vehicles, all mean that motorcycles are a significant source of pollution that must be addressed.
- 1.4 The use of clean technologies is very limited. Specifically, the number of electric vehicles in use —around 2,300, of which an estimated 60% are motorcycles—is still insignificant compared to the total national fleet. That said, the market for electric vehicles is gradually expanding, as purchase prices get more competitive and operational and maintenance benefits are achieved in productive sectors like freight and passenger transportation. Furthermore, the Dominican government has set a goal for 2050 in its National Strategic Plan for Electric Mobility: that 35% of

¹ Official statistics from the Internal Tax Department (DGII).

² [Vehicle Fleet 2021, DGII.](#)

³ Projection based on [statistics from the Ministry of Industry, Trade, and MSMEs.](#)

⁴ **Particulate matter (or total suspended particles):** Solid particles and liquid droplets that can be suspended in the air; resulting from combustion processes, industrial activities, or natural sources; and whose aerodynamic diameter is less than 60 micrometers. Source: Technical Regulation on Air Quality of the Ministry of the Environment and Natural Resources.

⁵ Baseline for the fuel economy of light vehicles prepared for the project: cleaner and more efficient fuels and vehicles. Ministry of Energy and Mines, 2017.

motorcycles registered in the private sector, and 50% of light-duty freight vehicles, will be electric.

- 1.5 **Noise pollution.** The noise pollution in the National District is the worst in the country, and it affects residents' quality of life. **Data from the National Statistics Office (ONE) indicate that around 52% of households in the National District are impacted by vehicular and motor noise.**⁶ This noise is just as harmful as any other type of pollution, causing issues that range from physiological conditions like progressive hearing loss to psychological ones that cause irritation, fatigue, headaches, and other types of physiological dysfunction. Approximately 80% of the noise pollution in big cities is caused by traffic.⁷
- 1.6 Notably, delivery motorcycles that use fossil fuels have a volume of 110 decibels at one meter of distance with an open exhaust, similar to daily exposure to a rock concert and loud enough to injure the nerve cells of the inner ear and cause neurovegetative physiological, psychological, and concentration-related alterations and sleep disorders.⁸
- 1.7 The Ministry of the Environment and Natural Resources establishes the maximum noise levels permitted and the general requirements in place throughout the country for protection against the environmental noise produced by fixed and mobile sources. The Environmental Regulation on Noise Protection sets the maximum limits for fixed and mobile sources; for example, for motorcycles with 80 cc displacement or less, the cap is 78 decibels. Thus, delivery motorcycles are 40 decibels louder than the regulatory limit.
- 1.8 Successful experiences in and good practices for reducing noise in cities do exist. A study on the evolution of noise pollution over time conducted in Pamplona and Madrid by the Acoustics Group of the Public University of Navarra Physics Department, published in the Journal of the Acoustical Society of America, shows that in a five-year period, noise pollution decreased in Pamplona by 41% and in Madrid by 17%. The study cited road traffic, poor driving habits, and the lack of pedestrian areas as causes of noise pollution. The measures taken to reduce it included: awareness campaigns on motor vehicle noise and responsible driving, the use of nonmotorized and electric means of public transportation, and the development of pedestrian areas.
- 1.9 **Expansion of the delivery industry.** In line with the urban challenges of fossil fuel and noise pollution due to road traffic, delivery services have taken off, expanded, and become a major player in urban commerce. Data from the startup Shippify show that the delivery sector grew 250% in 2020, leading to changes in consumer trends, to such an extent that 97% of restaurants plan to maintain delivery services on a permanent basis after the pandemic, according to a survey conducted by Deliveroo.⁹ These new business models pose new challenges for large cities like

⁶ [Data from the 2010 census, published by ONE in 2015.](#)

⁷ [Traffic causes 80% of the noise in housing](#), Danosa, Building Together, Spain.

⁸ [European Environment Agency Report on Environmental Noise.](#)

⁹ [81% of restaurants will invest in delivery to make it a pillar of their businesses in 2021](#), Deliveroo Newsroom, 2021.

Santo Domingo, which will have to find solutions for the resultant motor vehicle traffic, noise, and CO₂ emissions.

- 1.10 Delivery apps grew 600% during the pandemic; “Pedidos Ya” and the Cervecería Nacional Dominicana’s “Colmaapp” are clear examples of a new, growing business model in which the services go so far as to develop their own supermarkets and online convenience stores.
- 1.11 The rise of delivery services has created new jobs and dynamized an economy battered by the pandemic—with a collateral negative impact on the environment and the population’s health due to noise pollution and the services’ carbon footprint. Furthermore, despite the growth, most delivery drivers do not have formal employment contracts, access to health insurance, or social security. Many do not even have identity documents, and some are even minors.
- 1.12 **Road accidents.** The Dominican Republic is one of the countries with the highest road traffic mortality rates, with 34.6 deaths per 100,000 inhabitants,¹⁰ equivalent to 3,118 deaths per year.¹¹ Specifically, the death rate for motorcyclists is 149 per 1 million inhabitants of the country, a much higher rate than in countries like Brazil, where the population is 20 times larger.¹² Analyzing the accident rate by type of vehicle or means of transportation being used by the victim at the time of the accident shows that motorcycles have the most accidents, followed by pedestrians. In 2019 alone, there were 1,736 motorcycle traffic deaths.¹³ In all, over 80% of traffic-related fatalities are vulnerable users. These statistics show the urgent need to decrease road traffic accidents and the deaths they cause.
- 1.13 The National Statistics Office (ONE) reported that from 2007 to 2016, 18,800 people lost their lives in road traffic accidents, 87% of them young people ages 15 to 29. The main causes of motorcycle accidents in Latin America include traffic law violations, a lack of respect for road safety regulations, and reckless driving. The World Health Organization (WHO, 2015) estimates that traffic accidents cost the Dominican Republic 2.2% of its GDP.
- 1.14 The foregoing issues represent an opportunity to develop pilot initiatives to minimize environmental and noise pollution, improve working conditions and road safety education for motorcyclist delivery drivers, and generate information on environmental and traffic variables that will help local authorities make decisions.

II. THE SOLUTION

A. Project description

- 2.1 The project’s **final objective** is to help reduce air pollution, noise pollution, and the accident rate in the city of Santo Domingo through clean technologies for sustainable urban innovation. The **specific objective** is to implement a program

¹⁰ Public transportation and urban mobility in Greater Santo Domingo: the challenges of a social policy for inclusion and equity. Observatory on Social Policies and Development. Office of the Vice President of the Republic (2016).

¹¹ Global Status Report on Road Safety. WHO, 2016.

¹² Report on Motorcyclist Safety in Latin America. Fundación Mapfre, 2013.

¹³ INTRANT Permanent Observatory on Road Safety 2020.

- for replacing the combustion-engine motorcycles used in small businesses' home-delivery services with electric vehicles, thereby shrinking the carbon footprint and reducing the accident rate.
- 2.2 The intervention model is based on a pilot with three parts: (i) transition to electric vehicles for delivery;¹⁴ (ii) generation of real-time data to make it possible to monitor the positive effects of the technological change, make decisions to optimize mobility in the city, and develop mechanisms for listening to citizens; and (iii) improvement of working conditions for the businesses (bodegas) that offer delivery services.
- 2.3 This program will encourage the transition from combustion-engine to electric vehicles at companies and businesses that offer home-delivery services, by providing them with a sustainable business model that will reduce their carbon footprint.
- 2.4 **Training and improvement of working conditions.** The home-delivery service providers participating in the project will receive training on road safety,¹⁵ soft skills for customer service, and technical skills to bridge the digital divide in using mobile ordering applications and the monitoring and social listening platform.¹⁶ This will also make it possible to design delivery routes, respecting traffic laws and driving best practices under the National Institute for Overland Transportation and Traffic (INTRAN) regulation and Law 63-17 on mobility, transportation, and road safety. The program will likewise provide basic accident insurance to minimize the occupational risk for home-delivery service providers.
- 2.5 Once the training stage and the first 12 months of project implementation have been completed, the small businesses and grocery stores will receive certification for their contributions to reducing CO₂ emissions and noise pollution in their trips and through their respect for traffic laws and signage.
- 2.6 **Innovation.** The initiative will deploy a platform that will monitor noise and CO₂ emissions with sensors targeting areas in the capital city with high population densities and average levels of traffic. Every vehicle that is replaced with an electric one under this project will be equipped with a GPS and noise sensor, making it possible to generate predictive models¹⁷ to provide transportation sector and environmental authorities and the National District Mayor's Office with information on environmental and noise pollution, as well as to help them make data-based decisions that will improve the pilot and facilitate replication of the experience in other areas. Supported by artificial intelligence, the project will develop a social-listening module that will make it possible to sort and analyze over 100,000 texts and reactions shared on a daily basis by citizens on social networks and digital media (digital newspapers, blogs, chat boxes, etc.) regarding

¹⁴ The project will be used to introduce and test the operation of electric medium-duty vehicles on grocery store supply routes.

¹⁵ This will include a course on eco-driving to reduce road accidents, and the use of the electric vehicle technology to boost the impact and leverage profitability.

¹⁶ The variables to be measured are: geopositioning, carbon monoxide, sulfur dioxide (SO₂), nitrogen dioxide (NO₂), particulate matter 2.5 µm (PM_{2.5}), particulate matter 10 µm (PM₁₀), and noise pollution.

¹⁷

noise and environmental pollution. This module will classify and georeference citizens' concerns in real time. Combined with the flow of data gathered from the sensors, this will help build a culture of sustainable electric mobility in home-delivery MSMEs.

- 2.7 The project will deploy a network of sensors to measure diverse environmental variables. The data collected will be represented on an interactive map that will display pollution values in real time. The main outputs will be a software platform for robust, secure data storage and monitoring; the monitoring of indicators on route frequency, electric motorcycle range, charging time, maintenance periods and costs, etc.; a network of sensors for monitoring environmental variables;¹⁸ predictive models for environmental noise and air quality; and real-time display maps.
- 2.8 This data will serve the National District Council and the Ministry of the Environment as an input for developing an action plan to mitigate noise and improve air quality, implementing Decree 541-20, which establishes the System for Monitoring, Reporting, and Verification of Greenhouse Gases, which will facilitate advocacy and further the energy transition and electric mobility for businesses and companies with home-delivery services. The data will also serve as a usage case for promoting electric mobility in the country, once it is included as an example in the Dominican Republic's Electric Mobility Plan. The data will be open access and may be downloaded in CSV format.

B. Project beneficiaries

- 2.9 The project beneficiaries are people with very little schooling who work in precarious conditions without occupational accident protection; small businesses with one to ten employees that seek to reduce their operating costs; the residents of the areas where the pilot will be carried out; and the environment.
- 2.10 The **direct** beneficiaries are: (i) 1,260 individuals who will participate in the eco-driving, road safety education, and soft skills training programs; (ii) 100 small businesses whose transportation operating costs will be cut by 75% and whose carbon footprints will shrink through the procurement of 260 electric motorcycles; (iii) 65 small businesses through the installation of solar solutions; and (iv) 260 persons who will acquire accident insurance; (v) the environment in the target areas, due to the prevention of 401 tons of CO₂ emissions as a result of the transition to electric mobility. The project will **indirectly** benefit 50,000 people in the target areas, by reducing noise and environmental pollution by 25% through the introduction of electric motorcycles.

C. Project components:

- 2.11 **Component I: Transition to electric mobility pilot program (IDB Lab: US\$207,440; Counterpart: US\$514,060).** The objective of this component is to foster the transition from combustion-engine to electric vehicles in companies and businesses that offer home-delivery services, by providing them with a sustainable business model that will reduce their carbon footprints.

¹⁸ The variables to be measured are: geopositioning, carbon monoxide, sulfur dioxide (SO₂), nitrogen dioxide (NO₂), particulate matter 2.5 µm (PM2.5), particulate matter 10 µm (PM10), and noise pollution.

- 2.12 This component will finance the following activities: (i) establishment of a baseline for classification of the socioeconomic profiles of the delivery drivers and the participating businesses; (ii) design and implementation of a business model for the sustainable energy transition, to include a totally clean supply chain for grocery and convenience stores; (iii) signing of an agreement with banking institutions for green financing for the transition to electric mobility; (iv) procurement of electric motorcycles; (v) procurement of solar solutions¹⁹ for the participating grocery stores; (vi) design and launch of the “green grocery store” certification (seal); and (vii) outreach and awareness-raising regarding the business model with a view to replicability.
- 2.13 The following outcomes are expected: (i) procurement of 265 electric vehicles for 65 small businesses (grocery stores); (ii) 65 small businesses (grocery stores) incorporate solar panels for energy generation; (iii) establishment of a baseline socioeconomic profile of the delivery service providers and the characteristics of the grocery stores where they work; (iv) a specific business model for the transition to electric mobility for small businesses that provide delivery services; and (v) green seal certification for each participating business that fulfills program requirements.
- 2.14 **Component II: Real-time data and social listening platform (IDB Lab: US\$237,173; Counterpart: US\$148,294.50).** The objective of this component is to deploy a platform that will monitor noise and CO₂ emissions with sensors targeting zones in the capital city with high population densities and average levels of traffic, to make it possible to execute the pilot. A social listening module will also be developed, to organize and analyze over 100,000 texts and reactions of target zone residents, in order to measure citizens’ levels of receptiveness, concern, and acceptance of the pilot.
- 2.15 This component will support the following main activities: (i) design and implementation of the platform for monitoring noise and CO₂ emissions; (ii) design and launch of the social listening algorithm; (iii) procurement and installation of sensors to measure atmospheric and acoustic variables²⁰ at strategic points near the grocery stores; and (iv) execution of the theoretical-practical course on managing the real-time data and social listening platform.
- 2.16 All of the activities under this component will be carried out in compliance with the guide to ethical self-assessment and other tools developed by the Bank’s fAIR LAC²¹ program and the Principles for Digital Development.²²
- 2.17 The expected outcome is an open-data platform fed by sensors placed on the motorcycles and in strategic high-traffic points of the selected geographic area, which will generate data on atmospheric and noise variables in real time. This platform will also have a social listening module that will be able to classify citizens’ concerns and make insights for data-based decision making.

¹⁹ Equipment powered by solar energy (refrigerators, freezers, etc.).

²⁰ The variables to be measured are: ge positioning, carbon monoxide, sulfur dioxide (SO₂), nitrogen dioxide (NO₂), particulate matter 2.5 µm (PM_{2.5}), particulate matter 10 µm (PM₁₀), and noise pollution.

²¹ fAIR LAC: <https://fairlac.iadb.org/>.

²² Principles for Digital Development: <https://digitalprinciples.org/>.

- 2.18 **Component III: Road safety education and improvement of working conditions (IDB Lab: US\$123,200; Counterpart: US\$26,000):** This component will provide education²³ and training on road safety, customer service soft skills, and technical skills that will shrink the digital divide for managing mobile ordering applications. It will also improve working conditions for the motorcycle drivers, by incorporating road accident insurance that will provide support for drivers in the event of an accident. Once the training stage and first 12 months of project implementation have been completed, participating grocery stores will receive certification for their contributions to reducing CO₂ emissions and noise pollution through their trips and their respect for traffic laws and signage. The certification information will be generated on the monitoring platform through sensors to be developed under the project.
- 2.19 This component will finance the following activities: (i) design, adaptation, and implementation of the eco-driving course; (ii) procurement of eco-driving materials and safety equipment; (iii) study of working conditions in the delivery market; (iv) technical advisory services for enrolling delivery workers into a health and accident insurance plan (based on the baseline); and (v) signing of agreements with relevant agencies on improving working and health conditions.
- 2.20 Implementation of these activities is expected to achieve the following: (i) training of 1,260 motorcyclists on eco-driving and electric road safety education; (ii) procurement of material and 50 sets of safety equipment for eco-driving; and (iii) procurement of road accident insurance for 260 motorcycle drivers.
- 2.21 **Component IV: Communication and knowledge management (IDB Lab: US\$59,855; Counterpart: US\$1,645):** The objective of this component is to develop knowledge and communication products that will support the small businesses' transition to electric mobility, as well as the methodology for program replicability and sustainability.
- 2.22 This component will finance the following activities: (i) design and implementation of a communication plan; (ii) development of multimedia and communication material; (iii) procurement of communication support equipment; and (iv) preparation of the pilot project case study.
- 2.23 Implementation of these activities is expected to: (i) yield a communication plan that will facilitate social and political advocacy; (ii) expand the population's knowledge and awareness of air and noise pollution; (iii) lead to more companies transitioning to electric vehicles for their delivery services; and (iv) produce a pilot project case study that documents the model used for project implementation.
- D. Project outcomes, impact, monitoring, and evaluation**
- 2.24 The principal outcomes will be: (i) prevention of the emission of 401 tons of CO₂ per year due to the transition to electric motorcycles; (ii) 1,260 persons trained on eco-driving, road safety, and soft skills; (iii) 100 small businesses decrease their carbon footprints through the procurement of 260 electric motorcycles; (iv) 65 small businesses do so through the installation of solar solutions; (v) 260 persons

²³ This will include a course on eco-driving to reduce road accidents and the use of the electric vehicle technology to boost the impact and profitability.

acquire accident insurance; (vi) home-delivery transportation operating costs decline 80% for the participating businesses; and (vii) a 25% reduction in noise and environmental pollution for 50,000 people in the target areas as a result of the introduction of the electric motorcycles.

- 2.25 For project monitoring, the executing agency will develop a monitoring and evaluation plan that will gather socioeconomic information on the participating businesses and delivery drivers with electric vehicles. Furthermore, it will establish a baseline that will make it possible to track citizens' opinions on the air and noise pollution variables. Nature Power Foundation (NPF) already has a monitoring and evaluation system in place for all of its projects. In this case, it will adapt its own tools to track and execute project activities, and obtain the expected results as per the results matrix and the proposed timeline.

III. ALIGNMENT WITH THE IDB GROUP, SCALABILITY, AND PROJECT RISKS

A. Alignment with the IDB Group

- 3.1 The project is aligned with the IDB Group's Vision 2025, with regard to reactivating the productive sector, specifically in terms of support for small and medium-sized enterprises (SMEs), promoting entrepreneurship and innovation to help boost aggregate productivity. It also supports climate change and environmental sustainability opportunities, by developing alternative mechanisms for SME productivity that are also environmentally sustainable because they prevent CO₂ emissions.
- 3.2 The project is also aligned with the **IDB Group Country Strategy with the Dominican Republic 2017-2020** (document GN-2908), in the crosscutting area related to climate change, as it slows CO₂ emissions through the implementation of a program to transition to electric mobility. The change from combustion engines to electric motors in delivery services is an example of actions aimed at supporting productive activities and job creation, while at the same time supporting climate change adaptation and mitigation.²⁴
- 3.3 The operation falls within the IDB Lab thematic area of **inclusive cities** (document MIF/GN-238), since it is consistent with the objective of testing innovative, scalable solutions that afford urban, periurban, and informal settlement residents a better quality of life.
- 3.4 The project is consistent with the **Power Sector Sustainability and Efficiency Program II** (operation DR-L1058) and the **Energy Sector Framework Document** (document GN-2830-5) in the thematic areas of energy access and sustainability, by supporting the provision of quality, reliable, affordable energy from nonconventional renewable sources.
- 3.5 The project is aligned with the **IDB Invest 2020-2022 Business Plan and Administrative and Capital Budget Proposal** (document [CII/GA-80-2](#)), which recommits to the five key institutional priorities: (i) Group C&D countries; (ii) small

²⁴ See section 3.33, Crosscutting areas in the IDB Group Country Strategy with the Dominican Republic 2017-2020.

and island countries; (iii) MSMEs; (iv) climate change; and (v) gender and diversity. Specifically, the project is aligned with the investment in knowledge policy guidelines, based on which improving synergies within the IDB Group, where the IDB and IDB Lab knowledge advantages are highly complementary to IDB Invest's, will successfully drive knowledge at IDB Invest.

- 3.6 The project contributes to the **IDB Invest Action Plan for the Micro, Small, and Medium Enterprises** (document [CII/GN-364-1](#)) and the **Financial Intermediaries Action Plan** (document [CII/GN-369-5](#)), which recognizes that MSMEs have always been a central focus of IDB Invest's efforts and promotes the synergies within the IDB Group to maximize the development impact of MSMEs. IDB Lab has the capacity to test experimental models, which complements IDB Invest's capacity to expand financing for MSMEs with the objective of closing existing market gaps.
- 3.7 The operation is consistent with the IDB Infrastructure Strategy: Sustainable Infrastructure for Competitiveness and Inclusive Growth (document GN-2710-5), in that it promotes access to infrastructure services. Specifically, it is consistent with the programmatic series of policy-based loans, Program to Support Mobility, Land Transportation, and Road Safety in the Dominican Republic (operations DR-L1132 and DR-L1140) and the Transportation Sector Framework Document (document GN-2740-12), in promoting accessible, efficient, and safe transportation systems.
- 3.8 It is also aligned with the Sustainable Development Goals, especially: (i) SDG 3: Ensure healthy lives and promote well-being for all at all ages; (ii) SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all; (iii) SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all; (iv) SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation; (v) SDG 11: Make cities and human settlements inclusive, safe, resilient and sustainable; (vi) SDG 13: Take urgent action to combat climate change and its impacts; and (vii) SDG 17: Partnerships for the goals.

B. Sustainability and scalability

- 3.9 The project proposes a business model that will create return on investment for every participating grocery store. This innovative, easily understandable arrangement will guarantee sustainability, since it will reduce, by 75%, the costs incurred by every grocery store with a delivery motorcycle.
- 3.10 In terms of scalability, the proposed project will produce sufficient evidence, based on the large volume of data generated by the sensor system and citizens' own digital opinions. Combined with the development of a business model, this will allow other companies that offer delivery services by motorcycle to transition to electric vehicles, which will result in the desired scaleup. More companies are expected to join the project in the second year.

C. Project risks

- 3.11 **Businesses' lack of interest in participating in the project.** To mitigate this risk, the Cervecería Nacional Dominicana and the AMBEV Group will select the participating grocery stores from their "Socios por un Sueño [Partners for a

Dream]” loyalty program. This will guarantee the sample set of stores needed to start project activities and produce evidence for scaleup.

- 3.12 **Change of incumbent authorities.** To mitigate this risk, the project will implement a public outreach strategy with the key partners, and will propose partnership agreements to let them join the project working committee. In addition, the data gathered, which will be public, will generate evidence for performing the advocacy necessary to convince decision-makers to back the initiative.
- 3.13 **Motorcyclists’ unwillingness to switch to electric vehicles due to the time required for charging and the charge range.** To mitigate this risk, the business management will receive training on the charging schedule and best practices for extending the battery charge and life.

IV. COST AND FINANCING

- 4.1 The total project cost is US\$1.5 million, of which US\$750,000 (50%) will be provided by IDB Lab as a nonreimbursable contribution, and US\$750,000 (50%) will be provided by the local counterpart. In all, 88% of the IDB Lab contribution is considered climate financing.

Project components	IDB Lab	Counterpart	Total
Component I: Transition to electric mobility pilot program	207,440	514,060	721,500
Component II: Real-time data and social listening platform	237,173	148,295	385,468
Component III: Training and improvement of working conditions	123,200	26,000	149,200
Component IV: Communication and knowledge management	59,855	1,645	61,500
Program execution unit	102,300	60,000	162,300
Evaluations, audits, and contingencies	20,032	0	20,032
Grand total	750,000	750,000	1,500,000

V. PROJECT PARTNERS AND IMPLEMENTATION STRUCTURE

A. Description of the executing agency

- 5.1 **Nature Power Foundation (NPF):** Nonprofit organization responsible for executing the pilot project, which is being developed as a social innovation meant to improve the population’s living conditions through the design and execution of solutions to social and environmental problems that use new technologies and clean energy. At present, the organization is simultaneously executing 10 innovation projects for public services and access to water and energy that use clean energies and technology to improve the population’s living conditions. In the past three years, NPF has mobilized around US\$4 million in funds from the private sector, public sector, and international cooperation agencies to directly impact the lives of over 5,000 individuals. To execute this project, NPF established partnerships with several public- and private-sector organizations, and received grants from international cooperation agencies.

- 5.2 **Organizations/private sector:** The Cervecería Nacional Dominicana and AMBEV Group have a network of 60,000 grocery stores in the Dominican Republic, and data and information on their business models, individualized operating expenses, waste, and geographic location. Their role in this project is to make AMBEV's data and this business structure available to NPF, allowing it to execute the pilot, as well as use their electric trucks and point redemption program for the project.
- 5.3 **Public Sector: INTRANT** is the national authority governing the Dominican Republic's mobility, overland transportation, traffic, and road safety system. Its mission includes promoting road safety and supporting innovations and pilot projects to develop electric mobility in the country. The **National District Mayor's Office** is the authority in charge of developing municipal urban planning policies and garbage collection. The **Ministry of Energy and Mines** governs the national electricity system and is in charge of developing, adopting, monitoring, evaluating, and controlling renewable energy policies, strategies, general plans, programs, projects and services, and promoting natural renewable energy and mining. The **Ministry of the Environment and Natural Resources** is in charge of drafting, implementing, and enforcing national policies on the environment and natural resources, and promoting and encouraging the preservation, protection, restoration, and sustainable use thereof. Lastly, the mission of the **National Council on Climate Change** is to draw up and establish public policies and strategies that will lead to mainstreaming climate change, a fair transition to prevent and mitigate greenhouse gas emissions, and adaptation to the adverse effects of climate change, coordinating public and private agencies and societal stakeholders in an inclusive way to further climate action.
- 5.4 **Business organizations:** The Electric Mobility Association of the Dominican Republic is a nonprofit association whose fundamental objective is to foster electric mobility in the country by developing projects that promote its use and the management of a charging infrastructure.

B. Implementation structure and mechanism

- 5.5 A project coordination unit will be formed within NPF, consisting of a: (i) project coordinator; and (ii) administrator/accountant. The project coordinator will report directly to the NPF executive and project divisions. NPF will provide the physical and logistical structure necessary for effective, efficient execution of the operation. It will also be responsible for the counterpart necessary to supplement the grant resources provided for execution. NPF will also be responsible for submitting semiannual project implementation progress reports through the IDB Lab project management platforms. As part of project governance, a working committee will be formed by one representative of each partner institution or organization. The working committee will meet every three months, and its duties will include verifying project progress, implementing the activities for which it is responsible, and making relevant suggestions to foster the provision of basic services in rural areas. Both IDB Lab and the project coordinator will participate in the meetings of the working committee, as observers. NPF will appoint a working committee secretary.
- 5.6 Regular coordination meetings will be held to determine action and implementation strategies. IDB Lab will support the executing agency in project implementation and will participate in strategic decision-making.

VI. FULFILLMENT OF MILESTONES AND SPECIAL FIDUCIARY ARRANGEMENTS

- 6.1 The Integrity and Institutional Capacity Diagnostic Assessment findings indicate that the project's risk level is low, showing that NPF has a financial management system that is acceptable to IDB Lab as well as a monitoring and reporting structure for submitting its institutional financial statements to the Bank. Project disbursements will be contingent upon verification that milestones have been fulfilled, based on the means of verification agreed upon by the executing agency and IDB Lab. Fulfillment of milestones does not exempt the executing agency from the responsibility of delivering the agreed results.
- 6.2 Unless otherwise determined by the Bank during project execution, procurement will follow the executing agency's policies. An annual plan containing the procurement needed to implement the project and fulfill the milestones will be submitted with the annual work plan. At its discretion, IDB Lab will review the technical aspects of procurement on an ex ante basis, particularly those considered critical.
- 6.3 The executing agency will prepare its annual financial statements and make them available to the Bank. Using grant resources, the Bank may review these financial statements and the use of project resources, verifying financial practices and procurement.

VII. ACCESS TO INFORMATION AND INTELLECTUAL PROPERTY

- 7.1 **Access to information.** The information contained in this document is classified as public upon approval, pursuant to the Bank's Access to Information Policy.²⁵
- 7.2 **Intellectual property.** The technological platform developed in component II will be the property of the executing agency. All other products, methodologies, and knowledge obtained from the project will be owned by the Bank. The Bank may provide free access to the public to the information it deems pertinent by awarding the Creative Commons IGO 3.0 BY-NY-ND license.

²⁵ Link to the [Bank's Access to Information Policy](#).