

| Cover Page for CTF Project/Program Approval Request^[a] Dedicated Private Sector Programs (DPSP-III) | | | |
|--|---|---------------------------|--|
| 1. Country/Region | Ecuador | 2. CIF Project ID# | XCTFEC772A |
| 3. Public or Private | Public | ✓ | |
| | Private | | |
| 4. Project/Program Title | Financing Sustainable Electric Transport in Ecuador | | |
| 5. Is this a private sector program composed of sub-projects? | Yes | | |
| | No | ✓ | |
| 6. Financial Products, Terms and Amounts | | | |
| Financial Product | | USD (million) | EUR (million)^[b] |
| Grant | | 1.047 | |
| Fee on grant | | 0.053 | |
| MPIS (for private sector only) | | | |
| Public sector loan | Harder terms | | |
| | Softer terms | 23.0 | |
| Senior loan | | | |
| Senior loans in local currency hedged | | | |
| Subordinated debt / mezzanine instruments with income participation | | | |
| Second loss guarantees | | | |
| Equity | | | |
| Subordinated debt/mezzanine instruments with convertible features | | | |
| Convertible grants and contingent recovery grants | | | |
| Contingent recovery loans | | | |
| First loss guarantees | | | |
| Other (please specify) | | | |
| Total | | 24.1 | |
| 7. Implementing MDB(s) | Inter-American Development Bank | | |
| 8. National Implementing Agency | Ministry of Finance of Ecuador | | |
| 9. MDB Focal Point | Claudio Alatorre Frenk (calatorre@iadb.org) | | |
| 10. Brief Description of Project/Program (including objectives and expected outcomes)^[c] | | | |
| <p>In Ecuador, the fossil fuel-related greenhouse gas (GHG) emissions have increased in the past ten years, with a 30% increase in 2018 compared to 2009, with the transport sector accounting for 41.9% of the emissions in 2018.¹ More significantly, the GHG emissions from the transport sector</p> | | | |

¹ Crippa, M., Oreggioni, G., Guizzardi, D., Muntean, M., Schaaf, E., Lo Vullo, E., Solazzo, E., Monforti-Ferrario, F., Olivier, J.G.J., Vignati, E. (2019), Fossil CO2 and GHG emissions of all world countries - 2019 Report,

increased in 78% during the same period, from 10.43 million of tCO₂e to 18.6 million of tCO₂e. The most used fuels are diesel (45% of total use), gasoline (41%) and fuel oil (7%).² Of all the fuels consumed in the sector, 49% is consumed by passenger vehicles, 25% by heavy load transport vehicles and 24% by light load transport.³ Overall, these figures are likely to continue to rise in unison with the growing trends in urban conglomerates, if modal and technology changes are not enforced. In a business-as-usual (BAU) scenario, GHG emissions in Ecuador are expected to rise 30% in the coming decade.⁴

To reduce this impact, electric vehicles (EV) are one of the available technologies to decarbonizing and lowering local air pollution.⁵ Moreover, existing literature suggests that operating an EV should be far less expensive than a combustion engine vehicle. This technology is now a priority for Ecuador, as evinced by the Energy Efficiency Lay approved in 2019, which mandates that as from 2025, all public transport vehicles should be based on electrical technology.⁶

The main barrier remains in the initial capital expenditures, which are four times higher than conventional rolling stock. In the case of buses, on average a new electric bus costs USD 360,000 compared to an average diesel bus price of USD 120,000. In the case of taxis, these studies estimate a range of USD 35,000 to USD 43,000 per electric unit, compared with the average price of USD 17,000.⁷ In emerging EV-technology markets, achieving financial viability for technology adoption is contingent on incentives that offset higher market-price, and to various technical, economic, cultural and regulatory factors prevailing in the context in which the technology is introduced.

According to the 2018 Transport Statistics Yearbook, in Ecuador there are 2,403,651 vehicles of which 0.4% (9,655 vehicles) are of hybrid technology and 0.01% (276) are 100% electric. This shows the low use of clean technologies within the transport sector.

In financial terms, the Ecuadorian system, although stable, faces liquidity problems⁸ as it is unable to provide sufficient long-term financing to the private sector. In fact, available financing to the private sector as a percentage of GDP is 35%, below the Latin America and Caribbean (LAC) average of 54%.⁹ Medium and long-term financing for private investment is particularly scarce, mainly because the financial sector cannot access long-term financing. This is due to structural factors, such as low levels of savings and long-term deposits, insufficient leveraging, a negligible presence of markets for money, debt and capital, and an incipient development of institutional

EUR 29849 EN, Publications Office of the European Union, Luxembourg.

² Electricity use for transport is minimal.

³ Ministerio del Ambiente (2017). *Tercera Comunicación Nacional del Ecuador a la Convención Marco de las Naciones Unidas sobre el Cambio Climático*. Mayo.

⁴ Arroyo, Flavio; Miguel, Luis. (2019). *Análisis de la Variación de las Emisiones de CO₂ y Posibles Escenarios al 2030 en Ecuador*. Espacios. Vol. 40 (Nº 13) Año 2019. Página 5.

⁵ Furthermore, EV could also increase energy security, as reducing fossil liquid fuels consumption can contribute to energy supply stability.

⁶ [Ley Orgánica de Eficiencia Energética](#).

⁷ "Implementación Integral de un Sistema de Transporte Público Basado en Propulsión Eléctrica".

⁸ IMF (2019). Op.Cit.

⁹ World Bank Development Indicators.

investors who need to make long-term investments. This situation has negative impacts on the possibility of financing for electric fleets.

In this sense, the general objective of this program is to reduce fossil fuel consumption and GHG emissions in Ecuador through the promotion of low-carbon mobility. The specific objectives to achieve this will be to: (i) stimulate the financing of private investments in EVs; and (ii) promote the replacement of combustion engine vehicles.

[Clean Technology Fund](#) (CTF) concessional loan resources blended with IDB's Ordinary Capital (OC) will provide long-term financing for EV projects via the Ministry of Economy and Finance (MEF). The MEF will execute these resources through special arrangements with Corporación Financiera Nacional (CFN), an Ecuadorian national development bank¹⁰, the Ministry of Transport and Public Works (MTOPE), and the Ministry of Energy and Non-renewable Energy Resources (MERNRR). A coordination unit will be created to provide sound management and monitoring. CTF and OC resources will be directed to provide: (i) long-term loans to replace fossil combustion-engine vehicles with new EV (buses and taxis) fleets,¹¹ (ii) vehicle scrapping vouchers for EV transition; and (iii) power generation for green mobility solutions, mainly EV charging stations (preferably solar powered). Financing will be delivered to final beneficiaries through CFN (operating as first-tier or second-tier bank) and, potentially, other first-tier financial institutions (FIs). The intended beneficiaries of the program are private concessionaires, electric companies and suppliers and operators of EVs in Ecuador. The expected results are an increase in total investment in EV projects financed by the program; an increase in the amount of scrapping vouchers provided to beneficiaries; an increase in the number of EVs financed and operating; the number of operators and cooperatives benefited from the program and an increase in the number of passengers using electric vehicles per day. The expected impact is an increase in the amount of GHG emissions avoided by the EVs that are financed by the program.

The program could combine the concessional loan instrument with the use of adapted risk transfer mechanisms, such as guarantee funds. The employment of these mechanisms will be discretionary, and loans will not be subject to their use. A guarantee could be instrumental to cover regulatory or demand risks, but this could be highly specific to the particular structure of the operation at the municipal level. Municipalities regulate transport routes and prices and will be a key actor in project structuring.

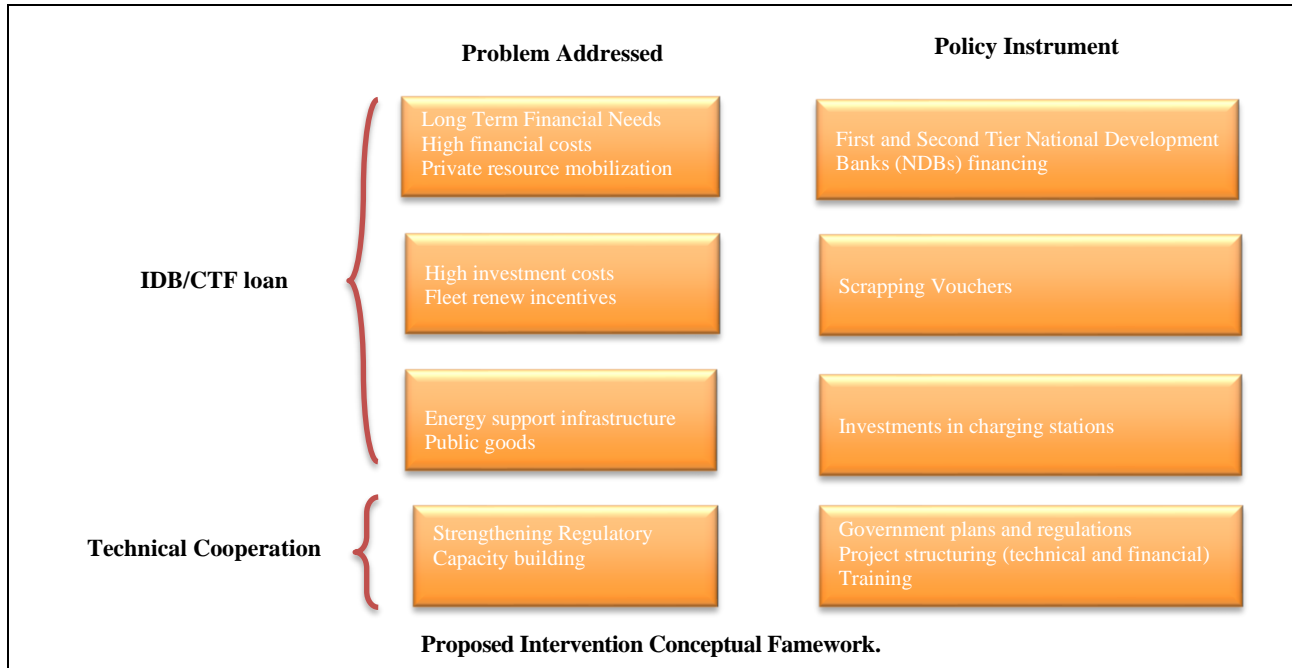
The estimated IRR for this operation is 13%. It was calculated from net benefits flows that include social benefits from the program (externalities and fiscal benefits), and is barely above the discounted rate of 12% used for the net present value calculation. When considering only the private flows of costs and benefits, the IRR decreases to 8%. This low IRR reflects the challenging nature of these investments from the transport operators and financial institutions perspective and speaks for the need of financing conditions that enable the allocation of loans in terms that make EV investment viable. Due to these challenges, the softer CTF terms are requested for this operation.

¹⁰ Which operates as a first-tier and second-tier bank.

¹¹ The program does not consider private light vehicles. The disposal of vehicles replaced will be treated in the safeguards of the program.

CTF grant resources are also requested to finance a complementary technical cooperation operation (TC) that will support the overall implementation of the program, including the establishment of an appropriate enabling environment and capacity building for CFN and other government stakeholders. Support will be provided for the enhancement of regulation, policy framework and business models, capacity building of municipalities, transport sector authorities, vehicle producers, operators, regulators, FIs among others. The TC will consist of three components:

- **Operational transformation and support to EVs.** This component will focus its efforts on the institutional strengthening of Ecuador's capacity building of municipalities, transport sector authorities and stakeholders among others in the evaluation and financing of EV projects. This component aims to provide: (i) support to stakeholders in the development and implementation of the institutional, organizational and process improvements necessary for the strengthening of an EV project structuring area within the CU, including the development of a new EV financing window and the corresponding CU in the MEF; (ii) support to MEF and FIs in the structuring and technical and financial analysis of EV projects; and (iii) support to the financial sector in the development of a system for the capture and processing of adequate information for the analysis of EV projects.
- **Strengthening of the EV sector in regulatory and financial matters.** Component II resources will support the EV sector in Ecuador, including agents from the financial and regulatory sectors, to develop and generate mechanisms that facilitate the scaling up and sustainability of EV investments. Activities include: (i) awareness-raising and capacity building of vehicle providers, operators, utilities, regulators, FIs and other market actors; (ii) improvements to the regulatory framework and policies related to EV technology, charging infrastructure and electricity tariffs, especially support for updating public transport concessions (ownership/operation separation of assets, duration of concessions, etc.) that allow for the financial viability of projects; (iii) development of financial, commercial and risk-sharing models for the incorporation of EV fleets in specific areas; and (iv) support for the structuring of demand-side subsidy mechanisms, in accordance with local regulations and international practices and support to ensure scraping and disposal of old replaced vehicles.
- **Communication of results and dissemination plan.** The third component focuses on the development of actions for the evaluation and dissemination of the TC. Among the activities that will be financed are specific case studies related to the achievements and experiences developed in the context of the Loan Program and the TC, dissemination activities of the results of the EV projects financed and a final report that evaluates the results achieved and develop recommendations on how to continue advancing in the financing agenda of sustainable EV transport solutions in Ecuador.



| 11. Consistency with CTF investment criteria | |
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| (1) Potential GHG emissions savings | The program should result in a total reduction in emissions of approximately: 8,052 tons of CO₂e per year on average over 15 years; 45,754 tons of CO ₂ e accumulated during the 5 years of program execution; and around 120,790 tons of CO₂e during the useful life of the projects. |
| (2) Cost-effectiveness | Based on GHG emission reductions of 120,790 tons of CO ₂ e over 15 years, the unit abatement cost of the program is estimated at: (i) USD 190.4 per ton of CO₂e considering only CTF financing; and (ii) USD 512.5 per ton of CO₂e , when total project investment costs are considered. A Cost Benefit Analysis (CBA) undertaken for this Program indicates that the expected Net Present Value (NPV) of the Program is USD 11.9 million , and the IRR is 13%. |
| (3) Demonstration potential at scale | Magnitude of resources needed. Private and public funding is needed to replace significant portions of the ageing public transport fleets in major cities in Ecuador. This includes, for example, Quito’s public transport system, which comprises the Metrobús-Q (BRT corridors), with 971 buses of various diesel configurations, and the Convencional Intracantonal (intraurban) subsystem, operated by 1,223 standard buses. Meanwhile, 2,700 buses operate the Intracantonal public transport system in Guayaquil, with 400 buses serving the |

BRT system. Given the energy efficiency law, a window of opportunity is opening to encourage the adoption of EV technologies by developing tailored financial models and incentives with longer repayment periods.¹²

While bus concessions and municipal bus services constitute an important component of demand, interest has been identified in the use of EVs for taxi applications. Experience from an ongoing first experiment in the City of Loja can complement lessons learned from other cities to design electric taxi operations. The International Airport of Quito, for example, designed an incentive package to support the two taxi cooperatives active in the airport to integrate EVs. The preliminary results of the market assessment that supports the preparation for the program estimates the two to three year demand that could be met if resources are made readily available to support the financing of the sector. Based on an average investment range of USD 380,000 to USD 577,000 for buses and USD 35,000 for electric taxis, including the projected charging equipment, this demand adds up to a total of USD 179.4 million.

The financial and commercial model proposed by the program is expected to remove some important barriers to investment in EV in Ecuador, especially in public transportation, particularly in terms of increasing the attractiveness (reduced risk and efficient returns) of projects to involve private investors, reducing the perception of risk in the local financial system and promoting good practices and contractual schemes.

The business models developed under the program present a great opportunity to demonstrate the commercial viability of financing and structuring investments in EV, allowing the Ecuadorian banking system and potential private investors to reduce their perceptions of investment risk.

In addition to the current funding structure available, there are additional characteristics associated to EV investments in transport services that affect the availability of long-term private credit in adequate

¹² This will gradually become more relevant for the current fleet of vehicles for public transport as their lifetime approach their end.

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| | <p>conditions. In the first place, given the early stage of development of the market, there is a lack of familiarity with the complex nature of this type of investments that need to be incorporated in risk analysis by the financial institutions. Furthermore, there are other factors such as the uncertainty about the potential impact of regulation in tariffs and project returns, the still limited number of suppliers of EV, maintenance and services and uncertainty about the future development of EV infrastructure and services, due to the current dominance of technology based in fossil fuels.</p> <p>If the model is successful, it could be expanded to support more EV projects in the country.</p> <p>From the perspective of public transport operators, the introduction of EV technology has significant operational savings potential, particularly in the case of buses, since fuel and maintenance constitute a substantial part of the annual operating costs of a bus. Despite the high rate of subsidies for diesel and gasoline in Ecuador, a comparative analysis estimated that the energy savings to operate EV could reach 70% in the country¹³. Ratifying these data with real experiences through the implementation of fleets, would make the business more attractive to investors, expanding the national market.</p> |
| (4) Development impact | <p>Improving the emission standards of the fleet is important for public transport in Ecuador. The proposed program will not only contribute to this objective, but also to the reduction of local pollutants and noise levels and, therefore, to reduce the number of deaths and respiratory diseases in the areas of influence of the projects. According to the National Institute of Statistics and Censuses (INEC) of Ecuador, in 2017, 18.6% of deaths in Quito originated from respiratory diseases, which are related to air quality problems; and according to the World Health Organization, mortality for 2012 was 1,771 deaths attributable to ambient air pollution.¹⁴ The potential for socio-environmental benefits is large. For example, just the last few years, traffic congestion has reduced mean vehicle speeds in Quito from 19.9 km/h to 14.1 km/h, exacerbating public exposure to toxic emissions as well as</p> |

¹³ Julián A. Gómez-Gélvez, Carlos Hernán Mojica, Veerender, Kaul, Lorena Isla. (2016) The Incorporation of electric cars in Latin America.

¹⁴ [Diagnóstico de Salud del Distrito Metropolitano de Quito](#). Alcaldía de Quito. 2017.

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| | <p>the emission of GHG. The altitude and road grade create challenges to the performance of internal combustion engines and create a further competitive advantage for electric drive platforms.</p> <p>From the fiscal point of view, the introduction of EV could generate savings in the diesel subsidies that currently exist in the country, provided electricity tariffs are kept at real-market rates. As a reference of the possible magnitude of savings, in 2019 the commercial price of diesel was USD 1.04/gallon, while the projected price without subsidies was USD 2.3/gallon.¹⁵ Therefore, the replacement of diesel with electricity in public transport can generate a significant fiscal benefit for the country. Hence, from a public economic perspective, long-term operating savings potential, plus the positive externalities from the reduction of fossil fuel combustion and fiscal savings, can offset the incremental costs of an EV.</p> <p>Finally, the introduction of the electric vehicle fleet and its infrastructure will help to create local capacity for the maintenance and operation of this new technology in the long term, promoting greater productivity.</p> |
| (5) Implementation potential | <p>CFN, one of the national implementing agencies for the program, is a well-established institution that operates as a first- and second-tier bank across the country. It seeks to promote economic development in the productive and strategic sector of Ecuador through financial and non-financial services and works with a range of clients ranging from MSMEs to corporations. There is an existing credit line for financing EVs for the public and commercial transport sector, called “<i>Financiamiento de Movilidad Eléctrica</i>”. To date, they have granted loans for approximately USD 8.6 million to finance electric taxis and buses in the country.¹⁶ Notwithstanding, there are plans for expanding the presence of EVs in the sector. For instance, there is an agreement between Ecuador’s Development Bank (BDE) and the municipal government of Quito for financing the procurement of electric buses for the city. In addition to this, CFN has led several initiatives aimed at promoting and identifying demand for</p> |

¹⁵ Prices provided by ARCONEL and the Ministry of Transport.

¹⁶ ELECTRI LOJA ECOLOSUR S.A.: acquisition of 40 electric taxis with a preferential rate of 10% per year. “SAUCINC S.A.”: renovation of 20 electric buses for the city of Guayaquil, with autonomy of 300km and their chargers. The 20 electric buses will mean a fiscal saving to the country of approximately USD 8 million dollars, due to the issue of subsidized fuel consumption.

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| | <p>these EV investments, in which relevant industry stakeholders participated. The program will build on this initial experience and efforts and further expand CFN’s ability to finance this type of investment.</p> <p>Across the region, national development banks (NDBs) have progressively increased their role in filling major financing gaps.¹⁷ Compared to commercial banks and investment funds, NDBs normally can take on more risks and provide longer-term financing. In the context of the proposed program, an NDB can: (i) support demand creation for EV investments by helping address sector/country-specific constraints, building awareness and financial capacity, and promoting an enabling environment for investment; and (ii) incentivize the supply of financial instruments suitable for these projects, involving the local private banking sector via intermediation, co-financing, or risk sharing schemes.¹⁸</p> <p>The proposal also builds on prior work of IDB within the region¹⁹ on the adoption of hybrid or electric buses by private operators, through the preparation of in-depth assessments of potential opportunities, engagement with bus operators, bus providers and local financiers; pre-investment support, preparation of technical studies among others. At the same time, it also builds on IDB experience with similar programs with NDBs in the region.²⁰</p> |
| <p>(6) Additional costs and risk premium</p> | <p>Although the significant lower OPEX of an EV is sufficient to amortize the investment, this requires a longer payback period since the CAPEX is much higher compared to a conventional combustion engine vehicle. The current conditions of the financial system in Ecuador create a mismatch between the payback structure required to minimize the impact of financial costs of the projects and the available long-term funding conditions.</p> |

¹⁷ De Olloui, F. et al., “[Bancos Públicos de Desarrollo ;Hacia un Nuevo Paradigma?](#)“, IDB, 2013; Chelsky, J. et al., “Investment Financing in the Wake of the Crisis: The Role of Multilateral Development Banks”, World Bank, 2013.

¹⁸ Smallridge, D., et al., “[The Role of National Development Banks in Catalyzing International Climate Finance](#)“, IDB, March 2013.

¹⁹ See TC [Accelerating NDC Implementation. Unlocking Clean Buses in LAC \(ATN/AC-16601-RG, ATN/OC-16602-RG, ATN/OC-16603-RG\). ATN/CF-15453-RG.](#)

²⁰ In 2013, IDB approved the Bogota’s Integrated Public Transit System Transformation Program ([3003/TC-CO](#)), funded with CTF resources, to support the financing of low carbon buses for Bogota’s *Sistema Integrado de Transporte Público* via Colombia’s national development bank, Bancóldex.

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| | <p>In addition to the current funding structure available, there are additional characteristics associated to EV investments in transport services that affect the availability of long-term private credit in adequate conditions. In first place, given the early stage of development of the market, there is a lack of familiarity with the complex nature of this type of investments that need to be incorporated in risk analysis by the financial institutions. Furthermore, there are other factors such as the uncertainty about the potential impact of regulation in tariffs and project returns, the still limited number of suppliers of EV, maintenance and services and uncertainty about the future development of EV infrastructure and services, due to the current dominance of technology based in fossil fuels.</p> |
| <p>Additional CTF investment criteria for private sector projects/ programs</p> | |
| <p>(7) Financial sustainability</p> | <p>(Although this section is not required for sovereign-guaranteed CTF operations, since this operation will provide finance to the private sector, we are providing the answers to these questions.)</p> <p>The sustainability of EV investments in the future is closely related to the evolution of the demand for this type of investment. To achieve this, the Government of Ecuador is working on a regulatory environment to promote EV investment. Similarly, CFN has been conducting activities across the country to educate relevant stakeholders in the characteristics and financial benefits of EV investments and to identify potential projects. Demand is expected to benefit from the energy efficiency law. Pilot projects as the one presented will also be instrumental to rise key lessons in order to escalate the public policy directed to promote EV. In the same line, the role of the expected demonstration effect is crucial to promote future engagements by the government and private sectors.</p> <p>As a result of the CFN’s socialization of the product “<i>Financiamiento de Movilidad Eléctrica</i>”, contact has been made with local authorities and public transport companies in order to identify and promote opportunities and projects of this type. This institutional effort has allowed mapping projects that can be financed throughout Ecuador, such as: Quito (North Central Corridor), Guayaquil (buses and taxis), Portoviejo, Baltra (Galápagos), Atuntaqui and Lago Agrio.</p> |

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| <p>(8) Effective utilization of concessional finance (including a detailed analysis on how the proposal meets the minimum concessionality principles, and on how it is aligned with the blended concessional finance principles)</p> | <p>Preliminary EV market analyses concluded that under the current conditions the electric buses and taxis in Ecuador are not competitive against diesel or natural gas operated vehicles mainly due to the low price of the fuel and wide acceptance of the technology for its local manufacture and supply chain network. They also conclude that concessional finance will be needed to overcome some of these barriers and make the EV competitive. Based on this scenario it is estimated that the level of concessionality that will be provided is enough to meet the market’s demands, and that a lower level of concessionality would be insufficient.</p> <p>The concessional finance will be focused in creating the conditions for long-term financing. The transference of concessional finance will be verified by requesting the IFI to declare an average rate in similar conditions of tenure and purpose and the rate of the product, which should be lower than the average.</p> |
| <p>(9) Mitigation of market distortions</p> | <p>There is currently no active market for financing EVs in Ecuador, so no potential distortions are foreseen. The program is expected to crowd in private investment, to develop business models to overcome current barriers, and to contribute to the strengthening of the fiscal, regulatory and institutional framework for EVs.</p> |
| <p>(10) Risks</p> | <p>Consistent with the approach to financial intermediation operations, the Bank will conduct the analysis of the proposed program at two levels. The first level will be at the corporate level, specifically CFN’s ability to manage and apply the IDB’s environmental and social safeguards, identifying the capacity and expertise of areas within the entity to allow safeguards to be applied to projects and investments to be financed with IDB resources. The other level is in the analysis of specific subprojects or investments.</p> <p>The results of the analysis of the operation will be summarized in the Environmental and Social Management Report (ESMR) that will define the environmental and social requirements of the program and will be integrated into the program’s Operating Regulations (OR).</p> <p>CFN has been using funding from French Financial Cooperation Agency and other international donors that request an ESG system in place. CFN also worked with the bank.</p> |

12. For DPSP projects/programs in non-CTF countries, explain consistency with FIP, PPCR, or SREP Investment Criteria and/or national energy policy and strategy

In order to reduce GHG emissions from the transport sector, the Government of Ecuador is working on a regulatory environment that seeks to promote investment and use of EV through technical norms and tax incentives.²¹ Since 2008, the exoneration of import taxes has sought to provide incentives for the acquisition of hybrid and electric vehicles. As of 2018, there were 6,581 hybrid and 240 electric vehicles registered.²² Similarly, the Program for the Renewal of the Vehicle Fleet and Scrapping (RENOVA) was implemented in order to substitute units in the public and commercial transport sector. By 2014, 19,614 new units were introduced and 16,123 were scrapped.²³ Differentiated electricity tariffs for EV charging have been set in place by the Agency for the Regulation and Control of Electricity (ARCONEL) following government guidelines.²⁴ Similarly, a National Plan for Electromobility is expected to be developed. These measures follow the guiding principles set up in the National Plan for EE 2016-2035,²⁵ the Law of EE and the National Development Plan 2017-2021.²⁶ A key factor that will have a role in promoting the demand for EV is the requirement established by Law of EE that all new vehicles for public transport should be based on electric technology as from year 2025. The promotion of EVs is also in line with Ecuador's objectives in its NDC, particularly with its mitigation specific objectives, submitted in March 2019. It is projected a reduction of 20.9% compared to a BAU-scenario by 2025. Only a 9% reduction is to be achieved with own resources and 11.9% is conditional to international financial support.

13. Stakeholder Engagement

The proposal follows sectoral dialogue with relevant actors, public and private, local and national, including banks, operators, concessionaires, EV providers, utilities, ARCONEL, Quito's Mobility Secretary, local transport companies such as MOVIDELNOR and Metrovía de Guayaquil, and sector ministries, building on prior IDB engagement with the national government to support the adoption of electric buses by private operators.

In order to promote actions and generate agreements that allow the implementation of EVs in Ecuador, the Vice-President of Ecuador has structured an EV Roundtable, made up of by MTOP, the operative leader of the roundtable, Ministry of the Environment and Water (MAE), MEF, CFN, National Transit Agency (ANT), MERNNR, ARCONEL and Seguros Sucre. From March 3 to 6, 2020, a mission was carried out with specialists from the IDB's Transport, Energy and Capital Market divisions, where meetings were held with the different actors across this EV Roundtable and also with representatives of the Municipalities of Quito, Guayaquil and Portoviejo, all of them committed from their field of action, to support electro-mobility projects in the country and their cities.

²¹ Import tax exemptions, VAT exonerations in some cases, among others.

²² Asociación de Empresas Automotrices del Ecuador (Aeade).

²³ *Plan Nacional de Eficiencia Energética* (2016).

²⁴ *Ley Orgánica de Eficiencia Energética* (2019) and *Plan Nacional de Eficiencia Energética* (2016). The plan estimates a reduction in energy consumption on the order of 144.8 million of diesel barrels between 2007 and 2035.

²⁵ Among the objectives of this plan is the establishment of mechanisms for incentivize imports or fabrication of hybrid, electric or new-technology-based vehicles. It is estimated that this could yield to savings of up to 144.8 million of barrels (equivalent) of diesel for the period 2007-2035.

²⁶ HINICIO (2019). *Consultoría en Innovación del Sistema de transporte Terrestre y movilidad sostenible para el Archipiélago de Galápagos. – Diagnóstico.*

The IDB together with the EV Table carried out the study “Plan for the Implementation, Sustainability and Evaluation of a Public Transportation System based on Electric Propulsion in three Cities of Ecuador”. As one of the main aspects of this study, three workshops were held in the cities of Quito, Guayaquil and Tena, with around 20 transport operators of the three cities, with potential electric-bus suppliers, and representatives of public institutions such as Municipal authorities, ARCONEL and MTOP, obtaining, among others, the following results: (i) the municipalities have a good predisposition and interest, especially the municipalities of Quito (priority of electro-mobility in the Historical Center and BRT corridors) and Guayaquil (where there is already a charging station, a successful project with Saucinc company and a local law that promotes a subsidy of USD 15,000 for every new electrical bus), as well as Galápagos Islands (for environmental reasons) and the Municipality of Portoviejo (where electro-mobility is part of its New Mobility Plan); (ii) there are differences between revenues of urban public transport buses in large cities (USD 700 to USD 800 per day) versus small cities (USD 480 to USD 600 per day); however, the investment, operation and maintenance costs does not show variations; this indicates that the chances of generating sustainable financial schemes for urban electric bus projects are bigger in larger cities (Quito, Guayaquil or Cuenca); (iii) there is a lack of technical knowledge in operators about electric bus technologies, especially about operating costs and maintenance, as well as organizational capacity deficiencies; (iv) another key aspect for operators is tariffs for energy supply and the price of the tickets, in most cases subject to the municipal authorities; and, v) highlight the importance in the definition of public transport routes in order to identify suitable conditions for EV in terms of demand, operation and quality of service.

Finally, the program will create a Coordination Unit (CU) that will integrate the MTOP, MERNNR and CFN. It will have a general coordinator, an administrative coordinator, a transport specialist, an energy specialist and a financial specialist. The CU will be responsible for: (i) coordinating the use of resources among the key internal and external stakeholders; (ii) elaborating and establishing the required operating rules and the mechanism to channel de resources through CFN as a first and second tier bank defining, among others, maximum final interest rates, intermediation costs and project eligibility final criteria; (iii) establishing an administration trust to provide risk mitigation instruments (guarantees) if required, as well as its operating rules; and (iv) providing timely and adequate quarterly reports to the Bank regarding the use of resources and the program management.

14. Gender Considerations

The project will consider the differences between men and women to invest in EV. Women face different barriers in accessing clean technologies, as well as financial credit due to socioeconomic constraints: lack of technical and financial knowledge, bigger risk aversion, lower asset value, access to smaller or informal credits, etc.

The project will map women-led businesses in public transport in Ecuador. It will identify specific barriers these companies find to access credit or to transition to EVs. Likewise, it will help to overcome these barriers using communication tools, capacity building activities, and evaluation of business models, among others.

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| 15. For projects/programs with activities in countries assessed as being at moderate or high risk of debt distress, macro-economic analysis to evaluate the potential for the CTF project or program to impact the country's debt sustainability | | |
| A comprehensive assessment of the borrower's macroeconomic situations and overall capacity to take on new debt will be carried out before approval, in compliance with the Bank's policies (specifically its macroeconomic safeguard GN-2753-7). | | |
| 16. For public sector projects/programs, analysis of how the project/program facilitates private sector investment | | |
| The program intends to offer a comprehensive approach to EV financing. First, it addresses the problem of high CAPEX impact on overall EV investment's return profile, long-term financial needs by potential beneficiaries and the need of private resource mobilization by expanding the supply of first and second-tier National Development Banks (NDB) financing in conditions that will help to better match project cash flows with loan repayments. This will facilitate access to long-term concessional loans and promote private resource mobilization from the financial institutions involved. Second, it will further address the issue of high investment costs and the need of providing incentives to renew combustion-engine fleets by facilitating the provision of scrapping vouchers to transport operators. This is a key aspect to address in order to obtain positive net environmental benefits. Third, it will contribute to the public goods dimension of the framework by supporting investment in charging stations for EV in cases where arrangements between municipalities and infrastructure providers cannot be convened. ²⁷ | | |
| 17. Indicators and Targets | | |
| Project/Program Timeline | | |
| Expected start date of implementation ^[d] | | 2021 |
| Expected end date of implementation ^[d] | | 2026 |
| Expected investment lifetime in years (for estimating lifetime targets) | | 15 |
| Core Indicators | | Targets^[e] |
| GHG emissions reduced or avoided over lifetime (tons of CO ₂ -eq) | | 120,790 |
| Annual GHG emissions reduced or avoided (tons of CO ₂ -eq/year) (specify: upon completion of the project/program / on the maximum year / on a representative year) | Upon completion | 8,052 |
| Installed capacity of renewable energy (MW) | | N/A |
| Number of additional passengers using low-carbon transport per day | | 67,600 |
| Energy savings cumulative over lifetime of investment (MWh) | | TBD |
| Annual energy savings (MWh/year) (specify: upon completion of the project/program / on the maximum year / on a representative year) | | TBD |
| Identify relevant development impact indicator(s) | | Targets |
| Total number of individual operators to be benefited by the program (gender distribution among beneficiaries will be monitored) | | 153 |
| Total number of taxi cooperatives to be benefited by the program | | 6 |

²⁷ Arrangements between municipalities and infrastructure providers in order to build charging stations have been used in Ecuador to provide these public goods. The program could potentially support this provision in investment scenarios with small municipalities.

| 18. Co-financing | | |
|--|---------------------------------------|----------------------------|
| | Please specify as appropriate | Amount (in million USD) |
| IDB | This operation | 10 |
| | Pipeline 2021 ²⁸ | 10 |
| Government | Financing for electric infrastructure | 5 |
| Private Sector | Financial Institutions | 12.8 |
| Bilateral | | |
| Others (please specify) | | |
| Total | | 37.8 |
| 19. Expected Date of MDB Approval | | |
| TBD | | |

NOTES:

- [a] This cover page is to be completed and submitted together with the MDB project/program proposal when requesting CTF funding approval by the Trust Fund Committee.
- [b] For products denominated in EUR, please also provide USD equivalent in the column to the left
- [c] Please provide the information in the cover page or indicate page/section numbers in the accompanying project/program proposal where such information can be found.
- [d] Insert “not applicable” (N/A) if dates cannot be determined at the time of submission (e.g. private sector programs)
- [e] Insert value N/A if indicator is not applicable to the project/program.

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²⁸ This second 10M operation is scheduled for approval in 2021, as part of a credit line that will continue the implementation of the EV financing program using the same execution mechanism, but enhancing the operation through lessons learned in terms of technical and financial project structuring.

| ACRONYMS | |
|----------|--|
| ANT | National Transport Agency |
| AOP | Annual Operating Plan |
| ARCONEL | <i>Agencia de Regulación y Control de Electricidad</i> (Agency for the Regulation and Control of Electricity) |
| BAU | business-as-usual |
| BDE | <i>Banco del Desarrollo del Ecuador</i> (Ecuador Development Bank) |
| BRT | Bus Rapid Transit |
| CAPEX | Capital Investment |
| CBA | cost-benefit analysis |
| CFN | <i>Corporación Financiera Nacional</i> |
| CRF | Corporate Results Framework |
| CTF | Clean Technology Fund |
| CU | Coordination Unit |
| DPSP | Dedicated Private Sector Programs |
| ECLAC | Economic Commission for Latin America and the Caribbean |
| EE | energy efficiency |
| EM | electric mobility |
| ESMR | Environmental and Social Management Report |
| ESS | Environmental and Social Strategy |
| E&S | Environmental and Social |
| EV | electric vehicle |
| GDP | Gross Domestic Product |
| GHG | greenhouse gases |
| ICCT | International Council on Clean Transportation |
| ICEV | internal combustion engine vehicles |
| IDB | Inter-American Development Bank |
| IMF | International Monetary Fund |
| LAC | Latin America and the Caribbean |
| MDB | Multilateral Development Banks |
| MAE | <i>Ministerio del Ambiente y Agua</i> (Ministry of the Environment and Water) |
| MEF | <i>Ministerio de Economía y Finanzas</i> (Ministry of Economy and Finance) |
| MERNNR | <i>Ministerio de Energía y Recursos Naturales No Renovables</i> (Ministry of Energy and Non-renewable Resources) |
| MEP | Monitoring and Evaluation Plan |
| MSME | Micro, Small and Medium Enterprise |
| MTOP | <i>Ministerio de Transporte y Obras Públicas</i> (Ministry of Transport and Public Works) |
| NDB | national development bank |
| NDC | Nationally Determined Contributions |
| NPV | Net Present Value |
| OC | Ordinary Capital |
| OPEX | Operating Costs |
| OR | Operating Regulations |
| POD | Proposal for Operation Development |
| RE | renewable energy |

| ACRONYMS | |
|-----------------|--|
| RENOVA | <i>Programa de Renovación del Parque Automotor y Chatarrización</i> (Program for the Renewal of the Vehicle Fleet and Scrapping) |
| SB | Superintendence of Banks |
| SEPS | Superintendence of Popular and Solidarity-Based Economy |
| SME | small and medium-sized enterprise |
| SPF | Safeguard Policy Filter |
| SSF | Safeguard Screening Form |
| TC | Technical Cooperation Operation |
| UNEP FI | United Nations Environment Programme Finance Initiative |
| WAL | Weighted Average Life |

LOAN EC-L1268. PROJECT PROFILE

ECUADOR

I. BASIC DATA

| | | | |
|--------------------------|---|-------------------------|--|
| Project Name: | Financing Sustainable Electric Transport in Ecuador | | |
| Project Number: | EC-L1268 | | |
| Project Team: | Joan Prats (IFD/CMF), Team Leader; Jean Paul Armijos (INE/TSP) Alternate Team Leader; Benoit Lefevre (CSD/CCS), Alternate Team Leader; Francisco Demichelis, Maria Netto, Isabelle Braly-Cartillier, Claudia Marquez, Sebastián Vargas, Cecilia Bernedo (IFD/CMF); Carlos Echeverria, Marcelino Madrigal, Kenol Thys (INE/ENE); Pablo Guerrero (INE/TSP); Claudio Alatorre (CSD/CCS); Karina Calahorrano, Alexandra Sanchez (CAN/CEC); Pilar Jiménez de Arechaga (LEG/SGO); y Carolina Escudero and Juan Carlos Dugand (VPC/FMP). | | |
| Borrower: | Republic of Ecuador. Ministry of Economic and Finance. | | |
| Executing Agency: | Republic of Ecuador. Ministry of Economic and Finance. | | |
| Financial Plan: | IDB (Ordinary Capital) – Loan: | US\$10.0 million | |
| | IDB (CTF) ¹ – Grant: | US\$1.1 million | |
| | IDB (CTF) ² – Loan: | <u>US\$23.0 million</u> | |
| | Total: | US\$34.1 million | |
| Safeguards: | Policies triggered: OP-102, OP-703 (B1, B2, B3, B7, B.10, B.11, B13, B.17). Classification: B.13 (FI-3 or FI-2 to be confirmed during due diligence) | | |

II. GENERAL JUSTIFICATION AND OBJECTIVES

A. Background and justification

- 2.1 Transport accounts for 23% of global energy-related Greenhouse Gas (GHG) emissions.³ In Latin America and the Caribbean (LAC), this share is 36%.⁴ Innovations in low-emission technologies for urban transport offer the potential to achieve environmental objectives, with economic gains. Improving the fuel and vehicle efficiency of transport system is a key action assisting LAC countries in meeting their Paris Climate Agreement objectives (Nationally Determined Contributions (NDC)).
- 2.2 Electric Vehicles (EV) are one of the available technologies to decarbonizing and lowering local air pollution.⁵ Existing literature suggests that operating an EV

¹ Clean Technology Fund (CTF) funding for this program is expected to be submitted for approval by March 2020, and will be subject to the Financial Procedures Agreement between IDB and CTF.

² Idem footnote [1].

³ [Mobilizing Sustainable Transport for Development](#), Analysis and Policy Recommendations from the United Nations Secretary-General's High-Level Advisory Group on Sustainable Transport, United Nations (UN), 2016.

⁴ Martinez, H. [El Desafío del Sector Transporte en el Contexto del Cumplimiento de las Contribuciones Determinadas a Nivel Nacional de América Latina](#). Economic Commission for Latin America and the Caribbean (ECLAC), 2018.

⁵ Furthermore, EV could also increase energy security, as reducing fossil liquid fuels consumption can contribute to energy supply stability.

should be far less expensive than a combustion engine vehicle. The problem remains in the initial capital expenditures which are four times higher than conventional rolling stock. In emerging EV-technology markets, achieving financial viability for technology adoption is contingent on incentives that offset higher market-price, and to various technical, economic, cultural and regulatory factors prevailing in the context in which the technology is introduced.

- 2.3 **Transport sector in Ecuador.** The transport sector represents 6.7% of Ecuador's GDP⁶ and employs 5.4% of the total workforce in the country.⁷ Fossil CO₂ emissions have increased in the past ten years, with a 30% increase in 2018 compared to 2009, with the transport sector accounting for 41.9% of the emissions in 2018.⁸ More significantly, the fossil CO₂ emissions from the transport sector increased in 78% during the same period, from 10.43 million of tCO₂e to 18.6 million of tCO₂e. The most used fuels are diesel (45% of total use), gasoline (41%) and fuel oil (7%).⁹ Of all the gasoline consumed in the sector, 49% is consumed by passenger vehicles, 25% by heavy load transport vehicles and 24% by light load transport.¹⁰
- 2.4 Buses are the main vehicle used for public transport in Ecuadorian cities.¹¹ In this context, in order to reduce GHG emissions from the transport sector, the Government of Ecuador is working on a regulatory environment that seeks to promote investment and use of EV through technical norms and tax incentives, on which a National Plan for Electromobility will be developed and will also include differentiated electricity tariffs.¹² These measures follow the guiding principles set up in the National Plan for Energy Efficiency 2016-2035, the Law of Energy Efficiency and the National Development Plan 2017-2021. A key factor that will have a role in promoting the demand for EV is the requirement established by Law of Energy Efficiency that all new vehicles destined for the public transport system should be electric starting in the year 2025.
- 2.5 From the perspective of operators of public transport, the introduction of EV technology has important operational savings potential, particularly in the case of buses, as fuel and maintenance constitute a substantial share of the annual costs operating a bus. Despite the high rate of subsidies for diesel and gasoline in Ecuador, a comparative analysis estimated that the energy savings for operating EV could reach 70% in the country.¹³
- 2.6 Ecuador's energy matrix is mostly clean, with an 83.2% share of renewable energy (including large hydro),¹⁴ which means a lower indirect carbon footprint for EV.

⁶ Banco Central del Ecuador (2017).

⁷ Instituto Nacional de Estadísticas y Censos (2019).

⁸ Crippa, M., Oreggioni, G., Guizzardi, D., Muntean, M., Schaaf, E., Lo Vullo, E., Solazzo, E., Monforti-Ferrario, F., Olivier, J.G.J., Vignati, E. (2019), Fossil CO₂ and GHG emissions of all world countries - 2019 Report, EUR 29849 EN, Publications Office of the European Union, Luxembourg.

⁹ Electricity use for transport is minimal.

¹⁰ Ministerio del Ambiente (2017). *Tercera Comunicación Nacional del Ecuador a la Convención Marco de las Naciones Unidas sobre el Cambio Climático*. Mayo.

¹¹ INEC. *Op.cit.*

¹² Discounted rates for EV recharging. *Ley Orgánica de Eficiencia Energética* (2019) and *Plan Nacional de Eficiencia Energética* (2016)

¹³ Julián A. Gómez-Gélvez, Carlos Hernán Mojica, Veerender, Kaul, Lorena Isla. (2016) The Incorporation of electric cars in Latin America.

¹⁴ Agencia de Regulación y Control de Electricidad (ARCONEL) (2018). *Estadística Anual y Multianual del Sector Eléctrico Ecuatoriano*.

- Furthermore, the current cost of electricity¹⁵ (relevant for charging costs) might allow EVs to achieve commercial success locally, if coupled with incentives associated to reducing the cost of capital and capacity building.
- 2.7 From a fiscal point of view, the introduction of EV will generate important savings in diesel¹⁶ subsidies that currently are in place in the country. As a reference of the possible magnitude of savings, the current price of diesel is 1.04 US\$/gallon while the 2019 projected price without subsidies was US\$2.3/gallon.¹⁷ Hence, the replacement of diesel for electric power in public transport can generate an important fiscal benefit to the country.
- 2.8 **Financial constraints on EV investment.** The Ecuadorian financial system, although stable, faces liquidity problems¹⁸ and is unable to provide sufficient long-term financing to the private sector. Indeed, credit to the private sector as a percentage of GDP is 35%, below the LAC average of 54%.¹⁹ Medium to long-term financing for private investment is particularly scarce, primarily because the financial sector own inability to access long-maturity funding. This is due to structural factors, such as low levels of savings and long-term deposits, insufficient leveraging, a negligible presence of markets for money, debt, and capital,²⁰ and an incipient development of institutional investors needing to make long-term investments.
- 2.9 In the case of EV, although the significant lower Operational Cost (OPEX) of an EV is sufficient to amortize the investment, this requires a longer payback period since the Capital Expenditure (CAPEX) is much higher compared to a conventional combustion engine vehicle. Hence, the conditions of the financial system in Ecuador create a mismatch between the payback structure required to minimize the impact of financial costs of the projects and the available long-term funding conditions.
- 2.10 In addition to the current funding structure available, given the early stage of development of the market, there is a lack of familiarity with the complex nature of this type of investments that need to be incorporated in risk analysis by the financial institutions. Furthermore, there are other factors such as the uncertainty about the potential impact of regulation in tariffs and project returns, the limited number of suppliers of EV, maintenance and services and uncertainty about the future development of EV infrastructure and services, due to the current dominance of technology based in fossil fuels.

B. Intervention proposed and program objectives

- 2.11 The general objective of the program is to reduce fossil fuel consumption and GHG emissions in Ecuador through the promotion of low-carbon mobility. The specific objective is to stimulate the financing of private investments in EVs.
- 2.12 [Clean Technology Fund](#) (CTF)²¹ concessional loan resources blended with IDB's Ordinary Capital (OC) will provide long-term financing for EV projects via the Ministry

¹⁵ Gómez-Gelvez, et al. (2016). *Op.Cit.*

¹⁶ Diesel is the fuel utilized by buses in the public transport sector.

¹⁷ This was the intended diesel price that was set before the government retracted an initiative (Decree 883) for lifting fuel subsidies.

¹⁸ IMF (2019). *Op.Cit.*

¹⁹ World Bank Development Indicators.

²⁰ *Superintendencia de Bancos de Ecuador. Boletines financieros.*

²¹ CTF funding for this program was approved under the 3rd phase of the Dedicated Private Sector Programs,

of Finance (MoF). The MoF will execute these resources through special arrangements with *Corporación Financiera Nacional* (CFN), an Ecuadorian national development bank,²² the Ministry of Transport and Public Works (MTPW), and the Ministry of Energy (MoE). A coordination unit will be created to provide sound management and monitoring. CTF and OC resources will be directed to provide: (i) long term loans to replace fossil combustion-engine vehicles with new EVs (buses and taxis) fleets;²³ (ii) vehicle scrapping vouchers for EV transition; and (iii) power generation for green mobility solutions, mainly EV charging stations (preferably solar powered). Financing will be delivered to final beneficiaries through CFN (operating as first-tier or second-tier bank) and, potentially, other first-tier Financial Institutions (FI). The intended beneficiaries of the program are private concessionaires, electric companies and suppliers and operators of EV in Ecuador. The expected results are an increase in total investment in EV projects financed by the program; and an increase in number of EV financed and operating. The expected impact is an increase in the amount of GHG emissions avoided by the EV that are financed by the program.

- 2.13 The program could combine the concessional loan instrument with the use of adapted risk transfer mechanisms, such as guarantee funds. The employment of these mechanisms will be discretionary, and loans will not be subject to its use. A guarantee could be instrumental to cover regulatory or demand risks, but this could be highly specific to the particular structure of the operation at the municipal level. Municipalities regulate transport routes and prices and will be a key actor in project structuring.
- 2.14 CTF resources will also finance complementary TC activities to support the overall implementation of the program, including establishment of an appropriate enabling environment and capacity building of CFN and other government stakeholders.
- 2.15 The program will be executed will use IDB (US\$10 million) and CTF (US\$24.1 million) loan and TC resources.²⁴ Funds will be channeled via accredited FIs on a first-come-first-served basis²⁵ or via CFN operating as first-tier bank, to program's beneficiaries that meet eligibility criteria that will be defined in the program's Operating Regulations (OR). CFN is a well-established institution which operates as a first-tier and second-tier bank throughout the country. It seeks to promote economic development in Ecuador's productive and strategic sector through financial and non-financial services and works with a range of clients that goes from MSME to corporations. There is an existing line of credit for EV financing for the public and commercial transport sector.²⁶ To this date, they have provided credit for approximately US\$8.6 million for financing electrical taxis and buses in the country. In addition to this, CFN has been leading several initiatives destined to promote and identify demand for this EV investments, in which relevant stakeholders in the industry were involved. The program will build upon this initial

which is intended to make use of a range of financing instruments taking risks that commercial lenders are not able to bear.

²² Which operates as a first-tier and second-tier bank.

²³ The program does not consider private light vehicles. The disposal of vehicles replaced will be treated in the safeguards of the program.

²⁴ Projects will be deemed eligible based on conditions established in the Operating Regulations, to be agreed between IDB and CFN.

²⁵ In this case, CFN will operate as second-tier bank.

²⁶ In 2017 CFN financed the acquisition of 40 electric taxis by a private operator in the city of Loja and in 2018 provided US\$7.6 million in financing for the acquisition of 18 electric buses by a private operator in Guayaquil. Furthermore, CFN has conducted workshops with private operators across the country to identify and promote potential projects with EV across the country.

expertise and efforts and further expand CFN capacity to finance this type of investments. Finally, it will be determined, during program's design phase and in conformity with Ecuador's legal framework, if other government's entity will participate in the execution stage.

- 2.16 **Program alignment.** The program is aligned with the Second IDB's Updated Institutional Strategy (UIS) 2020-2023 (AB-3190-2), with the challenge of Productivity and Innovation through the financing of investments from third parties mobilized by the project, and with the crosscutting theme of Climate Change (CC) and Environmental Sustainability, through promotion of the EV relaying on renewable energy projects. Following the joint MDB approach on climate finance tracking, an estimated 100% of IDB funding for this program will be invested in CC mitigation activities and will contribute to the IDB Group's climate finance goal of 30% of operational approvals by year's end 2020. Additionally, it will contribute to the Corporate Results Framework (CRF) 2016-2019 (GN-2727-6) in the performance indicators of reduction of emissions, and MSMEs financed. The program is also aligned with the objective to move forward on Ecuador's energy reform; boost the contribution of private investment and productivity to economic growth; and facilitate access investment financing of the IDB Country Strategy for Ecuador 2018-2021 (GN-2924). It is consistent with the Support to SMEs and Financial Access/Supervision Sector Framework Document (GN-2768-7), the Sustainable Infrastructure for Competitiveness and Inclusive Growth Strategy (GN-2710-5), and the Integrated Strategy for Climate Change Adaptation and Mitigation, and Sustainable and RE (GN-2609-1).

III. TECHNICAL ISSUES AND SECTOR KNOWLEDGE

- 3.1 The proposal builds on prior work of IDB within the region^{27, 28} on the adoption of hybrid or electric buses by private operators, through the preparation of in-depth assessments of potential opportunities, engagement with bus operators, bus providers and local financiers; pre-investment support, preparation of technical studies among others. It also builds on IDB experience with similar programs with National Development Banks in the region.²⁹ Additionally, IDB is currently preparing a similar program in Peru; with which this operation will coordinate its efforts. This operation will benefit from the lessons learned from these previous experiences, such as targeting a wider range of beneficiaries and strengthening the enabling environment.

IV. ENVIRONMENTAL SAFEGUARDS AND FIDUCIARY SCREENING

- 4.1 Due to its financial intermediation structure and following Directive B.13 of the Environment and Safeguards Compliance Policy (OP-703), the program does not require classification *ex ante*. Consistent with the approach to financial intermediation operations, the Bank will conduct the analysis of the proposed program at two levels. The first level will be at the corporate level, specifically

²⁷ Through a dedicated electromobility initiative, IDB has supported pilot projects for the acquisition of electric fleets and the deployment of charging infrastructure, as well as the definition of electromobility policies and strategies in several countries in the region, among other Barbados, Costa Rica, and Dominican Republic.

²⁸ See TC [Accelerating NDC implementation. Unlocking clean buses in LAC \(ATN/AC-16601-RG, ATN/OC-16602-RG, ATN/OC-16603-RG\). ATN/CF-15453-RG](#)

²⁹ In 2013, IDB approved the Bogota's Integrated Public Transit System Transformation Program (3003/TC-CO), funded with CTF resources, to support the financing of low carbon buses for Bogota's *Sistema Integrado de Transporte Público* via Colombia's national development bank, Bancóldex.

CFN's ability to manage and apply the IDB's environmental and social safeguards, identifying the capacity and expertise of areas within the entity to allow safeguards to be applied to projects and investments to be financed with IDB resources. The other level is in the analysis of specific subprojects or investments.

- 4.2 The results of the analysis of the operation will be summarized in the Environmental and Social Management Report (ESMR) that will define the environmental and social requirements of the program and will be integrated into the program's OR.
- 4.3 Since this is the first operation with CFN, an institutional assessment of CFN will be undertaken in order to review its capacity to manage IDB fiduciary requirements and identify, if applicable, mitigation actions.

V. KEY ISSUES

- 5.1 The sustainability of EV investments in the future is closely related to the evolution of the demand for this type of investment. To achieve this, the Government of Ecuador is working on a regulatory environment to promote EV investment (§2.4). Similarly, CFN has been conducting activities across the country to educate relevant stakeholders in the characteristics and financial benefits of EV investments and to identify potential projects. Demand is expected to benefit from the requirement established by the Law of Energy Efficiency that mandates that all new vehicles destined for public transport system should be electric starting in 2025. Pilot projects as the one presented will be instrumental to rise key lessons in order to expand the public policy directed to promote EV. These lessons are related to the required coordination among stakeholders (central and subnational governments, private and public banks, transport firms and cooperatives, EV providers, and others), the appropriate use of public incentives for EV adoption, and the learning curve of financial intermediaries to deal with EV financial risks.