

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PERU

FINANCING SUSTAINABLE ELECTRIC TRANSPORT SOLUTIONS

(PE-L1254)

LOAN PROPOSAL

This document was prepared by: María Netto (IFD/CMF), Team Leader; Benoit Lefevre (CSD/CCS), Alternate Team Leader; Agustina Calatayud, Alternate Team Leader (INE/TSP); Rafael Capristán y Daniel Pérez Jaramillo (INE/TSP); Enrique Nieto, Rodrigo Chaparro, Francisco Demichelis, Claudia Márquez, Isabelle Braly-Cartillier, y Cecilia Bernedo (IFD/CMF); Marcelino Madrigal (INE/ENE); Carlos Echeverría (ENE/ENE); Jaime Fernández (CSD/CCS); Claudio Alatorre (CSD/CCS); Javier Jiménez (LEG/SGO); Bernardo Deregibus (ORP/REM); and Andrés Suárez (VPC/FMP).

In accordance with the Access to Information Policy, this document is being released to the public and distributed to the Bank's Board of Executive Directors simultaneously. This document has not been approved by the Board. Should the Board approve the document with amendments, a revised version will be made available to the public, thus superseding and replacing the original version.

CONTENTS

PROJECT SUMMARY	1
I. DESCRIPTION AND RESULTS MONITORING	2
A. Background, problem addressed and justification	2
B. Objectives, components and cost.....	12
C. Key results indicators.....	14
II. FINANCING STRUCTURE AND MAIN RISKS	15
A. Financing instrument	15
B. Environmental and social safeguards risks.....	16
C. Key issues	17
III. IMPLEMENTATION AND MANAGEMENT PLAN	17
A. Summary of implementation arrangements.....	17
B. Summary of arrangements for monitoring results	20

ANNEXES	
Annex I	Development Effectiveness Matrix (DEM) Summary
Annex II	Results Framework
Annex III	Fiduciary Arrangements

REQUIRED ELECTRONIC LINKS (REL)	
REL#1	Monitoring and Evaluation Plan
REL#2	Environmental and Social Management Report (ESMR)

OPTIONAL ELECTRONIC LINKS (OEL)	
OEL#1	Economic Analysis
OEL#2	Operation Flow Chart
OEL#3	Disbursement Plan
OEL#4	Analysis of Financial System and LFIs
OEL#5	Market Assessment
OEL#6	Análisis y Diseños de Modelo de Negocio y Mecanismo de Financiación para Buses Eléctricos en Lima
OEL#7	Electric Vehicles Market in the Peruvian Context
OEL#8	“Fit for CTF”: CTF Program Approval Request
OEL#9	Operating Regulations
OEL#10	Operational Presentation of COFIDE
OEL#11	Risk Management Policy of Financial Intermediates
OEL#12	Electromobility Brief
OEL#13	Safeguard Policy Filter (SPF)
OEL#14	Gender Considerations to Be Financed by CTF Technical Cooperation Funds

ABBREVIATIONS	
AOP	Annual Operating Plan
ATU	Urban Transport Authority
BAU	Business-As-Usual
CAPEX	Capital Expenditure
COFIDE	<i>Corporación Financiera de Desarrollo</i>
CTF	Clean Technology Fund
DPSP	Dedicated Private Sector Program
E&S	Environmental and Social
EA	Executing Agency
ECLAC	Economic Cooperation for Latin America and the Caribbean
EE	Energy Efficiency
EM	Electric Mobility
ESMR	Environmental and Social Management Report
ESMS	Environmental and Social Management System
EV	Electric Vehicle
FI	Financial Institutions
GDP	Gross Domestic Product
GHG	Greenhouse Gas
ICCT	International Council on Clean Transportation
ICEV	Internal Combustion Engine Vehicles
IEA	International Energy Agency
IMF	International Monetary Fund
IRR	Internal Rate of Return
KfW	<i>Kreditanstalt für Wiederaufbau</i>
LAC	Latin America and the Caribbean
MEF	Ministry of Economy and Finance
MEP	Monitoring and Evaluation Plan
MINEM	Ministry of Energy and Mines
MSME	Micro, Small and Medium Enterprises
MTC	Ministry of Transport and Communications
NAMA	Nationally Appropriate Mitigation Action
NDB	National Development Bank
NDC	Nationally Determined Contributions
OC	Ordinary Capital
OPEX	Operating Costs
OR	Operating Regulations
PROTRANSPORTE	<i>Instituto Metropolitano Protransporte de Lima</i>
RE	Renewable Energy
SBS	<i>Superintendencia de Banca, Seguros y Administradoras de Fondos de Pensiones</i>
TC	Technical Cooperation
UNFCCC	United Nations Framework Convention of Climate Change

PROJECT SUMMARY
PERU
FINANCING SUSTAINABLE ELECTRIC TRANSPORT SOLUTIONS
(PE-L1254)

Financial Terms and Conditions							
Borrower:				Flexible Financing Facility ^(b)	IDB CTF		
Republic of Peru			Amortization Period:	20.5 Years	20 Years		
			Disbursement Period:	5 Years	5 Years		
Executing Agency:			Grace Period:	6.5 Years ^(c)	10.5 Years		
			Interest rate:	LIBOR based	N.A.		
Corporación Financiera de Desarrollo S.A. (COFIDE)			Credit Fee:	(d)	N.A.		
Source	Amount (US\$ Million)	%	Inspection and supervision fee:	(d)	N.A.		
			Weighted Average Life (WAL):	13.5 Years	N.A.		
IDB (Ordinary Capital (OC)):	10.5	52.5	Service Charge: ^(e)	N.A.	0.75% Fixed		
IDB (Clean Technology Fund (CTF)): ^(a)	9.5	47.5	Administrative Commission:	N.A.	0.45%		
Total:	20	100.0	Currency of Approval:	Dollars of the United States of America			
Project at a Glance							
Project Objective/Description: The specific objective of this operation will be to stimulate and demonstrate the financial viability of private investments in Electric Vehicles (EV). The achievement of this objective will contribute to the general objective of reducing fossil fuel consumption and Greenhouse Gas (GHG) emissions through the promotion of low-carbon mobility solutions in Peru.							
Special Contractual Clauses prior to the first disbursement: It will be special contractual clauses prior to the first disbursement that: (i) the borrower and COFIDE have signed and entered into effect a subsidiary agreement, under the terms previously agreed with the IDB, which among other things will establish the transfer of loan proceeds and the obligations of COFIDE as Executing Agency; and (ii) COFIDE provides evidence of approval and entry into effect of the program's Operating Regulations in the terms previously agreed with the IDB (¶3.10).							
Exceptions to Bank Policies: None.							
Strategic Alignment							
Challenges ^(f) :		SI	<input type="checkbox"/>	PI	<input checked="" type="checkbox"/>	EI	<input type="checkbox"/>
Cross-Cutting Themes ^(g) :		GD	<input type="checkbox"/>	CC	<input checked="" type="checkbox"/>	IC	<input type="checkbox"/>

^(a) Document GN-2571. Proposal for the Establishment of the Clean Technology Fund in the IDB.

^(b) Under the Flexible Financing Facility (document FN-655-1), the borrower has the option to request modifications to the amortization schedule, as well as currency, interest rate and commodity conversions. In considering such requests, the Bank will take into account operational and risk management considerations.

^(c) Under the flexible repayment options of the Flexible Financing Facility (FFF), changes in the grace period are possible as long the Original Weighted Average Life (WAL) and the last payment date, as documented in the loan agreement, are not exceeded.

^(d) The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors during its review of the Bank's lending charges, in accordance with the relevant policies.

^(e) This will be a one-time fee due 60 days after loan effective date.

^(f) SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

^(g) GD (Gender Equality and Diversity); CC (Climate Change); and IC (Institutional Capacity and Rule of Law).

I. DESCRIPTION AND RESULTS MONITORING

A. Background, problem addressed and justification

- 1.1 Nations worldwide have pledged to keep global temperature rise between 1.5°C and 2°C above pre-industrial levels in the Paris Agreement. Tackling climate change, promoting universal energy access and substantially reducing air pollution are the three main energy-related outcomes of the United Nations Sustainable Development Goals.
- 1.2 Electrifying transport systems and switching to zero-carbon electricity generation are two key pillars required to meet these goals.¹ Transport accounts for 23% of global energy-related Greenhouse Gas (GHG) emissions.² In Latin America and the Caribbean (LAC), this share is 36%.^{3,4} Innovations in low-emission transport technologies offer the potential to achieve environmental objectives, with economic gains. Decarbonizing transport systems requires widespread adoption of these technologies, and strong policies to ensure rapid uptake at scale.
- 1.3 Incentives for streamlining sustainable practices are increasingly being adopted in public policy as part of the region's broader development agenda. Improving fuel and vehicle efficiency of the transport system is a key action in most of LAC countries' Nationally Determined Contributions (NDCs), including Peru.⁵
- 1.4 **Electric Vehicle (EV)⁶ market.** EVs have emerged as a technology with potential to contribute to decarbonizing and lowering pollution in the transport sector, as well as increasing Energy Efficiency (EE) and thus productivity.⁷ The main benefit of EVs –compared to Internal Combustion Engine Vehicles (ICEV)– is that they are more energy efficient and do not directly generate emissions from the burning of fossil fuels. Therefore, depending on the carbon content of the electricity supply, when ICEVs are replaced by EVs, GHG emissions are effectively reduced. Even when considering the entire electricity generation cycle, with an unchanged generation matrix, EVs continue to be a lower burden on GHG emissions and other pollutants (NO_x, SO₂, etc.) compared to ICEVs. These benefits can be extended to increasing energy security by reducing the use of fuels, ever more relevant in countries dependent on imports. Hence, the EV market has been gaining attention worldwide. In the longer term, the conversion to electricity of applications that currently rely on

¹ Jaramillo, M., "[Is it possible to achieve carbon-free prosperity?](#)", 2019.

² United Nations, "[Mobilizing Sustainable Transport for Development](#)", 2016.

³ Martinez, H., "[El desafío del sector transporte en el contexto del cumplimiento de las contribuciones determinadas a nivel nacional de América Latina](#)", Economic Cooperation for Latin America and the Caribbean (ECLAC), 2018.

⁴ This higher percentage in LAC is partly due to the higher share of renewable energy in the electricity generation mix. Transport GHG emissions are [605 kgCO₂e/person in Peru](#) versus an average of [1793 kgCO₂e/person in the European Union](#), and [5595 kgCO₂/person in the United States](#).

⁵ NDCs are public outlines of climate actions to be implemented by countries for the Paris Climate Agreement. Argentina, Brazil, Colombia, Mexico, Paraguay and Peru NDCs include goals related with GHG emissions reduction and energy efficiency in the transport sector.

⁶ An EV generates traction by using electric motors powered by the energy stored in a battery pack, which can be rechargeable.

⁷ Although Electric Mobility (EM) is not a main driver of efficiency gains in terms of congestion reduction, it can be considered a driver of productivity as EVs consume less energy per kilometer. EM is enabling the development of new business models that are increasing efficiency in transportation (International Energy Agency (IEA), 2019).

fossil fuels (such as transport) is one of the pillars to achieve the decarbonization of economies.⁸

- 1.5 **Financial barrier to EV development.** Existing literature suggests that operating an EV is far less expensive than an ICEV. Operating Costs (OPEX) are reduced because fuel is usually more costly than electricity and EV technology is much more efficient than combustion,⁹ converting around 60% of the energy plugged, while combustion engines transform 17% to 21% of gasoline.¹⁰ Maintenance costs also tend to be lower because EVs have fewer internal moving parts and do not require lubricating oils or air filters¹¹ (§1.14).
- 1.6 Despite the expected operational savings, the initial investment (Capital Expenditure (CAPEX), including the vehicle itself, plus batteries and charging infrastructure) may be significantly higher compared to an ICEV (§1.15).¹² Thus, while the lower OPEX should be sufficient to amortize the investment in the long-term, the payback period of an EV is comparatively much longer (10 to 14 years in average, compared to 7 to 8 years for ICEVs). Consistently, to compete with ICEVs, EV investments require financing that can be repaid at terms that match their payback structure and minimize the impact of financial costs in overall project cashflows. In emerging economies, where EV technology is nascent and financial markets are relatively underdeveloped, the financial viability of EV projects is more likely to require incentives that can offset the incremental investment vis-à-vis an ICEV. Countries must work to overcome the financial barrier, in parallel to enabling a technical, economic and regulatory environment to foster EV adoption.
- 1.7 According to the [International Council on Clean Transportation \(ICCT\)](#), financial incentives (especially upfront subsidies or tax exemptions) have become widely used for EV adoption. Leasing and other financial mechanisms are also facilitating broader deployment of EV programs. An effective transition towards EV also requires the deployment of nonfinancial incentives related to the planning and development of mobility services, energy supply and infrastructure. Along these lines, countries around the world are developing strategies that combine both financial and nonfinancial incentives aimed at fast-tracking the adoption of EVs.
- 1.8 **Peru's urban mobility context and COVID-19 impact.**¹³ Amidst difficulties in the local political context and international market volatility, Peru's Gross Domestic Product (GDP) grew 2.2% in 2019, falling short from the previous year's 4.0% growth.¹⁴ The stringency of the measures implemented to contain the spread of COVID-19 in 2020 led to a recession (growth rate of -11.1% in 2020). But due to its strong macroeconomic fundamentals –debt ratio below 30% of GDP, low inflation and access to international debt markets– the government was able to respond quickly, with a policy package equivalent to 20% of GDP to contain the pandemic and

⁸ BID and DDPLAC (2019). [Getting to Net-Zero Emissions. Lessons from Latin America and the Caribbean](#).

⁹ Combined studies show that the efficiency improvement of battery EVs is considerably higher than diesel vehicles for different weight classes, vehicle types, and duty cycles. California Air Resource Board, "Battery Electric Truck and Bus Energy Efficiency Compared to Conventional Diesel Vehicles", 2018.

¹⁰ US Department of Energy, Office of Energy Efficiency & Renewable Energy and United State Environmental Protection Agency, 2018.

¹¹ Gómez, J. et al., "[La incorporación de los vehículos eléctricos en América Latina](#)", IDB, 2016.

¹² Differences in CAPEX and OPEX between EVs and ICEVs are market-specific, i.e., they depend on factors that are particular to each country/region, such as cost of energy/fuel, tax regimes, availability of local supply, geographical features that may affect the efficiency of the vehicles, etc.

¹³ [OEL#7](#).

¹⁴ International Monetary Fund (IMF) and Peru's Central Bank.

mitigate economic consequences of the crisis.¹⁵ On June 30th, 2020, the government lifted national confinement measures (in force since March 16th, 2020), although restrictions remained in the most affected departments and provinces until September 2020. As the post COVID-19 recovery phase unfolds, the search for greater efficiency poses an opportunity to stimulate green investments. There is global consensus that government efforts to rebuild the economy should be consistent with commitments to tackle the climate change, prioritizing industries and activities that can help promote sustainability further.¹⁶

- 1.9 Energy consumption in Peru's transport sector grew by 226% between 1990 and 2010, compared to 175% in Mexico, 141% in Colombia and 206% in Brazil.¹⁷ According to the Ministry of Energy and Mines (MINEM),¹⁸ total GHG emissions in Peru amount to 171.31 million tCO₂e, 26% of which correspond to the energy sector.¹⁹ At 17.85 million tCO₂e, emissions from fuel combustion in transport represent the largest share of overall energy related emissions. Transport is also the largest final consumer of energy in the country (45% of the total) and its share continues to grow.²⁰
- 1.10 If modal and technology changes are not enforced, these figures are likely to continue to rise as the local economy gradually reopens and in unison with the growing trends in urban conglomerates. In a Business-As-Usual (BAU) scenario, GHG emissions from road transport in Peru are expected to rise fivefold from 15.8 million tCO₂e in 2010 to 79 million tCO₂e in 2050.²¹
- 1.11 Partly due to the economic and demographic dynamics, Peru has experienced an expansion in the motor park, going from 605,550 private vehicles in 1990 to almost 3 million vehicles in 2018.²² In Lima, the growing vehicle fleet and an underdeveloped public transport system have contributed to significantly increasing road congestion, with associated costs estimated in as much as 10% of GDP.²³
- 1.12 Despite high growth in the private motor park in all urban areas, trips are still made predominantly using public transportation (53% in Lima and Callao, 68% in Arequipa and 68% in Piura). Minibuses and other small capacity vehicles are the primary mode of public transport. Three-wheeled vehicles (moto-taxis) are often used for short distances in many municipalities and provinces throughout the country. The average age of the national vehicle fleet ranges from 11 to 15 years for private vehicles and

¹⁵ FMI, [Policy Tracker](#).

¹⁶ IMF, Special series on fiscal policies to respond to COVID-19, "Greening the Recovery", April 2020; OECD, "What Policies for Greening the Crisis Response and Economic Recovery? Lessons Learned from Past Green Stimulus Measures and Implications for the COVID-19 Crisis", Environment Working Paper N° 164, May 2020.

¹⁷ Kreuzer, F. and Wilmsmeier, G., "[Eficiencia energética y movilidad en América Latina y el Caribe](#)", ECLAC, 2014.

¹⁸ MINEM, "[Inventario Anual de Emisiones de GEI 2012](#)", 2015; and "[Balance Energético Nacional 2016](#)", 2017.

¹⁹ The largest emitter is land use, land-use change and forestry (51%).

²⁰ Peru also has a high concentration of atmospheric particulate matter in both urban and rural areas, which can cause health problems. The World Health Organization estimates that 4,239 deaths per year are due to health conditions caused by air pollution.

²¹ *Proyecto Planificación ante el Cambio Climático (PlanCC)*, "[Escenarios de Mitigación del Cambio Climático en el Perú al 2050: Construyendo un Desarrollo Bajo en Emisiones](#)", Final Report, [Phase 1](#), 2014. The PlanCC was designed by the Ministry of Environment and the Ministries of Economy and Finance, Foreign Affairs, Energy and Mines, Agriculture and Irrigation, Transport and Communications, and Production, and the *Centro Nacional de Planeamiento Estratégico*, for assessing feasibility of transitioning to a low-carbon economy and mitigation options in different sectors.

²² Ministry of Transport and Communications (MTC), [Anuario Estadístico 2017](#), 2018. The passenger motor park in Peru is comprised by 2,786,101 private vehicles, approximately 70,000 buses, 850,000 lorries and vans, and over 2 million motorcycles.

²³ *Ibid* [2]. United Nations (2016).

can exceed 20 and 30 years for public transport vehicles, resulting in high emission levels.²⁴ In Arequipa, public transport services are provided by 128 operators along 220 routes with minibuses and buses, of which 58% exceed the age of 20 years. In Trujillo, the average age of more than 1,200 public transport minibuses, exceeds 34 years. In Lima and Callao, minibuses can be up to 15 and 20 years old.²⁵ A formal public integrated mass transit system and some other specific routes (*corredores complementarios*, *corredores de integración* and *rutas de aproximación*) are gradually being introduced, financed and operated in partnership with the private sector under concessions to service specific routes.

- 1.13 An essential factor to consider for implementing EV technologies is the way in which electricity is produced. Peru's electricity production matrix is relatively clean, with a 58% share of Renewable Energy (RE),²⁶ making EVs an optimal way to reduce GHG emissions in the transport sector –unlike countries where generation is based on fossil fuels, which substantially reduces potential environmental benefits.²⁷ Plus, the relatively low cost of electricity in the local market might be sufficient to allow EVs to achieve commercial success, if coupled with incentives associated to reducing the cost of capital and capacity building. Furthermore, electricity installed capacity in Peru (from which 40% is RE) exceeds demand in some 77%, which means there is little risk of shortage in supply in the short-term.²⁸
- 1.14 As described in ¶1.4-¶1.6, despite its environmental benefits, efficiency and technical viability, upfront investment of EVs compared to ICEVs is high. An analysis commissioned by the MINEM,²⁹ in the context of its Nationally Appropriate Mitigation Actions (NAMA),³⁰ evaluated operational cost differences for specific types of vehicles in the local context and showed that fuel savings can be around 37% for taxis and as much as 72% for buses, when compared to ICEVs; fuel costs of gasoline-operated moto-taxis are 22% higher than electric ones. Likewise, maintenance costs are 52% and 25% less expensive for electric taxis and buses, respectively. Although actual savings will vary depending on the distance traveled and fuel replaced, the results of the analysis suggest that the economic case for EVs is strong for Peru.
- 1.15 Conversely, the acquisition price of an EV is estimated to be 11% and 25% higher than an ICEV for taxis and moto-taxis, respectively. Buses result 76% more costly.³¹ In some cases, incremental initial cost has been found to be up to three times higher (OEL#5). Moreover, the introduction of EV technology also involves investing capital in other essentials (such as charging infrastructure), that guarantee similar operating

²⁴ MTC, *Deutsche Gesellschaft für Internationale Zusammenarbeit*, “[TRANSPeru – Sustainable Urban Transport NAMA Peru](#)”, 2015.

²⁵ MTC, *Política Nacional de Transporte Urbano*.

²⁶ MINEM, “[Anuario Estadístico de Electricidad 2017](#)”. 2018.

²⁷ Estimated lifecycle GHG emissions from EVs are between 28% and 72% lower than the average car, depending on how carbon-intensive local electricity production is. ICCT, “Effects of battery manufacturing on electric vehicle life cycle GHG emissions”, 2018.

²⁸ *Sociedad Nacional de Minería, Petróleo y Energía*, “*Memoria Anual 2016*”, 2017, citation in *Hinicio Latino América* (2017a).

²⁹ *Hinicio Latino América* for MINEM, “[Estudio de Diagnóstico, Evaluación, Análisis y Propuesta para Apoyar la NAMA de Preparación del Sector Energético para la Transformación hacia una Matriz Energética Limpia a través del Uso de Transporte Limpio en el Perú](#)”, 2017a.

³⁰ NAMAs refer to “any action that reduces emissions in developing countries and is prepared under the umbrella of a national governmental initiative.” The [NAMA de Transporte Eléctrico Terrestre](#) supports the government in promoting a clean transport system, designing and implementing strategies that articulate initiatives from the Energy Efficiency General Directorate.

³¹ *Ibid* [30]. *Hinicio Latino América* (2017a).

conditions with the replaced technologies. These incremental costs are one of the main barriers to EV uptake, especially in developing markets where this technology has not yet materialized at scale.

- 1.16 From a public economic perspective, long-term operating savings potential, plus positive externalities from reduced fossil fuel combustion, can offset the incremental costs of an EV. Yet, from a private viewpoint, migrating to EV technology also requires maintaining the profitability of the economic model for the private party, for whom operating these vehicles is its "business".
- 1.17 Public transport responsibilities in Peru stay at the regional or municipal level, which translates into scarce local funding to invest and an increasing need to develop projects that attract private actors. Private actors have been involved in the urban transport sector since the 1990s, and nowadays operate public passenger transport services across Peru. Thus, the materialization of EV investments necessarily depends on funding structures (interest rate, tenor, grace period) that can guarantee financial viability of these investments for the private sector.³² A study commissioned by the MINEM on business models and financing mechanisms for electric buses in Lima³³ simulated the effect of the financing in the development of these projects. The results show that EVs only become competitive under preferential financing conditions, including lower interest rates (3 pp.), longer tenors (up to four additional years) and longer grace periods than what the market currently offers.
- 1.18 **Peruvian financial system.** It is composed by 54 Financial Institutions (FI), with assets totaling S/.435 billion (≈US\$132 billion), 89.4% of which are owned by banks. Credit to the private sector (as a percentage of GDP) has been expanding from 28% in 2000 to 40.4% in 2017 and 42.1% in 2018. Some 65% of credit to the private sector goes to businesses, 43% of which is directed to Micro, Small and Medium Enterprises (MSME). In the months prior to the onset of the COVID-19 crisis, the banking system was considered to be highly resilient, well capitalized and profitable. Financial supervision and regulation have been strengthened, as the *Superintendencia de Banca, Seguros y Administradoras de Fondos de Pensiones* (SBS) continues to work on measures to increase capital buffers of domestic systemic banks and promote resilience.³⁴
- 1.19 Despite its robustness, the local financial system is still underdeveloped. Its deposit structure and core funding are mainly short-term. Overnight deposits and savings account for a 29.3% and 29% share of deposits, respectively,³⁵ which directly affects the system's ability to provide long-term credit. More than 35% of credit has a maturity of less than 360 days and all loans provided at tenors over one year are considered "long-term". Vehicle credit existing in the market extends up to six years at best, falling short from what is needed for the deployment of EVs (¶1.6). At 10.9% in local currency, and 9.94% in foreign currency, interest rates in the local market for vehicle loans also exceed the financial cost needed to make EVs viable ([OEL#4](#)). In addition, more rigorous financial regulation increases aversion by banks to allocate capital on

³² Income from passenger tariffs and contractual guarantees under concession regimes are key to the economics of these ventures. The adoption of EV technology by private actors requires the support of technical assistance to facilitate regulatory adjustments and the development and due diligence of new business models.

³³ [OEL#6](#).

³⁴ IMF, "[Peru 2019 Article IV Consultation Staff Report](#)", January 2020; SBS, "[Sistema Financiero Peruano](#)", February 2019.

³⁵ SBS, "[Evolución del Sistema Financiero](#)", 2019.

riskier, longer-term assets. Amidst the COVID-19 crisis, financial conditions are tighter than before and are expected to remain volatile going forward.³⁶

- 1.20 Moreover, risk analysis and financing decisions for EVs must be based on a holistic understanding of the complex nature of these investments and the long-term benefits associated to them, which the financial system is yet to acquire. Other factors may accentuate perceptions of financial risk, such as the potential impact of regulation in tariffs and project returns, the limited number of suppliers of EV products and services and uncertainty about the regulatory framework for future development of EV infrastructure and services in a diesel/gas-technology-dominated sector (OEL#7). All these can hinder the provision of credit further or, at any rate, increase its costs. Nonetheless, the implementation of financial lines has been identified by local FIs as key to incentivize the market. In a survey carried out in the context of this proposal (OEL#5), 91% of respondents consider that a dedicated financing line would increase demand for credit for EVs. Some 25% consider including EVs in their portfolio would increase the risk of their vehicle portfolio deteriorating and 73% indicated they already offer conventional vehicle loans under special product lines (OEL#4).
- 1.21 In sum, long-term private credit does not currently exist, which has to do with both the funding structure of the financial system and risk characteristics inherent to the EV investment itself, as well as the limited availability of an enabling environment for the rapid adoption of EV technology (OEL#7). The lack of financing to offset the impact of high initial cost remains one of the most significant factors limiting the uptake of EV technology.
- 1.22 **Public intervention via National Development Banks (NDB).** EV investments are desirable from an environmental and social point of view, but are perceived by private lenders as too risky or not capable to yield enough financial return from the terms in which they are willing to lend. Across the region, NDBs have progressively increased their role in filling major financing gaps.³⁷ Compared to commercial banks and investment funds, NDBs can take on more risks and provide longer-term financing. From a fiscal standpoint, when resources are generally scarce, public financing from NDBs can leverage private investment and broader financial resources, contributing directly to the development of innovative sectors and low carbon policies associated to incremental risk and costs.
- 1.23 In the context of the proposed program, a 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 financing suitable for these projects, involving the local private banking sector via intermediation, co-financing, or risk sharing schemes.³⁸
- 1.24 The *Corporación Financiera de Desarrollo* (COFIDE)³⁹ is Peru's state-owned second-tier development bank. Its mission is to contribute to Peru's decentralized

³⁶ Financial markets across the region have been severely affected by the consequences of the pandemic, especially in emerging markets. In the face of steep contraction and growing economic uncertainty, increased risk aversion and deteriorating financial conditions cannot be ruled out. ECLAC, "[Addressing the growing impact of COVID-19 with a view to reactivation with equality: new projections](#)," July 2020.

³⁷ De Ollóqui, 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.

³⁸ Smallridge, D., et al., "[The role of national development banks in catalyzing international climate finance](#)", IDB, 2013.

³⁹ [OEL#10](#).

sustainable development by financing investment and contributing to the development of local financial and capital markets. Their activity involves the provision of loans, guarantees, credit insurance, structured finance and asset strengthening of FIs.

- 1.25 COFIDE has been included in the group of partners supporting the implementation of the *NAMA de Transporte Eléctrico Terrestre*, specifically to finance EV projects. COFIDE has been widely recognized for its execution of a financing program for the conversion of vehicles to natural gas, the *Cofigas*. This experience demonstrated how the transition process is facilitated via partnerships between the public and private sector. With an innovative financial model, *Cofigas* has supported the conversion of some 240,000 vehicles and the financing of gas supply infrastructure, regional distribution, and conversion of machinery and equipment. COFIDE also supports other initiatives with environmental impact. Through its *Bionegocios* program, the institution targets entrepreneurs and medium and small businesses investing in EE and RE projects, with operations reaching over US\$712 million.
- 1.26 **Government plans and policy advances.** Government's efforts to decarbonize the transport sector are evidenced by several plans and strategies, including: (i) *Plan Energético Nacional 2014-2025*, which addresses the need to expand EV technology in transport as essential to the development of an energy efficient policy in the transport sector; (ii) MINEM's *Plan Estratégico Sectorial Multianual 2016-2021*, which identifies the "massive migration to EVs for transport" among its future strategies for the energy sector; and (iii) MINEM's resolution to promote infrastructure investment and market development for EVs, a key step towards enabling the environment for the uptake of EV technology in Peru. A draft Supreme Decree that aims to facilitate the development of the hybrid and EV market and related infrastructure was recently published.⁴⁰ In August 2020, MINEM approved the provisions on charging infrastructure and energy supply for electric mobility.⁴¹
- 1.27 The promotion of EVs is also in line with Peru's NDC (¶1.3), submitted in 2015, which pledges voluntary emission reductions of 30% compared to a BAU scenario by 2030. Only a 20% reduction is to be achieved with own resources and 10% is conditional to international financial support. About a half of the 58 measures proposed to reach this target have already been initiated by the government. Planned activities in the transport sector include the NAMAs and additional measures that had been analyzed in PlanCC, including the introduction of hybrid vehicles and EVs.⁴²
- 1.28 At a regional and municipal level, Peru is advancing institutional arrangements that will facilitate the implementation of programs and incentives in the transport sector. In 2018, the Peruvian Congress approved the creation of a single Urban Transport Authority (ATU) for Lima and Callao, seeking to address long-lived problems in the efficiency and coordination of the transport service, due to the existing atomization of public authorities in the city. Among its roles, the ATU will be in charge of promoting public and private investment, granting concessions, and establishing the guidelines for the development of an integrated and sustainable transport system. The creation of the ATU should improve the enforcement of regulation and provide better guarantees for ongoing and foreseen concessions of bus services. In 2019, the government officially approved the creation of the *Programa Nacional de Transporte Urbano Sostenible* (Promovilidad) (D.S. No. 027-2019-MTC). The program will

⁴⁰ [Resolución Ministerial N°250-2019-MINEM-DM.](#)

⁴¹ [Decreto Supremo N°022-2020-EM.](#)

⁴² Ibid [24]. MTC, GIZ (2015); Ibid [21]. PlanCC (2014); and Ibid [30].

support cities with over 100,000 inhabitants and regional capitals (except for those under jurisdiction of the ATU) in developing integrated transport systems looking to reduce GHG emissions.

- 1.29 Progress has also been made regarding incentives to facilitate the introduction of EVs, such as the exception on the excise tax, known as *Impuesto Selectivo al Consumo*, the inclusion and official classification of EVs within the national transit regulation (decree DS-019-2018), and ongoing discussions on regulation for service and charging stations. A law proposal is currently under review by Congress that seeks to implement financial incentives (circulation fees exemptions and other discounts) and non-financial incentives (exemption to circulation restrictions, preferred parking places) ([Congress of the Republic of Perú, 2019](#)).
- 1.30 **Problem addressed by the program.** The high initial investment cost of an EV vis-à-vis an ICEV is one of the main limiting factors to its adoption. The difference in upfront costs greatly deters the decision of those acquiring a new vehicle to choose an EV, in favor of ICEVs. By providing access to long-term concessional loans the program intends to ease the impact of the higher CAPEX (including investments in infrastructure, when applicable) on overall EV project return profile, enabling financial structures that better match project cash flows.⁴³
- 1.31 Removing the financial barrier to investment is expected to have a twofold effect: (i) to catalyze investments in EV projects; and (ii) to prove the financial viability of the technology locally, via demonstration projects. If sufficient lending momentum is developed, the financing scheme could be expanded to enable more EV investment in the future.
- 1.32 In parallel to the financing of projects per se, complementary Technical Cooperation (TC) activities (§1.54) will support the strengthening and enabling of an environment conducive to the adoption of EV, as a means to mitigate risks related to the novelty of the sector. The demonstration of projects financed is expected to also contribute to the development of a market for providers and related infrastructure.
- 1.33 This is in line with the strategy presented in the *NAMA de Transporte Eléctrico Terrestre* (§1.14), which covers a package of activities for the promotion of regulatory changes and incentives, dissemination at a national level, infrastructure development and better access to financing mechanisms.
- 1.34 **Magnitude of resources needed.** Immediate private funding needed for the bus based integrated public transport systems in Lima (acquisition of vehicles) is estimated at US\$150 million to US\$230 million.⁴⁴ Lima's integrated mass transit system needs some 1,400 buses to renew its fleet for routes already under concession, the *corredores complementarios* (§1.12). This opens a window of opportunity to encourage the adoption of EV technologies by strengthening business models and offering financial support. Moreover, the government is committed to gradually formalize additional routes in Lima and some other major cities, which will expand the need for replacing buses⁴⁵. Another 3,500 buses are needed to operate the new concessions for *corredores complementarios* and some 5,000 more for other lines, known as *corredores de integración* or *rutas de aproximación*. By 2030, it is

⁴³ [OEL#5](#).

⁴⁴ Ibid [24]. MTC, GIZ (2015).

⁴⁵ Old vehicle replacement will be supervised and scrapped in accordance with the stipulations of the [Environmental and Social Management Report \(ESMR\)](#), and Annex 5 of the [Operating Regulations \(OR\)](#) (§2.6).

estimated that 5% to 10% of bus and light vehicle fleet in Peru will be electric. This estimate assumes that the adoption will begin in Lima and other major cities, but that the scope should be extended throughout the country by 2030.⁴⁶

- 1.35 While bus concessions constitute the most imminent demand for program funding, other potential business models for EVs have been identified. These include fleets of buses for private firms (for workforce transport or logistics), taxis affiliated to a private taxi service company or taxi application, and three-wheeled moto-taxis operating individually or under cooperatives for passenger transport. The Market Assessment ([OEL#5](#)) carried out in preparation for the program estimates the potential five-year demand for financial support. Based on an average investment of US\$372,500, US\$43,000 and US\$5,310 per electric bus, taxi and three-wheeled moto-taxi, respectively, this demand adds up to US\$94.6 million, of which almost 90% correspond to buses. Through the support provided by the complementary TC activities (§1.54) a portfolio of projects with short term financing needs is being already identified.
- 1.36 **IDB sector knowledge and lessons learned.** The proposal follows sector dialogue with relevant actors, public and private, like banks, operators, concessionaires, the *Instituto Metropolitano Protransporte de Lima* (Protransporte)⁴⁷ and sector ministries, including prior IDB engagement with the national government and the Municipality of Lima to support the adoption of electric buses by private operators.⁴⁸ It also piggybacks on country progress with transport-related NAMAs and MINEM's plans to promote infrastructure investment and market development for EVs, which offer a more comprehensive strategy for the sector and recommendations on structural changes for the transition to a more environmentally-friendly transport system. As part of the complementary TC activities supporting program execution (§1.54), coordination has also been established with an upcoming project on electric mobility for urban transport by the Ministry of Environment (MINAM) and United Nations Development Program.
- 1.37 The IDB has successfully implemented several NDB-led financing operations using climate funds across countries in LAC, specifically providing up-front loans to cover initial capital costs. In many cases, these have been complemented with TC for training, coordination, policy development and monitoring. While no rigorous impact evaluations have been carried out on these programs, evidence-based analysis on NDB portfolio suggest these programs have positive effects on the scaling-up/creation of a pipeline of projects in sectors such as RE (Nafin, [2843/OC-ME](#)) and EE (Bancoldex, [2983/TC-CO](#) and [3661/TC-CO](#)). These results suggest that climate funds are effective in demonstrating the financial viability of clean technologies. They also facilitate the leverage of local funds, increasing the likelihood of more investment flowing to successful projects. This is specially the case when a particular technology is new to the country (§1.22 and §1.23).
- 1.38 The deployment of climate finance projects involves several public and private actors, in various sectors including energy, climate or environment and finance, which adds

⁴⁶ Hincio Latino America, "Diseño Detallado de la NAMA de Transporte Limpio, su respectivo Sistema de Monitoreo, Reporte y Verificación, capacitaciones para su validación, funcionamiento y preparación de documentación para registrar la NAMA ante MINAM y UNFCCC", 2017b.

⁴⁷ Protransporte is responsible for the development of public transport projects of the Municipality of Lima.

⁴⁸ [ATN/OC-16602-RG/ATN/OC-16603-RG/ATN/OC-16604-RG: Accelerating NDC implementation. Unlocking clean buses in LAC](#), to improve public transportation in LAC cities through the replacement of diesel buses with low-carbon hybrid or electric alternatives.

to the complexity of implementation. A key lesson in the development of clean technology programs, either through financing or TC, is the need to ensure close coordination with all sectors involved and agencies working towards the same objectives.

- 1.39 IDB's experience in electromobility is also extensive. Through a dedicated electromobility initiative ([OEL#12](#)), 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 ([3843/OC-BA](#); [2748/OC-BA](#); [4865/OC-BA](#)), Costa Rica ([2747/OC-CR](#); [3589/OC-CR](#) & [ATN/OC-14497-CR](#); [ATN/FM-14595-CR](#)) and Dominican Republic ([ATN/OC-17390-RG](#)). Furthermore, the regional TC ([ATN/OC-16601-RG](#) / [ATN/OC16602-RG](#) / [ATN/OC-16603-RG](#)) supports 11 cities and countries to promote fiscal and economic viability and business models to support investments in electric buses.
- 1.40 In 2013, the IDB approved the "Bogota's Integrated Public Transit System Transformation Program" ([3003/TC-CO](#)), funded with [Clean Technology Fund \(CTF\)](#) resources, to support the financing of low-carbon buses for Bogota's *Sistema Integrado de Transporte Público* via Colombia's NDB, Bancoldex. Bancoldex channeled resources through local first tier FIs to private concessionaires investing in electric and hybrid buses. This US\$40 million program focused on supporting 80-passenger hybrid buses, and utilized about US\$18.57 million to finance 180 hybrid buses, promoting the purchasing of additional 157 hybrid buses as a direct consequence of program implementation. However, the remaining US\$21.43 million were not executed due to a combination of factors, including the currency devaluation, the financial situation of the concessionaires including capacity to present collateral, overexposure of the Colombian financial sector to the urban transport sector, and the lack of a specific quota for clean buses in the tenders issued by Transmilenio. Given Colombian rules for the extension of sovereign guaranteed operations, the CTF-funded program was closed in December 2018, with remaining resources cancelled and returned to the CTF. This experience showed that better results could have been achieved if a broader range of types of vehicles, beneficiaries and cities had been considered and more flexibility had been provided to processes and requirements imposed to beneficiaries.
- 1.41 Building from this experience, and taking into account the more mature technology scenario in place for the implementation of this program, particular emphasis was devoted to the inclusion of the following lessons learned: (i) targeting a wider range of beneficiaries, including both public and private transport service providers operating in Peru and charging infrastructure (public transport vehicles, taxis, infrastructure development and innovation/entrepreneurship investments); (ii) strengthening an enabling environment to increase EV adoption in Peru; and (iii) monitoring loan execution closely, based on simple criteria and easily measurable indicators aimed at identifying and disseminating the benefits of EV technology adoption enabled by the program, and increasing the appetite from relevant stakeholders (in transport, energy and finance) to invest in EV.
- 1.42 **Strategic alignment.** The project is consistent with the Second Update to the Institutional Strategy (UIS) (AB-3190-2), particularly with the challenge of Productivity and Innovation, through the financing of small and medium enterprises investing in technology innovation, modernization and more efficient processes, resulting from

funding for EV mobilized by the project⁴⁹; and with the cross-cutting theme of Climate Change, through reduction of CO₂ emissions resulting from EE in the transport sector. Following the joint MDB approach on climate finance tracking, an estimated 100% of IDB funding for this project will be invested in climate change mitigation activities and will contribute to the [IDB Group's climate finance goal](#) of 30% of operational approvals. Additionally, it will contribute to the Corporate Results Framework (CRF) 2020-2023 (GN-2727-12) in the performance indicators of reduction of emissions, and MSMEs financed. It is also consistent with the Support to SMEs and Financial Access/Supervision Sector Framework Document (GN-2768-7), the Transportation Sector Framework Document (GN-2740-7); and it is aligned with 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 Renewable Energy (GN-2609-1).

- 1.43 The project is also aligned with the IDB Group Country Strategy with Peru 2017-2021 (GN-2889), through the following strategic areas: (i) economic productivity, through the objectives of strengthening the business climate and improving the available infrastructure, to support EV investments; and (ii) foster environmental sustainability and climate change mitigation and adaptation, through the objective of strengthening environmental management, by reducing GHG expected to result from EV investments. Finally, the project is included in the 2021 Operational Program Report (GN-3034).
- 1.44 **Gender considerations.** With support from the TC [ATN/TC-17909-PE](#) (¶1.54), the program will: (i) map women-led businesses investment opportunities and demand in public transport buses, taxis, and charging infrastructure and identify specific barriers these companies find to access credit or to transition to EV; (ii) encourage the creation of new jobs by women; and (iii) monitor and collect information about lessons learned and gender inclusion ([OEL#14](#)).

B. Objectives, components and cost

- 1.45 The specific objective of this operation will be to stimulate and demonstrate the financial viability of private investments in EV. The achievement of this objective will contribute to the general objective of reducing fossil fuel consumption and GHG emissions through the promotion of low-carbon mobility solutions in Peru.
- 1.46 To this end, the program will provide access to long-term financing for private-led EV projects,⁵⁰ channeled by Peru's national development bank, COFIDE.
- 1.47 **Single component: Long-term financing to private-led EV projects.** COFIDE will use [CTF](#) concessional loan resources blended with IDB resources to provide long-term financing for EV projects, including: (i) replacement of ICEVs with EVs, with particular emphasis on passenger transport operated by private actors (mainly buses, taxis and three-wheeled moto-taxis); and (ii) EV charging stations, preferably RE-powered.⁵¹ This twofold target of the financing aims to offer a holistic support, addressing demand and supply of clean electricity in the EV market in unison.

⁴⁹ See [OEL#7](#) for an analysis on the innovation and technology considerations linked to this project and supplementary information presented on ¶1.13, ¶1.26-¶1.29, and ¶1.34-¶1.35.

⁵⁰ Private-led projects are those developed by private operators, concessionaires, technology providers or other private firms (¶1.52).

⁵¹ To reduce emissions electrification of the transport sector requires also measures to decarbonize power generation. RE charging infrastructure for EVs is also dependent of adequate funding for investment and the provision of financial support.

- 1.48 In line with the above, the program will provide long-term credit through individual sub-loans to finance EV projects that will result in the migration to EV technology of a number of vehicles in the national fleet. Financing will be delivered to final beneficiaries through accredited FIs.⁵² Financing to eligible projects will be provided up to 100%, in accordance with applicable legislation, and may or may not include investments other than the vehicle itself, such as charging infrastructure.⁵³
- 1.49 Potential borrowers shall not only prove their investments are financially sustainable, but they must be technically, institutionally, environmentally and legally viable as well, as per standard practice and operational policies of the IDB.
- 1.50 Specific eligibility criteria will be described in detail in the program's [OR](#).⁵⁴ All guidelines included in this [OR](#) shall be consistent with COFIDE's and IDB's policies and procedures and local legislation.
- 1.51 Program funding will help improve terms and conditions of the sub-loans (interest and tenor at which the sub-loan has to be repaid), thus lowering the cost of borrowing for beneficiaries and helping reduce risks associated to the project. Project revenue sources and lower operating costs should then provide enough cash streams to repay the loan. In conclusion, funding will make it possible for an EV investment to be comparable to the investment in an ICEV.
- 1.52 **Beneficiaries.** Program beneficiaries will be authorized private concessionaires, electric companies, suppliers or operators of EVs in Peru, particularly buses, taxis or three-wheeled moto-taxis. Stakeholders that promote charging infrastructure and enabling environments (EV services or energy companies) will be eligible beneficiaries as well. While eligibility is not restricted at a national level, it is expected that the bulk of the resources will be used in Lima and other major cities in the country with significant needs of fleet renewal. With the exception of eligibility limitations established in the [OR](#), the program does not impose restrictions related to the specific type of vehicle (bus, taxi or three-wheeled moto-taxi) or the location where it operates, neither does it establish specific amounts to be allocated for each type of sub-loan eligible under the program.
- 1.53 The [Market Assessment](#) carried out in preparation for the program, provides an indicative profile of projects that the program will be more likely to support. Based on the diagnosis presented on this analysis, sufficient demand for program resources is anticipated. While the portfolio of sub-loans to be financed is unknown ex ante, information from the analysis has been used to construct an indicative pipeline for the program, which supports assumptions associated to the economic analysis (§1.57) and the definition of target values of monitoring indicators (§1.56). Beneficiary private firms under this indicative portfolio include 66 electric buses, 10 taxis and 20 moto-taxis, throughout the five-year execution period.
- 1.54 **Complementary TC activities for operational support.** CTF grant resources are financing a complementary TC ([ATN/TC-17909-PE](#)) to support the overall

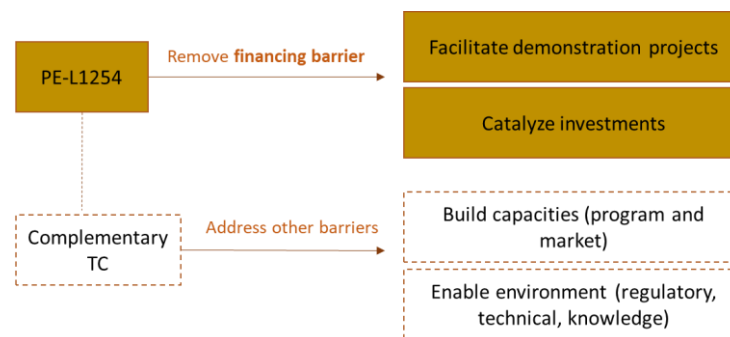
⁵² Eligible FIs are those regulated by the SBS, which fulfill COFIDE's financial intermediation risk policies ([OEL#11](#)). Financing could also be intermediated through accredited FIs fulfilling COFIDE's financial intermediation policies. FI's supervision requirements are detailed in the [OR](#).

⁵³ Program resources are intended to facilitate the provision of financing adapted to the operational dynamics of EVs for the specific type of vehicle and its use. While a particular good or service eligible may be part of a larger investment project, its financing is administered as an isolated credit transaction, thus providing the beneficiary with flexibility and promptness in accessing credit for up to 100% of the assets.

⁵⁴ No projects with an "A" or "B" environmental and social risk classification will be financed (§2.7). The program is strictly conditioned to these criteria, as established in the [OR](#).

implementation of the program and address barriers other than financial (institutional, knowledge, regulatory). These include: (i) awareness and capacity building for vehicle producers, operators, electric utilities and regulators, FIs and other market actors; (ii) improving regulatory and policy framework related to EV technology and electric charging and tariffs; (iii) development of financial, business and risk-sharing models for the incorporation of EV fleets in specific areas; and (iv) enhancing institutional competences related to execution, monitoring, and reporting within COFIDE. The TC started execution during 2020, particularly focusing on the development of studies to: (i) evaluate the most suitable EV concession schemes for public transportation in Peru; (ii) identify short term potential demand of EV investments; and (iii) support technical and financial assessment of EV for the public transportation system in the city of Arequipa.

Figure 1. Focus of program resources



Source: Author's elaboration.

- 1.55 The program intends to have a demonstration impact. The expectation is that vehicle operators, and the local financial market will be encouraged to further support these investments, once its financial viability, profitability and contribution to the environment has been demonstrated. In addition, program activities are expected to further induce ongoing government efforts towards formalizing and improving public transport, directly benefitting users, the majority of which are low-income and vulnerable groups. According to the IEA, in the early stages of EV deployment, schemes that involve vehicles for public use have the dual benefit of “demonstrating the technology” and “providing the opportunity for public authorities to lead by example”. They also allow economies of scale, as usually bulk orders need to be provided. Furthermore, the program is expected to have co-benefits in terms of creation of employment, reduction of local pollution and will support stakeholder engagement and women led business to invest in electromobility.⁵⁵

C. Key results indicators

- 1.56 Indicators considered for monitoring the effectiveness of the program are: (i) in output, volume of financing issued to EV projects by COFIDE credit line (disbursements); (ii) as results, total investment in EV projects financed by the program (program leverage), EV units financed and operating, differences in interest rate and tenor of loans, and Non-Performing Loans ratio of the EV portfolio financed

⁵⁵ Detailed analysis at [OEL#8](#).

by the program, in relation to comparable portfolio; and (iii) for impact, annual GHG emissions avoided by the EV financed (Annex II).⁵⁶

- 1.57 **Economic evaluation.** Consistent with similar interventions by IDB via financial intermediation for the financing of private projects with climate mitigation potential, a cost-benefit analysis is used to calculate program net benefits/costs assumed to not otherwise accrue to the economy in the absence of the program. The analysis validates the program's creation of net benefits associated to fuel consumption savings and GHG emission reductions, projected for a 17-year period (5-year program execution plus 12-year maximum lifetime of projects financed), using the Peruvian Government recommended 8% discount rate to obtain a Net Present Value (NPV) of US\$582,486. The Internal Rate of Return (IRR) is equal to 8.8%. A sensitivity analysis is included in order to test the robustness of the results ([OEL#1](#)).

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instrument

- 2.1 The program will be executed under a sole financing component in the form of a global credit operation to be executed by COFIDE. COFIDE will use IDB Ordinary Capital (US\$10.5 million) and CTF (US\$9.5 million) loan resources⁵⁷ to provide long-term financing to private-led EV projects.⁵⁸ The disbursement period for the program will be 60 months from the date of signature of the loan contract between IDB and the Republic of Peru ([OEL#3](#)). Funds will be channeled via accredited FIs on a first-come-first-served basis (¶1.48). This component intends to scale up public and private efforts to develop green mobility solutions, familiarizing market actors (operators, banks, suppliers) with EV investments, and mobilizing capital to expand the industry in the long term (demonstration effect).⁵⁹

Table 1. Single financing component (US\$ million)

Use of Resources	BID	CTF	Total
BID OC	10.5	0	10.5
CTF	0	9.5	9.5
Total	10.5	9.5	20.0

Note: Implementation, auditing and monitoring and evaluation costs will be covered by COFIDE directly and with support from the TC [ATN/TC-17909-PE](#).

⁵⁶ The program's result framework is consistent with the relationship between access to finance and firm investment. By using program funding for investment, it is expected that a number of EV will be introduced in the national fleet, in replacement of other less clean technologies, delivering a positive impact on the environment. Via strict eligibility criteria and financial risk analysis, the program will target viable EV projects that would otherwise continue to face capital constraints, preventing their development.

⁵⁷ The overall leverage ratio of the component requires that the CTF resources be matched with at least equal amounts of co-financing from other sources.

⁵⁸ Projects to be financed include investments in vehicle or fleet replacement with EVs and charging stations. Projects will be deemed eligible based on conditions established in the [OR](#), to be agreed between IDB and 1.49COFIDE (¶1.47-¶1.50).

⁵⁹ CTF grant resources will finance TC activities to support the implementation of the program, with regards to demand creation, risk mitigation and the efficient provision of sub-loans (¶1.54).

Table 2. Disbursement plan (US\$ million)

Source Output indicators	Year I	Year II	Year III	Year IV	Year V	Total
BID	1.5	3.1	3.1	1.8	1.0	10.5
CTF	1.5	3.1	3.0	1.8	0.1	9.5
Total - Volume of financing issued to EV projects by COFIDE credit line	3.0	6.2	6.1	3.6	1.1	20.0

- 2.2 The proposed intermediation scheme via COFIDE is intended to enable local capacity in the provision of dedicated long-term financing for EVs, improving the institution's ability to fully understand risks of these transactions and the importance of public support to undertake these ventures (¶3.3 and ¶3.4).
- 2.3 The CTF provides scaled-up financing for public and private sector projects that contribute to the demonstration, deployment, and transfer of low-carbon technologies with significant potential for GHG emission reductions. Investments for the promotion of RE, sustainable transport and EE are eligible under the CTF. CTF resources are transferred to the IDB, acting as implementing agency, and are administered by the IDB in the IDB-CTF Trust Fund. The concessionality of CTF resources is needed to enable access by projects to funding under the conditions (interest rates and tenor) required to make their projects viable, providing a critical incentive to facilitate the adoption of these technologies with marginal or no impact on the profitability of the venture vis-a-vis an ICEV.
- 2.4 CTF funding for this program has been included in the third phase of the Dedicated Private Sector Programs (DPSP). Sustainable transport is among the thematic areas from the DPSP III. Consistent with CTF practice, DPSP is intended to make use of a range of financing instruments taking risks that commercial lenders are not able to bear.

B. Environmental and social safeguards risks

- 2.5 As per IDB Directive B.13 of the Environment and Safeguards Compliance Policy (OP-703), the program is classified as financial intermediation. Eligible projects under this program deliver long-term GHG emission reductions and are considered environmentally friendly, as they entail better energy efficiency and less emission of local pollutants.
- 2.6 Projects that involve the replacement of old public transport units with electric vehicles will have to comply with a disposal protocol that: (i) ensures that their disposal is carried out in accordance with the relevant national regulations; (ii) is definitive; and (iii) has no negative environmental impact. The guidelines for the disposal protocol were included in Annex 5 of the [OR](#), and will be further developed in coordination with COFIDE, as necessary. The protocol will be aligned with the applicable regulation of the Government of Peru⁶⁰ and the City of Lima⁶¹ and apply to all vehicles above 20 years for public transport and 15 years for taxis (see also [ESMR](#) for more details).
- 2.7 Projects to be financed under the program will exclude those that: (i) involve involuntary resettlement of people; (ii) have a potentially adverse impact on

⁶⁰ "Disposal Bond": [Decreto Supremo N° 005-2021 - Reglamento Nacional para el Fomento del Chatarreo](#).

⁶¹ Disposal Program of the City of Lima ([initiative by Municipality of Lima](#)).

communities and/or indigenous people; (iii) involve conversion or degradation of critical natural habitats or cultural sites; (iv) have a potentially adverse impact in protected areas or Ramsar Convention on Wetlands areas⁶²; (v) imply land acquisition; or (vi) result in acquisition of two-wheel vehicles ([Exclusion List in the ESMR – Annex C](#)). Category A and B projects will not be eligible for the program.

- 2.8 The program will be managed through the implementation of an Environmental and Social Management System (ESMS), agreed between the IDB and COFIDE, to be fully integrated in the program's [OR](#). The ESMS integrates all applicable Peruvian norms and contains: (i) the exclusion list and eligibility criteria for the program; (ii) rules, procedures and guidance for screening, evaluating and managing E&S for each type of eligible sub-project; (iii) the disposal protocol for replaced vehicles (§2.6); and (iv) an institutional capacity assessment. Requirements to be included in the ESMS are detailed in the [ESMR](#).
- 2.9 COFIDE will be responsible for establishing all interagency arrangements needed for properly implementing the ESMS and will ensure that projects financed are in compliance with the ESMS. The due diligence process concluded that COFIDE has the institutional capacity to manage a portfolio of projects with the risk levels identified.

C. Key issues

- 2.10 **Sustainability.** The proposed program is expected to demonstrate the financial viability of EV projects in the local market, by enabling sub-loans at suitable conditions to be accessed by private parties willing to invest. Once program execution is complete, successful implementation of projects financed are expected to foster replication of targeted EV business models, further engagement of providers and FIs and increased private sector investment. With adequate operation and maintenance in place, impacts from the program in terms of GHG emission reduction shall be sustained at least throughout the life of the vehicles (§1.55).
- 2.11 **Demand for program resources.** The program will aim to consolidate a pioneer financial mechanism to complement Peruvian Government's national and international commitments to promote EM. Some uncertainty remains on how demand will translate into real requests for sub-loans for EV programs, especially in the short-term in the context of the COVID-19 pandemic and its impact on public transportation. However, the length of the program and the contractual obligations for bus operators to renew and acquire vehicle fleets contribute to ameliorate the potential unrealized demand due to the COVID-19 pandemic (§1.35). Complementing the program, TC resources will be provided to strengthen regulatory frameworks and investment environments, the development of business and financial models, and capacity building (§1.54).

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of implementation arrangements

- 3.1 The borrower will be the Republic of Peru. The Executing Agency (EA) of the program will be COFIDE.
- 3.2 COFIDE is part of the local financial system and, as such, has the faculty to carry out all financial intermediation activities allowed by law. It operates as a second-tier bank

⁶² [Ramsar Convention on Wetlands areas - Perú](#).

and is regulated by decrees DL-206 and DS-113-2017-EF. Since its creation in 1971, COFIDE has focused its activities on channeling funds, from local and international capital markets and banks, to lenders through FIs, with the goal of promoting and financing productive investment and infrastructure throughout the country. COFIDE is owned by the [Fondo Nacional de Financiamiento de la Actividad Empresarial del Estado](#), governed by the Ministry of Economy and Finance (MEF), as is the case with all public-banking institutions in Peru.

- 3.3 This will be the first loan operation of the Bank with COFIDE since 1998⁶³, although a robust and close relationship has been maintained between the two institutions supported by a series of TC implemented satisfactorily. Despite the lack of recent track record with loan operations, COFIDE has previous experience in financing sustainable investments from the private sector, and the MEF has previous experience as a borrower of Climate Investment Funds. The fiduciary capacity of the COFIDE (EA) was assessed in September 2019, using the methodology of the Institutional Capacity Assessment System (SECI - ICAS), which was applied to this entity. The assessment qualified COFIDE with 90.16% compliance and indicated that it possesses institutional capacity and a satisfactory degree of development and a low level of risk for program execution. In addition, the activities of the complementary TC include support to COFIDE in developing capacities to execute the program (Annex III).
- 3.4 As of end 3Q20, COFIDE manages a total of US\$3,582 million in trust funds dedicated to investment promotion. It has outstanding loans for more than US\$1,991 million (including direct and indirect operations), from which 44% are in infrastructure and productive investment –the remaining 56% correspond to traditional second-tier financing with focus on MSMEs. Non-performing loans and coverage ratios have improved significantly in the past year, standing at 9.1% and 168%, respectively, compared to 18.2% and 91% in 2017. Financial robustness is reflected in a global capital ratio of 29.4%, above average of the financial system and above minimum levels required by the SBS.⁶⁴ The institution maintains an investment grade credit rating. International investor confidence has been reaffirmed with a senior bond issuance in the capital market that achieved oversubscription of 4.6x.⁶⁵
- 3.5 Given their catalytic role for the financing of initiatives with social and environmental impact, COFIDE has engaged in key sectors such as transport and energy (¶1.25). It also supports MSME, both financially and via capacity building activities.
- 3.6 While it represents only 3.5% of its total debt, funding from multi and bilateral development organizations is key to the implementation of programs that provide long-term financing under suitable financial terms for the sectors targeted by COFIDE. By year-end 2020, COFIDE had ongoing financing programs with Japan International Cooperation Agency, Germany's development bank (*Kreditanstalt für Wiederaufbau*, KfW), and the Development Banks of Latin America.
- 3.7 **Implementation arrangements.** Under its existing organizational structure, COFIDE will ensure readiness of all necessary administrative and control mechanisms to provide and maintain a transparent and effective administration of the program and will be responsible for supervising the adequate use of program resources (¶3.3).

⁶³ See [Multisectoral Credit Program Stage II \(1137/OC-PE\)](#).

⁶⁴ The SBS is the government body in charge of regulation and supervision of the financial system, including banks, insurance companies and pension funds.

⁶⁵ COFIDE, [Memoria Anual 2018](#), 2019.

This includes the provision of human and technical resources necessary to implement the program. Furthermore, TC [ATN/TC-17909-PE](#) includes activities that will support the program's execution and coordination, specifically to ensure articulation and promotion of the project among public entities, technology providers, private firms and FIs (¶1.54). For the granting of sub-loans under the program, COFIDE will intermediate resources to final beneficiaries through accredited FIs (¶1.47 and ¶1.48). The terms and conditions (i.e., maturity, rates, costs and use of risk mitigation mechanisms) of each eligible sub-loan will depend on the characteristics of the investment, its IRR and risk profile.

- 3.8 The provisions governing program's overall coordination, execution, intermediation scheme, and eligibility of each project/beneficiary to be financed with funds from the program will be established in the [OR](#) agreed between the Bank and COFIDE, in accordance with their policies and procedures. This [OR](#) includes specific procedures, conditions and requirements for the use of program resources, including: (i) technical, regulatory and financial criteria for accessing the sub-loans; (ii) disbursement mechanisms; (iii) environmental and social safeguards; and (iv) IDB supervision mechanisms and monitoring and evaluation requirements. COFIDE shall carry out its own supervision process of eligible expenditures that allows for an effective verification of the use of resources by the final borrowers, if necessary.
- 3.9 **Disbursements.** Disbursements of program resources from COFIDE to accredited FIs for the provision of sub-loans granted to eligible investments (¶1.47-¶1.52) will constitute the expenditures for the purpose of the justification to the IDB. Disbursements will be committed and made to COFIDE within the disbursement period and in accordance with IDB policies. Disbursement will be made based on a committed portfolio (reimbursements) or a projected portfolio (advances), of at least 80%. In all cases, the portfolio of sub-loans to be recognized by the program will be subject to revision by the IDB in order to proceed with the disbursement.⁶⁶ All modalities of disbursements of funds available in the IDB's norms on financial management (OP-273-12) will be available to the borrower.
- 3.10 **Special Contractual Clauses prior to the first disbursement. It will be special contractual clauses prior to the first disbursement that: (i) the borrower and COFIDE have signed and entered into effect a subsidiary agreement, under the terms previously agreed with the IDB, which among other things will establish the transfer of loan proceeds and the obligations of COFIDE as EA,** taking into account the borrower and COFIDE are separate legal entities. This agreement shall regulate, inter-alia, the transfer of loan resources from the borrower to the EA and the transfer of loan proceeds from the EA to the borrower, as well as the obligations of the EA to abide by the terms of the loan contract and the [OR](#) in the program execution and use of funds; **and (ii) COFIDE provides evidence of approval and entry into effect of the program's [OR](#) in the terms previously agreed with the IDB.** This latter condition will allow the EA to adapt its internal processes to program requirements and is justified on the criticality of the [OR](#) to the overall execution of the program.
- 3.11 Cumulative recoveries from the amortization of repayments of sub-loans financed with program resources that exceed the amounts required to service the IDB loan,

⁶⁶ The number and frequency of disbursement requests presented to the IDB will depend on demand from eligible projects.

will only be used by COFIDE to finance new sub-loans consistent with program objectives and eligibility criteria, as established in the loan agreement and the [OR](#).

- 3.12 COFIDE will prepare and present to the IDB annual financial statements and expenses of the program duly audited by an independent auditing firm acceptable to the Bank, which will be contracted by COFIDE following the terms of reference agreed with the IDB. Annual audited reports will be presented to the Bank within 120 days after the end of COFIDE's fiscal year, and the final audit will be presented to the Bank 120 days after the date of last disbursement.
- 3.13 **Procurement.** The program will follow the Policies for the Procurement of Goods and Works financed by the Inter-American Development Bank (GN-2349-15), as it will be executed in the form of an investment global credit operation and no procurement of works, goods, services or consulting services are expected. Particularly, it will ensure fulfillment dispositions of Section I of the aforementioned Procurement Policies, as further detailed in the [OR](#).

B. Summary of arrangements for monitoring results

- 3.14 An Annual Operating Plan (AOP) for each calendar year shall be prepared by COFIDE and presented to the IDB until the 30 of November of the previous year throughout the disbursement period of the loan. The first AOP shall be presented before the first disbursement. These reports will contain projections on the expected disbursements to be made throughout the following calendar year, including the schedule and estimated costs.
- 3.15 **Monitoring and evaluation arrangements.** The [Monitoring and Evaluation Plan \(MEP\)](#) and the [OR](#) contain detailed elements pertaining the monitoring and evaluation requirements for the program. Periodical reports on the execution of the program (annual, mid-term and final) shall be submitted by COFIDE within predetermined timeframes, including all required operational and results data, plus any additional information that could be relevant to the overall assessment of the achievement of program goals and objectives. COFIDE will compile and maintain information and indicators needed for preparing these reports, following IDB and CTF requirements. In general, these reports will provide evidence at least on: (i) the overall state of execution of activities under the program, problems and/or risks identified and recommended actions for mitigating and overcoming these; (ii) fulfillment of E&S safeguards and risk management of the program; (iii) achievement of targets for indicators included in the Results Matrix; and (iv) operational and financial assessment of the portfolio of sub-loans financed under the program, including but not limited to characteristics of the sub-loans (tenors, interest rates, use of resources) and of final beneficiaries. Finally, an ex post Cost-Benefit Analysis to assess the impact of the program on operation and maintenance costs savings and GHG emission reductions will be carried out, following the methodology proposed by the ex-ante Cost-Benefit Analysis ([OEL#1](#)) and the terms established in the [MEP](#).

Development Effectiveness Matrix		
Summary		PE-L1254
I. Corporate and Country Priorities		
Section 1. IDB Group Strategic Priorities and CRF Indicators		
Development Challenges & Cross-cutting Issues	-Productivity and Innovation -Climate Change	
CRF Level 2 Indicators: IDB Group Contributions to Development Results	-Micro / small / medium enterprises financed (#) -Emissions avoided (annual tons CO2 equivalent)	
2. Country Development Objectives		
Country Strategy Results Matrix	GN-2889	(1) Strengthen the business climate; (2) Improve the available infrastructure; and (3) Strengthen environmental management.
Country Program Results Matrix	GN-3034	The intervention is included in the 2021 Operational Program.
Relevance of this project to country development challenges (If not aligned to country strategy or country program)		
II. Development Outcomes - Evaluability		Evaluable
3. Evidence-based Assessment & Solution		8.1
3.1 Program Diagnosis		2.5
3.2 Proposed Interventions or Solutions		1.6
3.3 Results Matrix Quality		4.0
4. Ex ante Economic Analysis		10.0
4.1 Program has an ERR/NPV, or key outcomes identified for CEA		1.5
4.2 Identified and Quantified Benefits and Costs		3.0
4.3 Reasonable Assumptions		2.5
4.4 Sensitivity Analysis		2.0
4.5 Consistency with results matrix		1.0
5. Monitoring and Evaluation		9.5
5.1 Monitoring Mechanisms		4.0
5.2 Evaluation Plan		5.5
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood		Low
Environmental & social risk classification		B.13
IV. IDB's Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Accounting and Reporting, External Control, Internal Audit.
Non-Fiduciary	Yes	Environmental Assessment National System.
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project	Yes	The operation execution will be supported by a specific technical cooperation ATN/TC-17909-PE. In addition, see Loan Document paragraph 1.53, as well as 1.36 to 1.39 and the Optional Links "Fit for CTF" (Optional link#8) and "Electromobility Brief" (Optional link#12) .

Evaluability Assessment Note:

This is a US\$20 million operation aimed at reducing fossil fuel consumption and Greenhouse Gas (GHG) emissions in Peru, by supporting investments in electric vehicles (EV). The specific objective of the program is to stimulate and demonstrate the financial viability of private investments in EV. Energy consumption in the transport sector has grown by 226% between 1990 and 2010, much faster than in comparable economies. The transport sector represents the largest share of overall energy-related emissions (40%), and transport is the largest final consumer of energy at 45% of total consumption (and growing). Trips are made predominantly using public transportation (55%), with minibuses and other small-capacity vehicles as the primary mode of public transport. The age of the public transport vehicle fleet implies that it mostly highly polluting. In that context, investments in EV for public transport can make sense as they do not generate GHG emissions. The electricity production matrix in Peru is relatively clean (58% share of renewable energy), which makes EV technology particularly attractive. In addition, EV have operating costs that are lower than for internal combustion engine vehicles (ICEV). However, capital expenses for EV are much higher than for ICEV. This implies that EV investments require a longer repayment period and lower interest rates to be profitable. This program will fund a line of credit that will offer better conditions (longer tenor and lower interest rates) for investments in EV. The program intends to have a demonstration effect by showing that investments in EV are profitable. The results matrix is consistent with this, by measuring not only investments generated and number of EV funded by the program, but also differences in financing conditions (tenor, interest rates) and portfolio quality compared to ICEV financing. GHG emissions and fuel saved will be measured as impacts.

The ex-ante economic analysis of the program is appropriate, with reasonable and standard assumptions and with reasonable sensitivity analyses. The net present value of the project is US\$582 thousand (based on the discount rate of 8% used by the Peruvian government) and the expected internal rate of return is 8.8%.

The evaluation plan proposes to carry out an ex-post cost benefit analysis at the end of the program, which will include information on actual EV use (based on a survey). Although this exercise does not allow for empirical attribution of the results, it is very useful given that in an innovative project like this establishing ex-post that EV investments are profitable, and that EV are used as expected, is highly relevant.

RESULTS MATRIX

Project Objective:	The specific objective of this operation will be to stimulate and demonstrate the financial viability of private investments in Electric Vehicles (EV). The achievement of this objective will contribute to the general objective of reducing fossil fuel consumption and Greenhouse Gas (GHG) emissions through the promotion of low-carbon mobility solutions in Peru.
---------------------------	---

GENERAL DEVELOPMENT OBJECTIVE

Indicators	Unit of measurement	Baseline value	Baseline year	Expected year for achievement	Target	Means of verification	Comments
General development objective: to reduce fossil fuel consumption and Greenhouse Gas (GHG) emissions through the promotion of low-carbon mobility solutions in Peru							
Annual GHG emissions avoided by the EVs financed by COFIDE.	tCO ₂ e	0	2019	2026	4,470.45	Final report on program execution by COFIDE will be calculated based on the values obtained for fuel consumption reduced and the standard emission factors for each type of fuel (see Monitoring and Evaluation Plan (MEP)).	The methodology used follows the accepted international standard: GHG emissions avoided = emission factor (tCO ₂ e/Gal or tCO ₂ e/m ³) x fuel consumption reduced (Gal or m ³). Baseline is zero since no EV projects have been financed before the program. Target refers to tons of CO ₂ e per year, on the maximum year over the course of the program. Related to the GHG emissions avoided by the EVs financed, a tracking indicator will be added to the Project Monitoring Report on: "Fuel consumption reduced by the EVs financed", calculated using parameters on efficiency, average distance traveled and operating times by type of vehicle, and the verified number of financed vehicles. See MEP for details.

SPECIFIC DEVELOPMENT OBJECTIVES

Indicators	Unit of measurement	Baseline value	Baseline year	End of Project	Means of verification	Comments
Specific development objective 1: to stimulate and demonstrate the financial viability of private investments in Electric Vehicles (EV)						
Total investment in EV projects financed by COFIDE (program leverage).	US\$ million	0	2019	25.0	Annual report on program execution by COFIDE.	Includes financing from the program plus co-financing from local financial institutions or equity for eligible projects (may include EVs and charging infrastructure). Baseline is zero, since indicator refers only to projects financed by the program. Target is the sum of investments made each year during the execution period.
EV units financed by COFIDE and operating	Number	0	2019	96	Annual report on program execution by COFIDE. The value for the tracking indicator “% of days per year when vehicles are operational” will be based on surveys conducted on a representative sample of vehicles financed (see MEP).	Includes all EVs financed, regardless of size, operator/concessionaire, location where it operates, etc. Baseline is zero, since no EV projects have been financed before the program. Target is the sum of units financed each year during the execution period. Related to the number of units financed an operating, tracking indicators will be added to the PMR on: (i) “share of each type of unit (bus, taxi, moto-taxi)”, calculated as the number of units under each category divided by the total number of units financed; (ii) “average distance traveled by vehicle” (in Km); (iii) “% of days per year when vehicles are operational”, relative to the total working days for each category/route financed. Specific demand for each type of vehicle and possible failures on the operation of the vehicles are beyond control of the program. These measurements are required for tracking purposes only and to be used in the calculation of GHG emission reductions. See MEP for details.
Difference in interest rate of EV loans funded by COFIDE, compared to average rate of COFIDE's conventional vehicle (CV) financing line.	Basis points	0	2019	400	Final report on program execution by COFIDE and COFIDE's CV portfolio.	Measures the difference of average rates of program loans with relation to rates offered by COFIDE under their financing line for CVs (gas-operated buses, moto-taxis, and taxis). As rates of loans under the program are expected to be lower, indicator must be calculated as CV rate minus EV rate (positive difference). Baseline is zero, since no EV projects have been financed before the program. Target was established as the minimum difference expected based on the assumed portfolio of

Indicators	Unit of measurement	Baseline value	Baseline year	End of Project	Means of verification	Comments
						projects to be financed, as presented in the Cost-Benefit Analysis .
Difference in tenor of EV loans funded by COFIDE, compared to average rate of COFIDE's CV financing line.	Months	0	2019	59	Final report on program execution by COFIDE and COFIDE's CV portfolio.	Indicator measures the difference of average maturities of program loans with relation to maturities offered by COFIDE under their financing line for CVs (gas-operated buses, moto-taxis, and taxis). Result should be positive as maturities of loans under the program are expected to be longer. Baseline is zero, since no EV projects have been financed before the program. Target was established as the minimum difference expected based on the assumed portfolio of projects to be financed, as presented in the Cost-Benefit Analysis .
Non-Performing Loans (NPL) ratio of EV portfolio financed by COFIDE, in relation to COFIDE's CV portfolio.	Ratio between 0 and 1	0	2019	1	Data from information systems at COFIDE.	Numerator corresponds to the NPL of COFIDE's EV portfolio. Denominator corresponds to the average NPL of COFIDE's CV loan portfolio. Baseline is zero, since no EV portfolio exists before the program, i.e. there is no data for the numerator. Target is equivalent to 1, as it is expected that the quality of the program portfolio shall be at least the same as the quality of COFIDE's CV operation. <i>NPL ratio = amount of nonperforming loans in a portfolio / total amount of outstanding loans.</i>

OUTPUTS

Indicators	Unit of measurement	Baseline value	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of Project	Means of verification	Comments
Single component: Long-term financing to private-led EV projects (USD 20 million)											
Volume of financing issued to EV projects by COFIDE credit line (disbursements).	US\$ million	0	2019	3.0	6.2	6.1	3.6	1.1	20.0	Annual report on program execution by COFIDE.	Measures disbursements made to eligible projects under COFIDE's financing line. Baseline is zero, since no disbursements for this type of projects have been issued by COFIDE prior to the program. Target is the sum of disbursements made each year during the five-year execution period. Estimations were based on the annual disbursement plan.

Notes:

1. "EVs financed by COFIDE" implies all EVs funded by COFIDE during the execution of the program. In principle, it is understood that COFIDE will only use program funds for EV financing, but any additional funding to eligible projects should also be considered in all program impacts and results (concept of "full EV funding portfolio").
2. In the definition of annual and target values, the following assumptions were used:
 - Share of allocation of funds by type of vehicle: 97.9% buses, 1.7% taxis, 0.4% moto-taxis.
 - Financing structure of investments financed: 80% program financing (of which 50% is CTF and 50% is IDB), 20% other sources (capital, other financial institutions).
 - In cases where loans finance expenses other than the vehicle itself (i.e. charging infrastructure), these amounts are included in the total investment and accounted for in the corresponding indicator.
 - GHG emissions reduced is based on the fuel consumption and emission factors of 0.0092 tCO₂ per gallon of gasoline, 0.0102 tCO₂ per gallon of diesel and 0.0018 tCO₂ per m³ of GNC.
 - At the time of preparation of this document, the five-year average YTD exchange rate is 3.222 (Bloomberg US\$-PEN X-RATE, accessed on Oct 7, 2019).

Sources: [Market study](#) and [economic analysis](#).

FIDUCIARY AGREEMENTS AND REQUIREMENTS

COUNTRY: Republic of Peru
PROJECT N°: PE-L1254
NAME: Financing Sustainable Electric Transport Solutions
EXECUTING AGENCY: *Corporación Financiera de Desarrollo S.A. (COFIDE)*
FIDUCIARY TEAM: Andrés Suárez, Financial Management Specialist and
Freddy Andara, Fiduciary Procurement Specialist
(VPC/FMP)

I. EXECUTIVE SUMMARY

- 1.1 The *Corporación Financiera de Desarrollo S.A. (COFIDE)* is a Peruvian state-owned company with mixed shareholdings organized in the form of a public limited company. COFIDE is part of the local financial system and has the authority to carry out all financial intermediation activities permitted by law. It operates as second-tier bank under the regulatory framework of DL206 and DS113 2017-EF. COFIDE attracts financial resources from foreign and domestic organizations and banks, as well as through the international and local capital markets to provide financing through international and national Intermediate Financial Institutions (IFI), aimed at promoting and financing productive investment and infrastructure throughout the country.
- 1.2 COFIDE's institutional capacity for the execution of the program was evaluated through the Institutional Capacity Assessment System (SECI) tool, supplemented by meetings with key COFIDE personnel, documentary information and meetings with the project team. For COFIDE this will be a new operation with the IDB after many years, so it is carrying out a program to strengthen its corporate group based on the best practices of international development banks.
- 1.3 Support will be required to COFIDE regarding fiduciary aspects for strengthening the information system for tracking and monitoring the management of loan operations and the progress of projects, as well as having an automated and integrated system for the budgetary management of resources. In addition, risks related to a lack of knowledge of the IDB's financial management policies were identified, needing training for the Finance Management and the staff involved in fiduciary management and program resources management.
- 1.4 The SECI detected that COFIDE has an adequate organization to execute the project satisfactorily, obtaining a "low risk" rating related to fiduciary management.

II. FIDUCIARY CONTEXT OF THE EXECUTING AGENCY

- 2.1 COFIDE's main shareholder is the Peruvian State with 99.24% of the shares. The National Fund for the Financing of State Entrepreneurial Activity (FONAFE) -) owns the shares, which is subordinated to the Ministry of Economy and Finance (MEF). The remaining 0.76% of the shares are owned by the *Banco de Desarrollo de América Latina (CAF)*.

- 2.2 *Superintendencia de Banca, Seguros y del Sistema de Pensiones (SBS)* is the agency in charge of the regulation and supervision of the Financial, Insurance and Private Pension Systems. COFIDE is exclusively subject to the regulation and supervision of the SBS. Legally, it is governed by a supplementary nature to the rules that expressly regulate its activity, Law No. 26702, General Law of the Financial System and of the Insurance and Organic System of the SBS.
- 2.3 COFIDE is also subject to the rules and regulations of FONAFE, whose main objective is to regulate and direct the State's business activity, manage the resources derived from the ownership of the State's shares and direct the budgetary process and corporate management of the companies under its scope in the financial services sectors. As a corporation with public capital, it is also audited by the Office of the Comptroller General of the Republic, which carries out annual audits.
- 2.4 In September 2017, COFIDE's organizational structure was reorganized with seven managers reporting to the General Management. In September 2019, the organizational chart, approved by the Board of Directors, was adjusted to consider synergies between three departments. ~~7~~
- 2.5 COFIDE has policies for the management of Credit Risk, establishing exposure limits for ~~th~~ the highest relative risk. As part of its restructuring policy, a number of measures have been adopted, including the Risk and Finance Managers, during this period on, the Risk Committee has been strengthened and a new Monitoring Sub-Manager has been created, as well as several committees, including the Eligibility Committee and Monitoring Committee, which are expected to improve governance and transparency.
- 2.6 For the financial management of the operation, COFIDE's regulations, procedures and systems will be complemented by the application of the Financial Management Guidelines for IDB-financed Projects (OP-273-12) and other related manuals.
- 2.7 COFIDE is a decentralized agency within the jurisdiction of MEF. The borrower, through the MEF, designates the Debt Management to sign the Resource Transfer Agreement between the MEF and COFIDE, whereby the IDB will transfer the disbursements directly to the account designated by COFIDE. In addition, it has its own treasury, through which payments and transfers are channeled and, among other functions, which verifies and confirms disbursements in favor of COFIDE made by national and international institutions, as a result of raising funds, or by the administration of third-party resources from trusts or trusted commissions.

III. FIDUCIARY RISK ASSESSMENT AND MITIGATION ACTIONS

- 3.1 Based on the risk assessment exercise carried out during the program design stage; the risk in fiduciary management has been assessed as low, an intensive monitoring is expected, with training and advice to COFIDE staff who will be directly responsible for these activities from the program preparation stage.

IV. ASPECTS TO BE CONSIDERED IN THE SPECIAL STIPULATIONS OF THE LOAN CONTRACT

- 4.1 COFIDE must present the financial planning for the project in accordance with the guidelines agreed between the Bank and the country.
- 4.2 The program's financial statements must be audited annually by an external auditor firm that is eligible for the IDB. The final audit report shall be submitted within 120 days following the expiration of the original disbursement deadline or its extensions.

V. ACQUISITIONS AND REQUIREMENTS FOR PROCUREMENT PERFORMANCE

- 5.1 **Procurement execution.** The project has the structure modality of a global credit, through which funds are provided to COFIDE for the rediscounting of eligible credit operations through IFIs, which allocate these resources to legal entities and physical entities carrying out activities compatible with the OR (second-tier operations). Consequently, the provisions of section 3.13 of the Policies for the Acquisition of Goods and Works Financed by the IDB (document GN-2349-15- and, consequently, current commercial or private sector practices, will apply, without prejudice to the contents of Section I. of the Policies.
- 5.2 COFIDE's Finance Manager will be the area in charge of maintaining the files and records of the program. In order to prepare and file the reports of this program, the official disbursement request forms must be used, in which the list of the sub-loans that are the object of the rediscounted loan must be recorded with the financing of the program.

VI. FINANCIAL MANAGEMENT AGREEMENT AND REQUIREMENTS

- 6.1 **Programming and budget.** The COFIDE Management Policy Framework approved in 2018 defines its budgetary and financial procedures, including accounting and treasury. The Planning and Control Sub-management, which reports to the Finance Management, is responsible for managing the budget. Like all public banks, budget management is extra-budgetary, which implies that it does not appear in the National Administration Budget. COFIDE administers its own resources, coming from several sources: capitalization, deposits, issuance of negotiable obligations, international bonds and loans with external financing.
- 6.2 **Accounting and information systems.** The accounting of the program will be done using COFIDE's accounting system, integrated for the different areas of planning, budgeting, accounting, and treasury. The Financial Statements are extracted from the CORE SAP. The Finance Management is responsible for the accounting records process and the generation of financial statements of COFIDE and those of third parties that it is responsible for following the rules and regulations issued by the Superintendence of the Financial System and the rules and regulations of FONAFE. The financial statements of the program will be prepared separately in accordance with the provisions of the Financial Management Guidelines for IDB-financed Projects (OP-273-12) and the Instructions for Audited Financial Reports and External Audit Management of the Bank.

- 6.3 **Disbursements and cash flow.** Disbursements of program resources from COFIDE to accredited FIs for the provision of sub-loans granted to eligible investments will constitute the expenditures for the purpose of the justification to the IDB. Disbursements will be committed and made to COFIDE within the disbursement period and in accordance with IDB policies. Disbursement will be made based on a committed portfolio (reimbursements) or a projected portfolio (advances), of at least 80%. In all cases, the portfolio of sub-loans to be recognized by the program will be subject to revision by the IDB in order to proceed with the disbursement.¹
- 6.4 Reimbursement requests must be accompanied by a list of eligible rediscounted loans as established in the OR. COFIDE will prepare the disbursement schedule annually.
- 6.5 The delivery of advances shall be calculated based on the cash flow programming carried out by the Program Management Team for the execution of activities planned for periods of up to six months. The cash flow schedule shall be consistent with the Annual Operating Plan that has not been objected to by the Bank and shall cover a moving horizon of at least 12 months.
- 6.6 COFIDE will open two bank accounts exclusively for the project: (i) an account in US dollars, in which it will receive the funds of the operation; and (ii) an account in local currency, which it will use for the conversion of the funds into local currency.
- 6.7 **Internal control and internal auditing.** The control environment is governed by the country's regulations, which are based on the Law on the National Control System and the Office of the Comptroller General of the Republic (CGR). On the other hand, COFIDE's Internal Control Body (OCI) has the purpose of reviewing the effectiveness of internal controls and evaluating COFIDE's activities within the framework of the Governmental Control exercised by the CGR.
- 6.8 COFIDE has an Internal Audit Unit (IAU) and OCI, that contribute to improving corporate control management. The IAU performs its functions independently with hierarchical dependence on the COFIDE Board of Directors, which are for providing assurance and consultation to improve the company's operations. It is governed by the provisions of the General Law of the Financial and Insurance Systems and the organic law of the SBS and the Internal Audit Regulations. An audit plan for 2019, approved by the Ethics and Compliance Committee, prioritizes the scope of the risks identified. The last External Quality Assessment of COFIDE's Internal Audit work was conducted in 2015, and the next is expected to be conducted in 2020.
- 6.9 The objective of COFIDE's Internal Control System (ICS) evaluations is to determine the maturity level of the five components of the COSO Internal Control model: control environment, risk assessment, control, information and communication activities, and supervision activities. Likewise, action plans for the continuous improvement of COFIDE's ICS are defined as a result of each evaluation.
- 6.10 Regarding the operational risk management, COFIDE has carried out a restructuring process with the incorporation of new management personnel and among its objectives it has tried to establish and improve policies and methodologies to identify, evaluate and

¹ The number and frequency of disbursement requests presented to the IDB will depend on demand from eligible projects.

treat possible operational risks and thus reduce the possibility of losses resulting from inadequate systems, process failures, faulty controls, fraud or human errors, including legal risks. Within the operational risk methodology, a risk and control evaluation is carried out with the support of Risk Management.

- 6.11 **External control and reporting.** The external control of the program will be entrusted to a firm of independent external auditors acceptable to the IDB who will verify the execution of resources and the eligibility of program expenditures, with the possibility of also conducting reviews of program beneficiaries. The program auditor may be the same firm that audits COFIDE's financial statements in order to have a comprehensive view of the executing agency's control and project management. The terms of reference for the audit service should first receive the "no objection" from the IDB and include specific sections for the operation. The contracting will be the responsibility of COFIDE with the guidelines established in the IDB policies established in its Instructions on Audited Financial Reports and External Audit Management of the IDB.

Table 1. Fiduciary supervision plan

Activities	Type/Scope	Frequency
Fiduciary	Update of cash flow scheduling and disbursements.	With each advance request when the circumstances of the project require it.
	Financial Audit and Presentation of financial statements.	Annual and Final
	Supervision/inspection visits.	Annual

FINANCING SUSTAINABLE ELECTRIC TRANSPORT SOLUTIONS

PE-L1254

CERTIFICATION

The Grants and Co-Financing Management Unit (ORP/GCM) certifies that the referenced operation¹ will be financed through:

Funding Source	Fund Code	Currency	Amount Up to
Clean Technology Fund	CTF	USD	9,500,000

(Original Signed)

January 4, 2021 | 1:15 PM

Certified by:

Maria Fernanda Garcia
Chief
Grants and Co-Financing Management Unit
ORP/GCM

Date

¹ For operations financed by funds where the Inter-American Development Bank (IDB) does not control liquidity, the availability of resources is contingent upon the request and the receipt of the resources from the donors. Additionally, in case of operations financed by funds that require a post-approval agreement with the donor, the availability of resources is contingent upon the signature of the agreement between the Donor and the IDB (i.e.: Project Specific Grants (PSG), Financial Intermediary Funds (FIF), and single donor trust funds).

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/21

Peru. Loan ____/TC-PE to the Republic of Peru
Financing Sustainable Electric
Transport Solutions

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, in its capacity as Implementing Entity for the Clean Technology Fund, to enter into such contract or contracts as may be necessary with the Republic of Peru, as borrower, for the purpose of granting it a financing to cooperate in the execution of the project "Financing Sustainable Electric Transport Solutions". Such financing will be for an amount of up to US\$9,500,000, from the resources of the Clean Technology Fund, administered by the Bank, and will be subject to the Terms and Financial Conditions and the Special Contractual Conditions in the Project Summary of the Loan Proposal.

(Adopted on ____ 2021)

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/21

Peru. Loan ____/OC-PE to the Republic of Peru
Financing Sustainable Electric
Transport Solutions

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Republic of Peru, as borrower, for the purpose of granting it a financing to cooperate in the execution of the project "Financing Sustainable Electric Transport Solutions". Such financing will be for the amount of up to US\$10,500,000 from the resources of the Bank's Ordinary Capital, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on ____ 2021)