

Innovative Instruments for Investment in Zero-Carbon Technologies (i3-0)

Cover Page for CTF Project/Program Approval Request Dedicated Private Sector Programs (DPSP-III)			
1. Country/Region	All CIF countries in LAC, namely: Mexico, Colombia, Chile, Brazil, Peru, Guatemala, Ecuador, Honduras, Nicaragua, Bolivia, Jamaica, Haiti, Guyana.	2. CIF Project ID#	PCTFDP713A
3. Public or Private	Public		
	Private		✓
4. Project/Program Title	Innovative Instruments for Investment in Zero-Carbon Technologies (i3-0)		
5. Is this a private sector program composed of sub-projects?	Yes		✓
	No		
6. Financial Products, Terms and Amounts			
Financial Product		USD (million)	EUR (million)
Grant for Technical Assistance		1.500	
Fee on grant			
MPIS (for private sector only)		1.000	
Public sector loan	Harder terms		
	Softer terms		
Senior loan		10.000 ^[1]	
Senior loans in local currency hedged			
Subordinated debt / mezzanine instruments with income participation		4.000 ^[1]	
Second loss guarantees			
Equity		4.000 ^[1]	
Subordinated debt/mezzanine instruments with convertible features		4.500 ^[1]	
Convertible grants and contingent recovery grants			
Contingent recovery loans			
First loss guarantees		10.000 ^[1]	
Other (please specify)			
Total		35.000	
7. Implementing MDB(s)	Inter-American Development Bank Group (IDBG)		
8. National Implementing Agency	Private Sector		
9. MDB Focal Point	Claudio Alatorre (calatorre@iadb.org)		
10. Brief Description of Project/Program (including objectives and expected outcomes)			
<p>Background. The DPSP-III Proposal was approved on December 15, 2017 by the CTF Trust-Fund Committee. It included, among others, the following two IDBG projects: (i) “Risk-Tolerant Financial Instruments to Mobilize Private Investment”, with a CTF amount of USD 32 million, and (ii) “Latin America Distributed Energy Fund (LADEF)”, with a CTF amount of USD 3 million. IDBG’s “Innovative Instruments for Investment in Zero-Carbon Technologies (i3-0)” merges these two projects into a single proposal.</p>			

¹ Allocations to the different instruments are indicative.

Program objective. The i3-0 Program aims to support innovation in (i) the initial deployment of clean technologies, and (ii) the implementation of business or financing models enabling their significant scale-up. The particularity of the i3-0 Program is that, for this purpose, it will support investments by providing risk-tolerant instruments (mostly in the form of growth capital and risk-management solutions) with superior leverage potential, whose scarcity in the target markets hinders the pace of commercial penetration of the technologies. The Program will thus seek to demonstrate the effectiveness of some risk-tolerant blended finance instruments to mobilize private capital that would otherwise not participate.

Sectors/technology. The i3-0 Program will address technologies that are consistent with a long-term pathway to reach zero GHG emissions from fossil fuel combustion, namely renewable energy, efficiency in the use of electricity, conversion from fossil fuel to electricity in end-use applications, and electricity system flexibility measures such as energy storage. The Program will cut across the three thematic areas of CTF DPSP III and remain open to support any low carbon technology that meets CTF criteria and this Program's specific objectives. This said, the Program will initially target innovation in the following areas:

- Energy efficiency (EE), including:
 - Energy Efficiency in the Water Sector
 - Energy Service Companies (ESCOs) financing
- Renewable Energy (RE+), including:
 - Renewable Energy Distributed Generation
 - Energy Storage
- Sustainable transport (ST), including:
 - Clean Public Transportation
 - Electromobility

Targets. The i3-0 Program aims to **deliver at least two projects with strong demonstration value or large-scale replication**, using cutting-edge low carbon technologies, business or financing models, as described in Sections 4.2 and 4.5 below. The Program further aims to **mobilize at least USD 300 million investment from the private sector**, with a leverage ratio of CTF funding to total investment of **1:10**.

Financial instruments. Financing instruments relevant to the i3-0 Program's goal are:

- Risk capital, in the form of equity and mezzanine capital - aiming to provide growth capital where still not commercially available, while also crowding in commercial senior debt.
- Risk-management instruments, mainly in the form of guarantees - aiming to address investment-specific risks.
- Liquidity solutions, including senior debt/backstop bond subscriptions - aiming to mitigate financing risk.

In addition, the i3-0 Program will aim to replicate and mainstream results-based incentive models successfully piloted by IDBG, selectively structured to promote adoption of clean technologies (e.g. increase penetration of electric buses in bus concessions) and to promote gender-equity activities as part of the roll out of clean investments.

Mobilization strategy. The Program will mainly target the following two types of lenders/investors:

- **Capital markets / institutional investors:** IDBG has led in the development of innovative models for mobilization of international and local capital markets, including B bonds for renewable energy projects

and securitization of energy efficiency receivables. IDBG will replicate successful structures and innovate further in adapting them to new markets.

- **Commercial banks (either as co-lenders, B-lenders or intermediaries):** Through the use of risk-management solutions, IDBG will seek to crowd in banks into investments that are out of their comfort zone, either because of technology, geographic, tenor or other considerations. Main focus will be on mobilizing them for non/limited-recourse financing.

Technical assistance. A Technical Assistance Facility will be set up to provide grants aimed at supporting, among other: (i) structuring and due diligence costs (when they cannot be covered otherwise, given the scale of investments), (ii) development of contractual models and public-private partnership schemes to build adequate conditions for private sector investment to flow, (iii) first time green bond issuances, (iv) gender appraisals as part of the design and implementation phases of the projects financed, (v) capacity building activities, and (vi) monitoring, evaluation and dissemination activities.

11. Consistency with CTF investment criteria

(1) Potential GHG emissions savings	Please see Section 7.1 below
(2) Cost-effectiveness	Please see Section 7.2 below
(3) Demonstration potential at scale	Please see Section 7.3 below
(4) Development impact	Please see Section 7.4 below
(5) Implementation potential	Please see Section 7.5 below
(6) Additional costs and risk premium	Please see Section 7.6 below
Additional CTF investment criteria for private sector projects/ programs	
(7) Financial sustainability	Please see Section 7.7 below
(8) Effective utilization of concessional finance	Please see Section 6 below
(9) Mitigation of market distortions	Please see Section 7.8 below
(10) Risks	Please see Section 7.9 below

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

The IDBG shall require the no-objection of the host country government prior to final approval of its transactions. For that purpose, the Business Unit's assistant will prepare and send to the host country government, through the designated channel of communication and with copy to the IDBG Country Office Representative, the no-objection request letter to which the project brief will be attached, to ascertain whether the host government has any objection to the IDBG granting financing for the transaction

13. Stakeholder Engagement

Stakeholder Engagement will take place at the Project level and will follow IDBG rules and procedures.

14. Gender Considerations

The proposed CTF i3-0 Program will promote the implementation of inclusive practices in private businesses by supporting its beneficiaries (through direct involvement and advisory by IDBG gender specialists) to explore opportunities and help implement measures that promote gender equality and inclusion in the workforce.

IDBG will leverage on its expertise in the inclusion of gender performance-based incentives (see Section 4.5) where reductions in the interest rates are progressively introduced according to a predefined set of gender-related activities contractually agreed with project sponsors. Gender risks during the construction and operation phases will be assessed in relevant projects and managed accordingly. A gender-responsive monitoring and evaluation system will be developed. It will include the use of gender-disaggregated indicators when possible.

15. For projects/programs with activities in countries assessed as being at moderate or high risk of debt distress, macro-economic analysis to evaluate the potential for the CTF project or program to impact the country's debt sustainability		
This Program will finance private projects with no impact on sovereign debt service obligations and debt sustainability.		
16. For public sector projects/programs, analysis of how the project/program facilitates private sector investment		
N/A		
17. Detailed analysis on how the proposal meets the minimum concessionality principles, and how it is aligned with the blended concessional finance principles		
Please see Section 6 below		
18. Indicators and Targets		
Project/Program Timeline		
Expected start date of implementation		July 2018
Expected end date of implementation		July 2021
Expected investment lifetime in years (for estimating lifetime targets)		20
Core Indicators		Targets
GHG emissions reduced or avoided over lifetime (tons of CO ₂ -eq)		3,675,000
Annual GHG emissions reduced or avoided (tons of CO ₂ -eq/year) (specify: upon completion of the project/program / on the maximum year / on a representative year)	On a representative year	183,750
Installed capacity of renewable energy (MW)		72
Number of additional passengers using low-carbon transport per day		135,000
Energy savings cumulative over lifetime of investment (MWh)		600,000
Annual energy savings (MWh/year) (specify: upon completion of the project/program / on the maximum year / on a representative year)	On a representative year	30,000
Identify relevant development impact indicator(s)		Targets
Number of technologies/ applications demonstrated		At least 2
Reduction in fossil fuel imports (MWh of imported fossil fuel generation avoided)		TBD
19. Co-financing		
	Please specify as appropriate	Amount (in million USD)
CTF Investment		35.0
MDB 1	IDB Group	60.0
MDB 2 (if any)		
Government		
Private Sector	Equity	60.0
Private Sector	Debt	90.0
Bilateral		60.0
Others (please specify)		
Total		305.0
20. Expected Date of MDB Approval		
IDBG expects that the first investment under the i3-0 Program could reach Credit Approval by H1 of 2019 and in any event in compliance with the CTF Pipeline Management and Cancellation Policy.		

Regional Program on Innovative Instruments for Investment in Zero-Carbon Technologies (i3-0)

IDBG Private Sector CTF Proposal

For submission to the CTF Trust-Fund Committee

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List of Acronyms and Abbreviations

ABS	asset-backed securities
BEV	battery electric vehicle
BRT	bus rapid transit
C2F	Canada Climate Fund for the Private Sector in the Americas
CIF	Climate Investment Funds
CIF AU	Climate Investment Funds Administrative Unit
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
CSP	concentrated solar power
CTF	Clean Technology Fund
DELTA	Development Effectiveness Learning Tracking and Assessment Tool
DFI	development finance institution
DPSP	Dedicated Private Sector Program
EE	energy efficiency
EPC	engineering, procurement and construction
ESCO	energy service company
EUR	Euro
FIDC	<i>Fundo de Investimento em Direitos Creditórios</i> (Brazilian Investment Fund for Receivables)
GHG	greenhouse gases
GW	Gigawatt
GWh	Gigawatt-hour
i3-0	Innovative Instrument for Investment in Zero-Carbon Technologies
ICE	internal combustion engine
IDBG	Inter-American Development Bank Group
LAC	Latin America and the Caribbean
MDB	Multilateral Development Bank
MENA	Middle East and North Africa
MPIS	MDB project implementation services
MW	Megawatt
MWh	Megawatt hour
NCRE	non-conventional renewable energy
NDC	Nationally Determined Contribution
NO _x	nitrogen oxides
NRW	non-revenue water
OLADE	<i>Organización Latinoamericana de Energía</i> (Latin American Energy Organization)
O&M	operation and maintenance
PEEERA	<i>Programa de Eficiencia Energética y Energías Renovables para Autoabastecimiento</i> (Chile Energy Efficiency and Self-Supply Renewable Energy Program)
PM	particulate matter
PPA	power purchase agreement
PPP	public private partnership
PV	photovoltaic
RE	renewable energy
RE+	renewable energy plus
RMI	risk mitigation instrument
SDGs	Sustainable Development Goals
ST	sustainable transport
STEM	Science, Technology, Engineering, and Mathematics
TC	technical cooperation
USD	United States Dollars
VOCs	volatile organic compounds
W&S	water and sanitation

1. Background

1.1. The Clean Technology Fund (CTF) and the Dedicated Private Sector Programs (DPSP).

Established in 2008, the CTF aims to provide scaled-up financing to contribute to the demonstration, deployment, and transfer of low-carbon technologies with a significant potential for long-term greenhouse gas (GHG) emission savings. It started out with USD 4.5 billion pledges and contributions and 12 country investment plans and a regional program of Concentrated Solar Power (CSP) in the Middle East and North Africa (MENA). During the eight years of operation, CTF resources have grown to USD 5.6 billion while the programs now involve 15 country investment plans, one regional program, and three phases of Dedicated Private Sector Programs (DPSP).

As of June 30, 2017, the CTF Trust Fund Committee had approved a total of USD 5 billion to finance 109 projects and programs. Among them, the MDBs had approved 93 projects with USD 4.2 billion in CTF funding, some of which have reached completion and others are at various stages of implementation.

The current CTF portfolio is made up of two-thirds of public sector operations and one-third private sector operations. By sector and technology, renewable energy accounts for over 70 percent of the total Trust Fund Committee approved funding, with about 15 percent for energy efficiency, and 10 percent for sustainable transport, with the remaining 5 percent spread across various technologies and different types of interventions. Among renewable energy projects, solar energy accounts for about half of the total approved CTF funding, followed by 19 percent of geothermal.

The DPSP were launched in 2013 to finance operations that can deliver scale (in terms of development impact, private sector leverage, and investment from CTF financing) and speed (faster deployment of CTF resources, more efficient processing procedures), while at the same time maintaining a strong link to country priorities and CTF program objectives.

The DPSP follow a programmatic approach where MDBs collaboratively identify high-priority investment opportunities. Two phases of the DPSP were approved by the Trust Fund Committee in October 2013 and June 2014, respectively, with a total indicative allocation of approximately USD 500 million under six thematic areas: (i) geothermal power, (ii) mini-grids, (iii) mezzanine finance, (iv) energy efficiency, (v) solar photovoltaic power, and (vi) early stage renewable energy.

To date, almost 90 percent of DPSP program funds have been approved by the Trust Fund Committee, and over 60 percent have been approved by the MDBs for implementation. While the CTF portfolio is predominantly loans, approximately one-third of DPSP funds are dedicated for other instruments such as convertible/contingent recovery grants and first loss guarantees.

1.2. The DPSP III.

At its meeting in June 2017, the Clean Technology Fund (CTF) Trust Fund Committee requested the CIF Administrative Unit and the Multilateral Development Banks (MDBs) to develop a proposal for utilizing any resources available by July 1, 2017 for further programing and present the proposal to the Committee for decision at its next meeting.

In response to the above decision by the Trust Fund Committee, the CIF Administrative Unit, working with the Trustee, updated the CTF resource availability taking into account of the closure of the CTF pipeline as of July 1, 2017 and prepared the [DPSP III Proposal](#), which was approved on December 15, 2017.

The objective of DPSP III is consistent with the overall objective of the CTF, i.e., to provide scaled-up financing for the demonstration, deployment, and transfer of low-carbon technologies with a significant potential for long-term GHG emissions savings. The CTF investment criteria applies to DPSP III projects and programs. The DPSP III proposal is based on the following principles:

a. Readiness

In order to be considered for DPSP III funding, project/program proposals should be developed and ready for submission to the Trust Fund Committee for approval within a 12-month period, i.e., by the end of December 2018.

b. Fit with priority thematic areas identified

The projects and programs identified for DPSP III pipelines should be consistent with one or more of the following thematic areas: (i) Energy Efficiency (EE), (ii) Renewable Energy Plus (RE+), and (iii) Sustainable Transport (ST). Although a project or program could focus on financial instruments for delivery, the underlying activities to be financed should be consistent with the sectors or technologies under these three themes and aligned with the host countries' Nationally Determined Contributions (NDCs).

c. Innovation

Projects and programs to be proposed under the DPSP III should demonstrate innovative features, which may involve new technologies, financial instruments, or delivery mechanisms. For proposals aimed at scaling up operations in sectors that have previously been supported by the CTF, they must demonstrate clear additionality and strong innovation.

d. Leverage

DPSP III projects and programs will aim to mobilize significant volumes of finance from other sources and particularly from commercial and private sector sources. At the portfolio level, the leverage ratio between CTF and co-financing should maintain a similar scale that is comparable to the current CTF portfolio. High leverage is also important to ensure additionality and high impact of CTF investments.

e. Impact

The existing CTF results framework will be used for project design and to monitor and report on the results of DPSP III projects and programs, including GHG emissions savings. Recognizing that in the short term innovative projects may not necessarily lead to high levels of direct emissions reduction at the project level, projects and programs financed under DPSP III should consider transformative aspects that go beyond the direct results of the investment and emissions reduction.

2. Context

2.1. Regional Context²

Growth in Latin America and the Caribbean (LAC) was an estimated 0.9 percent in 2017 after two years of contraction. Stronger-than-expected growth in Brazil was offset by a deeper-than-anticipated recession in Venezuela. Private consumption was the main contributor to activity in the region, while shrinking investment detracted from growth for the fourth consecutive year.

² World Bank Global Economic Prospects: Latin America and the Caribbean. Jan. 2018. bit.ly/WBGEPLAC2018

In a number of commodity-reliant countries, weak or contracting production in extractive industries held back growth in 2017. Subdued oil prices and oil field maturation affected Colombia, labor strikes reduced mining output sharply in Chile early in the year, and policy uncertainty was a drag on growth in Chile and Peru. Major floods early in the year set back Peru's growth.

Mexico expanded by a slightly stronger-than-expected 1.9 percent in 2017. Private consumption was resilient thanks to a healthy labor market, while investment is estimated to have contracted. Hurricane-related infrastructure damage and reduced tourism had a severe economic impact on several Caribbean countries in the second half of the year, and growth for the Caribbean sub-region is estimated to have moderated to 2.3 percent, from 3.3 percent expected in June.

Growth in the region is expected to accelerate to 2 percent in 2018 and to 2.6 percent in 2019. Strengthening private consumption and investment, particularly in commodity-exporting countries in the region, are anticipated to enhance growth.

Recovery efforts after floods in early 2017 should drive growth in Peru, which is expected to accelerate to 3.8 percent growth this year. Colombia is expected to move ahead to 2.9 percent growth thanks to private consumption, recovering export growth, and structural reforms to enhance competitiveness. Chile is forecast to advance by 2.4 percent as rising disposable incomes, mining exports, and financial conditions support consumption and investment growth.

Growth in Mexico is forecast to pick up to 2.1 percent in 2018 and 2.6 percent 2019, due to a recovery in investment as uncertainty around the future of the North American Free Trade Agreement and the outcome of July presidential elections fades. Post-hurricane-related reconstruction in the Caribbean should allow growth in the sub-region to recover to 3.5 percent in 2018.

Growth in the region is subject to considerable downside risks. Policy uncertainty in countries including Brazil, Guatemala, and Peru could hinder growth as well as the round of elections in critical economies of the region like Colombia and Mexico. Disruptions from natural disasters, negative spillovers from international financial market turbulence or a rise in U.S. trade protectionism, and further deterioration of domestic fiscal conditions could all set back the region's growth.

2.2. Sectoral Context

Fossil fuels have been, and continue to be, the main resources for energy production both in the world and in the LAC region. As a consequence, the carbon emissions produced due to their use have increased and there is already ample evidence of the considerable impacts that these emissions have on the global climate and society in general. In recent decades, many countries in the region have already taken important steps towards more sustainable energy production, but most countries still rely heavily on fossil fuels. There is an opportunity in the region to diversify energy matrices through the use of renewable resources such as hydroelectric power, solar energy, wind energy, biomass, geothermal energy and marine energy.

Around 80% of the energy consumed worldwide is still produced by the combustion of natural gas, oil and coal, which is the main source of carbon emissions in the world in the last 50 years. In fact, the increase in the level of emissions can be explained almost completely by the increase in the use of fossil fuels.

While the countries of LAC have increased the use of renewable sources in the production of electricity, most of the energy produced in the region, including for other uses such as transport or industry, still comes from fossil fuels such as natural gas, oil and coal. In many regions of LAC, these fossil fuels account for 75% or more of the resources used for energy production. This makes it clear that although progress has been made, the region still depends significantly on fossil fuels to produce its energy.

In terms of primary energy, oil (34.8%), natural gas (31.7%) and coal (5.8%) account for 72.3% of supply while biomass (15.4%), hydro (7.8%), geothermal (0.6%) and other renewables (2.9%) account for 26.7% of the primary energy in Latin America in 2015³. According to the Latin American Energy Organization (OLADE), 38% of the energy consumed in LAC is consumed in transport, being the primary sector of energy consumption followed by industry (30%) and residential (16%)⁴.

With variation amongst countries, the electricity matrix in Latin America has a strong presence of hydropower. Less than 20% of the electricity is generated from fossil fuels in countries with large hydropower capacity, such as Colombia and Brazil, while staying over 80% in Haiti, Mexico or Bolivia. Non-conventional renewable energy (NCRE - wind, solar, biomass, small hydro and geothermal) accounts for over 20% of the electricity production in Nicaragua, Honduras and Guatemala, while remaining under 10% in Haiti, Mexico, Bolivia, Peru, Ecuador and Colombia.

The primary source of CO₂ emissions in the region is the transport sector followed by the electricity generation and the industrial sector.

The increase of the energy demand is projected in an average 3.7% for the region from 2016 to 2030, with Bolivia (6.5%), Peru (6.2%), Ecuador (4.5%), Honduras (4.4%), Chile (4.3%), Nicaragua (4.3%) and Guatemala (3.8%) above the average. The cost of fossil fuels also envisaged to increase in the 2030 horizon while the cost of capital of wind and solar is expected to become competitive in comparison with gas fired power plants.

In this context, switching from fossil fuels to renewable energy in LAC requires a triple approach combining the deployment of renewable energy in a higher rate than the expected increase of the demand, the reduction of the energy consumption per unit of production and a specific approach to the transport sector towards modal shift to lower emission transport modes, and the electrification of transport in urban areas.

2.3. Barriers to private sector investment

The barriers to investments in innovative technologies or business models include, amongst others: inadequate information; risk of obsolescence; high transaction costs relative to project values; alignment of interests; lack of access to finance; and project financial payback periods that are longer than available loan tenors. Although cleaner technologies are increasingly competitive and can reduce the exposure to energy price volatility, it can be difficult to attract investment to these projects given the high initial capital costs and uncertainty regarding long-term performance.

- **Access to information:** A critical barrier for the deployment of innovative solutions is the lack of awareness of the existing experience accumulated both in the region and globally, as well as the absence of an educated work force due to the lack of knowledge dissemination in these sectors.
- **Technology obsolescence:** In rapidly developing technologies, investors are hesitant to lock up funds in long term projects that tomorrow may face competition from a much more efficient or lower cost version of similar technology. For example, the future of transportation fuels remains still unclear and there are several alternatives in competition, including fossil fuels, so investor choice is more difficult and requires more information than for consolidated technologies. Given the early stage nature of the

³ La Red del Futuro. Desarrollo de una red eléctrica limpia y sostenible para América Latina. IDB, 2017. <https://publications.iadb.org/handle/11319/8682>

⁴ Anuario 2017 de Estadísticas Energéticas, OLADE, 2017. <http://biblioteca.olade.org/opac-tmpl/Documentos/old0396.pdf>

markets it is quite challenging for investors to take views on the future competitive landscape and price the risk accordingly.

- **Transaction costs:** Some of the areas highlighted above may start with projects of small sizes (distributed generation, energy storage, ESCOs), and transaction costs for assessing and bundling projects of smaller sizes are constraining widespread development. To accelerate the progress, new models for aggregation and bundling need to be developed and tested. These models can pool assets with a high degree of standardization to hit volume targets and achieve efficiencies in managing transaction costs. The aggregation can be done by developers, structured finance with special purpose vehicles, or dedicated warehousing facilities more closely related to capital markets projects.
- **Access to finance and payback periods:** The feasibility of some technologies is based on the mid-term savings against a higher upfront capex investment. The availability of finance and tenors should match this period of maturity to deliver a competitive business model. However, investments in unproved technologies tend to have shorter tenors due to lack of access to information or perceived risks of technology obsolescence, introducing a mismatch between the revenue and repayment timelines for the developer, and resulting in a higher tariff for consumers or off-takers, thereby further eroding the competitiveness of the technology.
- **Alignment of interests of the stakeholders:** Climate finance projects mostly depend on cooperation between actors across the investment value chain, and the engagement of a variety of stakeholders. Lack of early involvement by the public sector, disincentives in public policies, and misalignment between planning and implementation of projects may increase the concerns of private investors.

Given the barriers discussed above, the i3-0 Program intends to take a collective approach of advisory services and blended finance support to accelerate market development in countries where investments are yet to emerge, and scaled up investments in other countries where a pipeline has developed.

3. Program Choice. Why focusing on Risk-tolerant Instruments?

The IDBG has conceived this Program based on three pillars: (i) the alignment with the CTF DPSP III principles of **innovation, leverage and impact**, (ii) the **lessons learned** throughout its various years implementing blended finance programs, and (iii) the mobilization agenda that the IDBG is pursuing as one of the key elements of its development banking activity in the future.

3.1. Alignment with the CTF DPSP III Principles

The principle of innovation as stated in the CTF DPSP III document applies to technology, financial instruments, and business models. The IDBG is already undertaking origination efforts on new technologies and business models that range from the integration of batteries in distributed generation systems to the implementation of electric buses in the public transportation systems, or to offering energy access to off-grid rural areas through new business models based on solar distributed generation.

The IDBG considers that setting the agenda of innovation to maximize development impact requires a specific set of tools and instruments that are included in the i3-0 Program.

The need of tailoring the financial instruments to riskier and more innovative technologies and business models maximizing leverage is the driver of this proposal. The IDBG has identified 3 main approaches to foster innovation and scale-up in the deployment of clean technologies, namely:

- i) Use of risk management solutions to:

- a. mobilize capital markets to fund the scale-up phase of deployment of proven technologies and business models,
- b. crowd in non/limited recourse finance from commercial banks into bankable projects that fall outside their comfort zone,
- ii) Provision of growth capital (i.e. equity/mezzanine) for companies deploying clean technologies but constrained by their capital base, and
- iii) Use of results-based concessional incentives to promote further penetration of clean technologies by contractually linking concessionality incentives to predefined outcomes.

The crossing between these approaches with innovative technologies and new business models is defined, non-exhaustively, on the table below:

	Energy efficiency EE	Renewable energy RE+	Sustainable transport ST
Capital markets	Energy service companies	Distributed generation	Clean bus public transportation
Access to non/limited resource finance	Energy service companies	Distributed generation	Clean bus public transportation
Risk / growth capital	EE for water utilities	Distributed generation Energy storage	Electromobility
Results-based incentives	Energy service companies EE for water utilities	Distributed generation Energy storage	Clean bus public transportation Electromobility

3.2. Integration of Lessons Learned

The design of the i3-0 Program draws from IDBG’s experience managing 10 CIF-funded private sector programs, as well as other similarly oriented climate funds, such as the Canadian Climate Fund for the Private Sector in the Americas (C2F). Some of the key lessons that have been considered in conceptualizing this Program are the following:

- **Financial instruments** should be able to help meet risk-adjusted returns. Innovative technologies and business models without an extensive track record or a credit-worthy sponsor may require products such as equity or mezzanine debt that help address the risks and meet the expected returns. Limitations in the set of instruments available to traditional debt positions have implications in the approach to highly innovative and transformational Projects.
- A **single country focus** would allow the institution to have a more effective incidence in the enhancement of the investment climate and the regulatory framework, but it also increases the vulnerability of the programs to specific country risks and the evolution of the national markets. For this reason the i3-0 Program follows a multi-country approach.
- While a single country focus would reduce the adaptability of the concessional finance to a changing environment, having a **specific sectoral or sub-sectoral approach** would increase the vulnerability of the whole Program due to the loss of capacity to react in the event of sudden changes in the environment. Even in the case of the most flexible CTF Programs under management in terms of

financial instruments, country focus or sectoral approach⁵ require time and resources to build up a highly transformational pipeline, since there is a high mortality rate in the pipeline when searching for innovative solutions and business models. The proposed i3-0 Program will have a cross-cutting approach while identifying at least two areas for innovation in each of the 3 thematic areas (EE, RE+ and ST) for indicative purposes.

- **The role of technical assistance resources is fundamental to achieve the overall goal of the i3-0 Program** since an effective use of these resources may contribute to the creation of an underlying portfolio of projects. To that extent, and focusing on innovative technological solutions and new business models, the critical role of the technical assistance program will be to develop, stress test or pilot innovative financing or business models, to select the portfolio, and to communicate the lessons learned through the investment cycle.

3.3. A resource mobilization agenda

Mobilizing resources from public and private sources is critical to the successful implementation of the 2030 Agenda for Sustainable Development. To raise the financing needed to achieve the Sustainable Development Goals (SDGs), in 2015 the Addis Ababa Agenda for Action called on the global community to move from “billions” to “trillions” in their development financing efforts.

The role of private resources is at the heart of the discussion around how to finance SDGs, and the main question is how Multilateral Development Bank (MDB) financing to public and private interventions can be catalytic in mobilizing additional finance, particularly from private sources.

LAC is a fertile testing ground for innovation, replication and scale up in resource mobilization. The region combines middle-income economies and less developed ones, with increasingly sophisticated capital markets, and with institutional capacity that has been built up throughout the years. This creates unique opportunities for deploying concessional resources towards innovative and blended finance solutions to mobilize national and international investment, with potential for replication and scaling-up within the region and beyond. The region also offers a fertile ground to develop new platforms to address the under-provision of global public goods. Access to concessional resources could play a key role in devising and testing new financial arrangements and partnerships with the aim of catalyzing new private investments.

The capacity of the IDBG to innovate in terms of mobilization will be critical for the success of this i3-0 Program. Innovative mobilization refers broadly to new mechanisms, platforms and instruments that enhance the efficiency and deployment of public and private financial flows.

To enhance mobilization, the IDBG will adapt its existing partnership instruments and financial instruments, and have an integrated approach to mobilization. The IDBG can also play a greater role in channeling resources from bilateral partners by providing new instruments, platforms and visibility.

The i3-0 Program therefore proposes a versatile deployment of CTF resources in order to shape the financial and non-financial products best suited to address context-specific risks and gaps and thereby maximize potential for mobilization of private capital.

⁵ See for example the Regional Energy Efficiency and Self-Supply Renewable Energy Program. <http://bit.ly/dpspeessre>

4. Proposed Program

4.1. General Description

Program objective. IDBG’s “**Innovative Instruments for Investment in Zero-Carbon Technologies (i3-0)**” program aims to support innovation in (i) the initial deployment of clean technologies, and (ii) the implementation of business or financing models enabling their significant scale-up.

The particularity of the Program is that, for this purpose, it will support investments by providing risk-tolerant instruments (mostly in the form of growth capital and risk-management solutions) with high leverage potential, whose scarcity in the target markets hinders the pace of commercial penetration of the technologies. The i3-0 Program will therefore seek to demonstrate the effectiveness of some risk-tolerant blended finance instruments to mobilize private capital that would otherwise not participate in the targeted transactions.

Sectors/technology. The i3-0 Program will address technologies that are consistent with a long-term pathway to reach zero GHG emissions from fossil fuel combustion, namely renewable energy, efficiency in the use of electricity, conversion from fossil fuel to electricity in end-use applications, and electricity system flexibility measures such as energy storage. The Program will cut across the three thematic areas of CTF DPSP III (namely EE, RE+ and sustainable transport), and remain open to support any low carbon technology that meets CTF criteria and this Program’s specific objectives. This said, the Program will initially target innovation in the following areas:

- Energy efficiency (EE), including:
 - Energy Efficiency in the Water Sector
 - Energy Service Companies (ESCOs) financing
- Renewable Energy (RE+), including:
 - Renewable Energy Distributed Generation
 - Energy Storage
- Sustainable transport (ST), including:
 - Clean Public Transportation
 - Electromobility

Section 4.2 provide more detail about each of these areas of focus.

Targets. The i3-0 Program aims to **deliver at least two projects with strong demonstration value or large-scale replication**, using cutting-edge low carbon technologies, business or financing models, as described in Sections 4.2 and 4.5 below. The Program further aims to **mobilize at least USD 300 million investment from the private sector**, with a leverage ratio of CTF funding to total investment of **1:10⁶**.

Financial instruments. Flexibility on financial instruments is paramount for supporting each project with the most adequate tool relative to the stage of the project/company, transaction context, and risk profile. In all cases, however, the instrument will be selected based on an assessment of how to provide the best solution to ensure financial closing of the operation and the achievement of its related development objectives.

⁶ As of March 31st, 2018, IDBG has invested USD 333 million from donors’ concessional funds (including the CTF) in 37 blended finance investments, to which IDBG has added USD 595 million from its own capital mobilizing a total of USD 3,117 million. Each concessional dollar invested has generated an investment of about USD 2 from IDB Group and nearly USD 10 in mobilized funds.

Financing instruments relevant to the i3-0 Program's goal are:

- Risk capital, in the form of equity and mezzanine capital - aiming to provide growth capital where still not commercially available, while also crowding in commercial senior debt.
- Risk-management instruments, mainly in the form of guarantees - aiming to address investment-specific risks.
- Liquidity solutions, including senior debt/backstop bond subscriptions - aiming to mitigate financing risk.

In addition, the i3-0 Program will aim to replicate and mainstream results-based incentive models successfully piloted by IDBG, selectively structured to further adoption of clean technologies (e.g. increase penetration of electric buses in bus concessions) or to promote gender-equity activities as part of the roll out of clean investments.

Mobilization strategy. The i3-0 Program will mainly target the following two types of lenders/investors:

- **Capital markets / institutional investors:** IDBG has led in the development of innovative models for mobilization of international and local capital markets, including B bonds for renewable energy projects and securitization of energy efficiency receivables. IDBG will replicate successful structures and innovate further in adapting them to new markets.
- **Commercial banks (either as co-lenders, B-lenders or intermediaries):** Through the use of risk-management solutions, IDBG will seek to crowd in banks into investments that are out of their comfort zone, either because of technology, geographic, tenor or other considerations. Main focus will be on mobilizing them for non/limited-recourse financing.

Initial pipeline. The IDBG is currently evaluating the following projects, where support from this i3-0 Program could show crucial. Other investments fitting the objective of the Program will also be considered. (We note below, in brackets, relevant CTF instrument/s under consideration for each of them).

- Receivables securitization vehicle for capital market financing of distributed solar and efficient municipal lighting solutions (CTF mezzanine investment or senior debt/backstop bond subscription)
- Incorporation of electric buses in the renewal of fleets of public transportation concessions (CTF risk management instrument and results-based interest rate incentives)

Section 4.3 below provides further detail about these projects.

Technical assistance. A Technical Assistance Facility will be set up to provide grants mainly aimed at:

- Supporting project preparation activities such as feasibility studies that would demonstrate the financial or technical viability of the transactions, in line with IDBG's Sustainable Infrastructure Framework;⁷
- Providing cost-sharing support for structuring and due diligence costs that, because of the size or nature of the transaction, may pose a barrier for first moving projects;
- Supporting the development of contractual models and public-private partnership schemes to build adequate conditions for private sector investment to flow;

⁷ *What is Sustainable Infrastructure? A Framework to Guide Sustainability Across the Project Cycle.* IDB Group Technical Note IDB-TN-1388. 2018. <http://bit.ly/IDBTN1388>

- Supporting first time green bond issuers in e.g. identifying the market potential, evaluating the feasibility and structuring;
- Supporting the implementation of a gender perspective in the design and implementation phases of the projects financed. As shown in the IDBG Sustainable Infrastructure Framework, gender appraisals will inform the design of the projects to include gender activities and define results-based incentives if required.
- Enhancing knowledge and building the capacity of market players, e.g. project developers and financial institutions.
- Supporting monitoring, evaluation and dissemination activities.

Section 4.6 below provides further detail about these activities.

Allocation of CTF resources. The i3-0 Program will be funded with USD 35 million from the CTF, of which:

- **USD 32.5 million** will be directly deployed as investment in transactions
- **USD 1.5 million** will fund technical assistance activities
- **USD 1.0 million** will fund IDBG's i3-0 Program implementation costs (including origination and supervision).

4.2. Innovative solutions across sectors

The proposed CTF contribution will be used to encourage the introduction of new technologies, business models and financial solutions across the CTF sectors. While the Program will remain open to innovation through a flexible and adaptive approach for the next 3 years, there are initially 6 focus areas (2 per each of the CTF sectors) where the IDBG has already been active and will be able to perform a selective allocation of resources adjusted to the i3-0 Program's timeframe.

4.2.1. Energy Efficiency in the Water Sector (EE)

Estimates indicate that electricity expenses may represent as much as 40% of the total operating costs of a water and sanitation (W&S) utility. Conversely, energy consumption of W&S utilities often represents an important proportion of the total electricity generated in a country. Yet, energy consumed by W&S utilities is not always used efficiently.

Electricity is required for raw water extraction and conveyance, water purification, drinking water storage and distribution, and wastewater collection, treatment, and discharge.

Energy needs in W&S utilities will naturally increase, in part due to the trend of continuous population growth, which usually requires more complex systems to distribute water (more distance between the water source and water demand, and in some cases, with greater elevations). Additionally, an increase in water demand also requires new energy-consuming technologies, such as membranes and desalination, to cope with lower quality sources.

W&S utilities can benefit significantly from energy savings: energy efficiency improvements in W&S utilities are a worthy investment because they can yield returns in the form of operational cost savings by increasing the level of service.

The LAC region has one of the highest coverage rates of piped water on premises compared to other regions of the world. This means that in LAC, approximately 89% of the population has access to water through a water connection located inside the user's dwelling, plot, or yard.⁸

There are several areas with opportunities for energy savings throughout the water production and distribution systems. The main areas include:

- **Reducing electric losses:** These losses might be related to losses in the facilities' transformers, low power factor, or overloaded conductors.
- **Reducing motor losses:** These losses might be related to poor motor maintenance; to the operation of an inefficient/re-wounded motor; or to an imbalance of energy source coming from the power supply company or from the facility transformer.
- **Reducing pump losses:** These losses might be related to pumps operating out of their optimum range due to inadequate hydraulic operation; to oversized pumps; pump wear; inefficient impellers; or inefficient pump controlling systems
- **Reducing head losses:** These are losses related to friction within pipes or resistance caused by pipe configuration. Over years of use, water pipes corrode and minerals build up on the inner surface of pipe walls. These pipe impairments create resistance to water flow. In some cases, head losses are due to inadequate practices (such as throttling valve operation), which are normally associated with oversized equipment.
- **Reduction of non-revenue water (NRW):** When NRW decreases, so does the need for pumping and distribution. In Brazil, the estimated average energy use for pumping is 0.75 kWh/m³ of water produced (World Bank, 2016). Tackling NRW reduction can bring significant energy savings to utilities.

The i3-0 Program will encourage a systematic approach to energy efficiency in the water sector from private W&S utilities (including the possibility of energy recovery with hydraulic turbines using energy surplus caused by oversized water distribution systems) to enhance financial sustainability and replicability. The use of technical assistance may be critical to perform energy audits of water distribution systems and support the preparation of studies to deliver a set of critical measures to impact the operational costs of water utilities. The i3-0 Program can be used both from the perspective of a water utility or from the perspective of a private energy service company specialized in this type of assets.

4.2.2. ESCO Financing (EE)

Third-party financing is an established financing solution in the United States, and has recently emerged in the solar industry as one of the most popular methods for enabling consumers to realize the benefits of solar energy. It is also applicable to EE through the ESCO shared savings model where the ESCO provides financing for the implementation of an EE project which gets paid for with the energy savings it generates.

ESCOs provide implementation of EE across a spectrum of projects and execution stages including simple energy audits, implementation, and O&M services. In these structures the independent company is specialized and can better manage the technical risks, but there are additional contractual risks, which are often financed with 100% equity. When ESCOs succeed in establishing their business and need additional capital to grow, additional debt financing is constrained by their limited capital base. Growth capital in the form of equity is difficult to access for these companies, given the limited amount of investors experienced in this business model, and returns that might not appear that appealing given the perceived risk. Even if

⁸ Energy Efficiency in Water Utilities: The Case of Guyana. Arturo Pedraza, Rodrigo Riquelme and Paola Méndez. IDB, October 2016. <https://publications.iadb.org/handle/11319/8002?locale-attribute=es&>

equity can be raised, it can be very expensive. Patient growth capital of mezzanine financing could help bridge this initial risk-return barrier.

The IDBG will build on the experience acquired through several CTF Programs already in place, such as the Colombian Energy Efficiency Trust⁹, the Chile Energy Efficiency and Self-Supply Renewable Energy Program (PEEERA),¹⁰ and the Regional Energy Efficiency and Self-Supply Renewable Energy Program.¹¹

4.2.3. Renewable Energy Distributed Generation (RE+)

Distributed power from renewable energy provides many benefits: reducing the strain on the electricity generation and transmission and distribution systems; decreasing electricity costs; enhancing grid stability; and improving energy security—in particular by reducing dependence on imported oil.

Generation of energy from on-site RE systems is increasingly economical as technology costs decrease, fossil fuel prices rise, and new business models for financing projects emerge. Small-scale self-supply projects serve as a powerful tool for private sector companies to provide themselves greater financial and operational stability, especially in countries with high energy costs or frequent outages. Unfortunately, there are still considerable market barriers to companies in LAC that wish to implement these technologies.

RE distributed generation projects are underserved by the banking sector. Projects are small relative to other utility-scale energy projects, and are therefore typically not covered by energy divisions in banks. However, the projects are large in comparison with the corporate balance sheets of the implementers. In addition, even though these projects often have high financial returns, banks generally apply standard, asset-based risk criteria to companies seeking loans for self-supply RE investments. This results in unnecessarily high-risk premiums, high collateral requirements, and short loan tenors.

Instability in grid-supplied electricity also encourages higher CO₂ emissions through reliance on diesel generators for back-up electricity. Uncertainty over future savings is common, as project economics are impacted by many factors including power and fuel tariff structures, which can vary widely over time. Other technology-specific risks, such as the resource risk for wind or solar, also present a perceived disadvantage to cleaner technologies. Therefore, access to affordable, long-term finance is essential to level the playing field with traditional, more polluting investments.

Concessional finance can help overcome many of these challenges and could catalyze off-grid power markets in developing countries. Concessional finance can help lower the financing cost, improve affordability to the customers, and put in place favorable policies and measures to mobilize additional resources for scaling up. Concessional finance can also help establish viable business models and track records for fully commercial investors through subordinated loans, as well as help start-up ventures to get off the ground through early-stage equity.

The i3-0 Program will build on the IDBG's experience with its CTF-funded regional Energy Efficiency and Self-Supply Renewable Energy Program. This Program is currently providing support to several innovative business models in the solar distributed generation in the Caribbean and Central America, representing a valuable insight in order to assess further transactions in this sector.

⁹ Innovative Instruments to Foster Energy Efficiency in SMEs in Colombia. <http://bit.ly/EEinSMEsCTF>

¹⁰ Chile Energy Efficiency and Renewable Energy Self-Supply Program. <http://bit.ly/ctfPEEERA>

¹¹ Regional Energy Efficiency and Self-Supply Renewable Energy Program. <http://bit.ly/dpspeesre>

4.2.4. Energy Storage (RE+)

The value of energy storage technologies is found in the services that they provide in different locations in the energy system. These technologies can be used throughout the electricity grid, in dedicated heating and cooling networks, and in distributed systems and off-grid applications. Furthermore, they can provide infrastructure support services across the supply, transmission and distribution, and demand portions of the energy system.

Broadly speaking, they can serve as valuable tools for operators in systems with supply or demand-side variability. The latter has historically been part of the energy system. The former is an increasing concern in a transition to increased penetration of variable renewable energy.

The cost of battery systems has fallen in recent years due to increased production and renewed interest in storage for variable renewable energy integration. Economies of scale, manufacturing capacity, the development of electric vehicles and other trends are other reasons for this trend. The most dramatic cost developments have been for lithium-ion chemistries, driven by policies to deploy the technology in the electricity sector and in the electric vehicle market¹².

The deployment and value of battery storage technologies for renewable integration will depend on the creation of an appropriate ecosystem with significant interplay between policy, regulation, business models, and availability of finance.

The i3-0 Program will pay special attention to the complementarity of battery storage and distributed renewable energy, as well as to the business models that may arise around off-grid locations, both from the residential (i.e. solar distributed generation) and industrial point of view (i.e. renewables for mines in off-grid locations)

Concessional sources of financing can facilitate the penetration and scaling-up through interventions that help bridge the gap to commercial project viability, mitigate real and perceived risks, finance first-of-its-kind projects and provide technical assistance to promote regulatory framework convergence, and establish testing and certification standards to ensure quality.¹³

4.2.5. Clean Public Transportation (ST)

Transport accounts for 23% of global (non-agricultural) CO₂ emissions and could rise by 70 percent by 2030, mostly from emerging economies. Not only is it possible to change the trajectory for transport emissions, but doing so would generate significant co-benefits such as reduced congestion, pollution and accidents, improved health, quality of life, enhanced productivity and economic growth.

Switching to a lower carbon transport system typically requires a transformation that is complex and capital intensive. Low-carbon transport options tend to have higher upfront costs compared with carbon-intensive alternatives, and lack of long-term finance is often a key barrier.

Though investments generate economic co-benefits, the ability to generate revenues is often limited by affordability concerns; even operational cost recovery is often a challenge, making it difficult to attract private sector funds at scale. Counterparty risk guarantees for transportation concession agreements, credit enhancement, innovative land-use and building fee or tax mechanisms, and transport bonds can also be used as potential instruments to facilitate access to long-term debt, and concessional finance has an important role to play to pilot and scale them up.

¹² Energy Storage. Jorge Mercado and Juan Paredes. IDB, December 2017.

¹³ CTF DPSP III Proposal, CTF Trust Fund Committee, 2017. <http://bit.ly/DPSPiii>

In this context, the IDBG has already designed the “Unlocking Clean Buses in LAC” Program for Technical Cooperation with the following goals:

- To mitigate the climate change impacts of the transport sector in LAC cities through the replacement of internal combustion engine (ICE) buses with low-carbon hybrid or electric alternatives;
- To improve the quality of public transportation by strengthening the capacity of local agencies to implement efficient and financially sustainable transit systems;
- To reduce barriers for private bus operators to adopt and deploy cleaner technology buses. The specific objectives are to reduce greenhouse gas emissions, local pollution (which has health impacts), transportation operating costs, and noise levels, and to develop local capacity in the operation and maintenance of clean technology vehicles

Leveraging this approach, the proposed Program will be oriented to reduce the barriers for private bus operators to access to appropriate financial products in line with the payback requirements of this kind of assets. The i3-0 Program will be open to new business solutions such as battery leasing or pay per mile approaches. In addition, special attention will be paid to the whole value chain of clean transportation systems, including battery charge providers, integration of renewable energies in the transportation system or dedicated operation & maintenance companies of electric bus fleets.

Since this type of transactions usually involve the public sector in public-private partnership (PPPs) structures, the technical assistance facility could be used to enhance and facilitate the implementation of clean buses in bus fleet renewal tenders.

The i3-0 Program will remain open to light rail investments whenever it involves the construction of a new line, rather than the displacement of a bus rapid transit (BRT) system.

The appropriate financial instruments in this area will be senior debt/backstop bond subscriptions and guarantees.

4.2.6. Electromobility (ST)

The higher upfront costs of electric vehicles against ICE vehicles in the current market environment can only be compensated by the reduction of operation and maintenance costs that increases with the use of the vehicle. In this context and, at this point in time, only financial solutions for heavy users of vehicles will prove feasible to potential clients. This category may include the following types of fleets:

- Taxis
- Last mile distribution fleets
- Car sharing fleets
- Moto sharing fleets
- Company fleets
- Public service fleets

The i3-0 Program will encourage switching to battery electric vehicles (BEV) in these sectors by providing risk mitigation instruments to ease the access to longer tenors or by providing equity in new business models associated to the fuel transition.

To assess the development impact of this type of transactions, the IDBG will consider the existing prices of electricity, the existing prices of fossil fuels and the share of renewables in the energy mix in each eligible

country. Studies carried by the IDBG identify Chile and Mexico as the most promising markets for this technology, followed by Brazil, Colombia and Peru.¹⁴

Development impact will be also determined by the reduction of air pollutants other than GHG and reduction of private mobility and transit appeasement. Special attention will be paid to business models affecting the value chain of this sector, including the insurance sector, battery charge suppliers, specialized maintenance services and integration of renewable energy in the value chain. A positive evolution of the market appetite for the transportation fuel transition is expected along the life of the proposed i3-0 Program.

Finally, the increasing strategic value of lithium mining and the role that Latin American countries may play in the raising industry of the lithium-ion batteries (Chile, Bolivia and Argentina) provides a window of opportunity to support the whole value chain of both energy storage and electromobility in some of the Latin American developing countries. Specifically, this Program will pay attention to the Bolivian lithium mining industry development as a cornerstone of the value chain for the energy transition both in the region and globally.

4.3. Initial Pipeline

IDBG is currently evaluating a few projects aligned with the i3-0 Program’s objective, some of which appear to require blended finance support to be properly structured and reach financial close.

4.4. Program Financing Plan

With the proposed **USD 35 million CTF contribution**, IDBG will seek to mobilize investments of approximately **USD 300 million**, which will indicatively be distributed as follows:

Source of funding	Financing component	Amount (USD Million)	Amount (%)	Type of financial instrument
CTF	Implementation and Supervision Budget	1.0	0.3%	-
	Technical Assistance Facility	1.5	0.5%	Grant
	Investment Facility	32.5	10.7%	Equity, Loan, Guarantees, Senior Debt/Backstop Bond Subscriptions
IDBG	Co-investment	60.0	19.7%	Equity, Loan, Guarantees, Bond Subscriptions
Private Sector / Other DFIs	Project Sponsors	60.0	19.7%	Equity
	Financial Institutions / Co-lenders	150.0	49.1%	Equity, Loan, Guarantees, Bond Subscriptions
Total Financing		305.0	100.0%	

4.5. Risk-tolerant financial instruments and mobilization approaches

The i3-0 Program will prioritize 4 vectors for clean investment mobilization:

¹⁴ The incorporation of electric cars in Latin America. Julian A. Gómez-Gélvez, Carlos Hernán Mojica, Veerender Kaul and Lorena Isla. IDB, 2016. <http://bit.ly/IDBMG460>

4.5.1. Mobilization of Capital Markets

The volume and type of financial resources required for development at scale (beyond the initial phase) of clean energy and transport infrastructure require the development of financing solutions and investment vehicles that allow participation of a larger scope of capital market participants (including institutional investors).

Guarantees by MDBs can be an effective instrument for de-risking investments to crowd in private capital financing. Guarantees can provide lower borrowing costs and longer loan tenures to borrowers while minimizing the use of MDBs capital-backed resources. Such guarantees represent only 5 percent of MDB operations, although they account for 45 percent of total private resource mobilization¹⁵.

Risk management instruments (RMIs) are required to credit enhance projects or portfolios whose real or perceived risks may not meet the requirements of certain capital market participants; in such cases, concessionality may be required in the form of reduced pricing or subordination.

Backstop bond subscriptions¹⁶ are required when the innovative profile of a bond's underlying assets may require mitigating placement risk with an MDB willing to play an anchor investor role; in such cases, concessional finance could be required to co-fund such anchor investor position. Typically, the MDB's backstop subscription would be provided ahead of formally launching the issuance and disclosed to market. The subscription would then be reduced as a function of investors' appetite down to an adequate floor, especially in case where anchoring the transaction around an MDB would be viewed as a key risk mitigant for noteholders.

In the case of green asset-backed securities (ABS) or green covered bonds (i.e. pool of green projects that are packaged, issued, and backed by the cash flows generated by the underlying projects), private sector companies can tap capital markets with the aim of accessing more adequate financing terms and conditions for their EE projects. Since the securities are backed by the EE projects' cash flows, and since the pooling reduces the risks and costs associated with each individual project, this financing mechanism is more flexible and less dependent on the existing balance sheets of ESCOs.

Private sector companies can then issue green ABS and tap into capital markets with better financing in terms of collateral, provision of longer tenors and lower interest rates. Pooling and securitizing can thus bridge the financing gap and open the door to projects that would otherwise not be funded. However, in the LAC region this market remains underdeveloped.

The i3-0 Program is aimed to extend the suitability of this instrument across sectors besides EE. (i.e. bus fleet substitution with returns related to operation & maintenance).

4.5.2. Mobilization of commercial bank non/limited-recourse financing

In certain development markets (most commonly in those with sub-investment grade ratings or not fully developed financial markets) availability of non/limited-recourse project financing (particularly in terms of tenors, but also in terms of currency, among other) is not adequate to allow more capital intensive clean technologies to be competitive.

¹⁵ Multilateral Development Banks' Risk Mitigation Instruments for Infrastructure Investment. Pablo Pereira dos Santos, Matthew Kearney. IDB, 2017. <http://bit.ly/IDBTN1358>

¹⁶ Since Backstop Bond Subscriptions are not defined as a standard financial product by the CIFs, for the purpose of this document they will be considered as a Senior Debt Instrument.

This normally has to do with restrictions posed by general investment conditions in the country, regulatory risk, or specific challenges associated with off-takers or tender/PPA provisions, among others.

RMIs, for example in the form of **refinancing guarantees**, could allow sponsors to utilize shorter-term financing solutions, such as mini-perms, and, conversely, allow commercial banks with shorter tenor or more limited risk-taking possibilities (because of lack of experience, banking regulatory requirements, etc.) to participate in the initial financing of these projects.

Partial risk guarantees (PRGs) can enhance the bankability of project finance transactions in the context of public-private partnerships (PPPs), where the private partner plays a major role in mobilizing project funding. PRGs eliminate or mitigate credit risk exposures, as they ensure that private lenders get repayment in case of default as a result of nonperformance of contractual obligations by governments or off-takers.

4.5.3. Growth Capital

Certain clean technology investments are often developed by companies with limited capital relative to the size of the investments required by their clients. This is typically the case of most ESCOs, as well as of innovative distributed RE companies implementing third-party finance models. Taking their businesses to scale requires growth capital and debt leveraging not always available in local capital markets.

To address the absence of available capital in some transactions in innovative technologies and business models, equity/mezzanine capital from concessional sources could be required. This capital will supplement similar positions taken by MDBs (but which are limited in size by risk management guidelines) or take subordinated positions that allow further debt leveraging of the company.

MDBs invest in some companies because they see the potential of growing **and generating positive social benefits**, such as creating employment, increasing exports or delivering a product or service otherwise not available. MDBs also seek other benefits like increased competitiveness, productivity or demonstration effects.

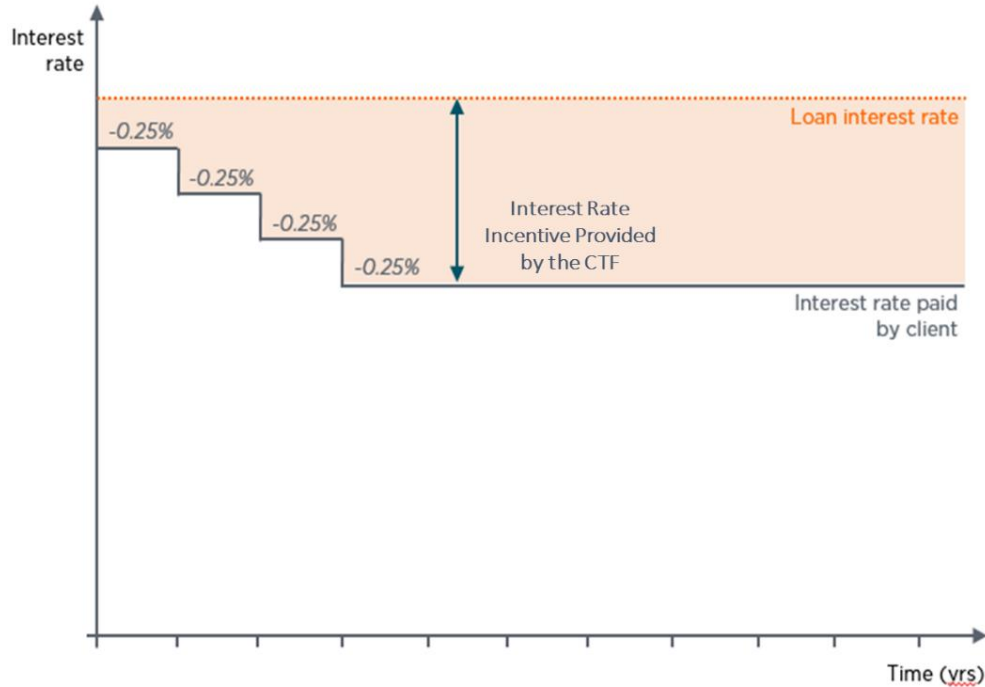
MDBs investing in equity can provide a signaling effect to other potential providers of capital, and thus help build local equity markets. These investments also aim to attract additional commercial capital by providing a positive signal to the market, partly because of the MDBs thorough due diligence on clients that otherwise might not have been considered by private investors. When working through funds, MDBs also aim at creating an industry of professional fund managers. MDBs have often supported first and second-time fund managers, helping them professionalize and attract additional capital.¹⁷

Equity or mezzanine capital will be selectively implemented in this Program in companies with an exceptionally positive social impact.

4.5.4. Results-based incentives

Across sectors and financial instruments, the IDBG will promote results-based incentives aligned to clean technology deployment and gender goals to be defined on a case-by-case basis for each project. Incentives will be provided by lowering the interest rate of CTF loan upon accomplishment of specific results that will be defined and formalized in loan agreements.

¹⁷ Comparative Study of Equity Investing in Development Finance Institutions. IDB, Office of Evaluation and Oversight, March 2017. <http://bit.ly/CIIRE202>



The IDBG will leverage on its experience designing and implementing gender performance-based incentives with the C2F. Such approach entails the following:

- The company commits to produce a specific set of strategic results integrated in an “action plan” and that must be tested during the term of the contract.
- The expected results of the program are included in the loan contract.
- The incentives are provided against evidence of successful achievement of predefined goals.
- The level of concessionally is normally based on incremental implementation cost associated with the desired outcomes.
- Incentive program design often needs to consider how to properly pass such incentives beyond the borrower to contractors and subcontractors (e.g. EPC contractor and plant operator) actually implementing the targeted activities.

4.6. Technical Cooperation and Knowledge Management

The Technical Assistance component will be delivered in conjunction with the Investment component. This will allow the i3-0 Program to operate with a programmatic approach to the extent possible, and facilitate a coherent set of interventions as needed to unlock investment and deliver transformation in highly innovative transactions across sectors.

The growing complexity of the above mentioned innovative transactions across infrastructure sectors, particularly for decision-makers, project developers and investors, coupled with the need to mobilize capital at scale drove the IDBG to develop a common framework that promotes a collective understanding of environmental and social (gender) sustainability across the entire infrastructure lifecycle. The Sustainable Infrastructure Framework is aligned with the *Technical Cooperation and Knowledge Management* component of the i3-0 Program in the following ways:

- 1) **Develop better projects:** Having a clear shared understanding of sustainable infrastructure ensures that we are heading towards the same objectives towards the creation of bankable and scalable

infrastructure pipelines. This will allow us to measure progress and get feedback from peers and will result in better-quality infrastructure investments that are scalable.

- 2) **Establish clear financing ground rules:** The framework will give clarity to private investors as to investing in sustainable infrastructure. This will help align, incentivize and mobilize finance to drive transformation and increase the scale of investments.
- 3) **Standardize tools and indicators:** There are transactional costs associated with the proliferation and fragmentation of tools and approaches to deliver sustainable infrastructure. The framework will aid analysis and standardization of tools and approaches to accelerate adoption.
- 4) **Prove new Business Models:** Sustainable infrastructure is complex and multifaceted, and the different dimensions of sustainability interact with each other, requiring consideration of synergies and trade-offs. Defining the attributes of sustainable infrastructure will clarify what we are trying to achieve across stakeholder groups and create space for strengthening the business case.

In line with the IDBG Sustainable Infrastructure Framework, the **USD 1.5 million grant funding** requested will provide technical assistance aimed at:

- Supporting project preparation activities such as feasibility studies that would demonstrate the financial or technical viability of the transactions (including energy audits / resource audits);
- Supporting the development of contractual models and public-private partnership schemes to build adequate conditions for private sector investment to flow;
- Providing cost-sharing support for structuring and due diligence costs that, because of the size or nature of the transaction, may pose a barrier for first moving projects;
- Supporting first time green bond issuers in e.g. identifying the market potential, evaluating the feasibility and structuring;
- Supporting the implementation of a gender perspective in the design and implementation phases of the projects financed. Gender appraisals will inform the design of the projects to include gender activities and define results-based incentives if required.
- Enhancing knowledge and building the capacity of market players, e.g. project developers or financial institutions.
- Supporting monitoring and evaluation activities.

The indicative allocation of resources is shown on the following table. Some level of reallocation between categories might deem needed during i3-0 Program implementation.

	CTF Resources
Feasibility studies and contractual models	USD 400,000
Cost-sharing support for structuring due diligence costs	USD 400,000
Support first time green bond issuers	USD 300,000
Gender assessments	USD 200,000
Communication and dissemination tools and monitoring and evaluation activities	USD 200,000

4.6.1. Feasibility Studies and Contractual models

Project preparation grants will provide technical support for early stage project development, including transaction-specific analysis in the following topics:

- Incorporating environmental, climate, social and corporate governance factors into investment management processes;
- Evaluating and enhancing investor's clarity on the business case for sustainability by enhancing their understanding of the potential financial, strategic or operational risks or benefits to investments performance;
- Support pre-investment studies including energy audits, resource audits, pre-feasibility and full feasibility work for appropriate solutions; and
- Identify, evaluate and design contractual frameworks to enhance private sector investment across the sectors and technologies described, with special focus on building appropriate PPP models for specific transactions

4.6.2. Cost-sharing support for structuring due diligence costs

The aim of this tranche of the technical assistance resources is to reduce transaction costs in eligible projects, including due diligence and legal costs that can disproportionately impact the economics of small projects.

This tranche will address the costs associated with the structuring phase of each transaction which may include, indicatively:

- Environmental, climate and social due diligence costs
- Legal due diligence costs
- Technical due diligence costs
- Market due diligence costs

4.6.3. Support first time Green Bond issuers

When the issuance of Green Bonds may provide a significant scale to an already tested technology or business model in the region and when the issuance is pioneering in terms of issuer, country or technology, the grants from the technical assistance resources will be able to be disbursed in the following areas:

- To share the costs of the advisors, auditors and technical verification entities of the issuance;
- To ensure there is transparency, clarity and monitoring of the use of the funds;
- To design credit enhancement mechanisms to attract institutional investment

4.6.4. Gender Assessment

A gender analysis will be conducted in each of the projects to assess gender differences and gaps, as well as impacts and risks. Women's participation will be encouraged during the consultation process to understand different point of views and interests.

Both the analysis and the consultation will inform the design of the projects to include gender activities such as the following:

- Gender equality in the workplace. The projects will encourage the creation of friendly working environments that promote gender equality.
- Women in STEM or non-traditional roles. The projects will explore the design of internship targeting women in STEM or integrating women in the construction phase of a project. Other options can be explored.

- Women jobs. The projects will promote gender equality in hiring.
- Female entrepreneurship. The projects will promote that women could lead the distribution network of the projects if existed. Training is required for this to be successful. They also could be part of the supply chain to provide services during the construction and operation.
- Women's market. The projects will design a specific strategy to address women's market in those cases in which women access and purchase energy. For example, if there is a distribution network in the project (selling pre-paid energy cards or devices).
- Women as users. In the case of transport projects, these will ensure that transport systems are equally safe for men and women and that women's travel patterns and main concerns when using the system are understood. Other options could apply to different projects.

4.6.5. Communication and Dissemination Tools

The Communication and Dissemination Tools will be addressed to ensure that proper information on the deployment of the CTF resources is provided, both to the Donor and the markets affected as well as internally in the IDBG to strengthen the internal knowledge in the utilization of donor resources and the evaluation of the Development Effectiveness of the institutions' investments.

These activities will include detailed case studies, which will be produced for particular projects. These case studies will be presented at regional conferences. The IDBG will hold workshops in particular countries with local banks and associations. Open editorials will be submitted to local newspapers on the projects financed by CTF.

Finally, these activities will be focused to disseminate, evaluate and improve the Financial Instruments used to maximize leverage and impact in highly innovative projects.

5. Program Strategy for achieving Market Transformation

Transformational change implies a long-term structural change that disrupts high-carbon and climate vulnerable pathways, overcomes persistent barriers towards the low-carbon climate-resilient development model, contributes to sustainable development, and sustains the impacts of the change. It is driven by continuous improvements and actions that influence the system and actors' behaviors.

In terms of the criteria to ensure delivering transformational impact the IDBG would seek to:

- **Innovate**, i.e. support the deployment of new or improved solutions and business models compared to others in the market by placing social, economic, financial and environmental sustainability at their core;
- **Catalyze**, i.e. mobilize private capital by addressing barriers to private investments that have not yet been addressed or that should be addressed in an improved manner;
- **Deepen domestic capital markets** by attracting long-term institutional investors to mobilize resources for projects while containing possible currency risk;
- **Embed financial sustainability in corporate or project financing**, i.e. structure financial or non-financial support in ways that would help phasing out public support, thereby leading to market viability. Financial sustainability also implies placing sustainability considerations at the core of financing evaluation and resource allocation;

- **Create a demonstration effect**, building the track record that would show viability and lead towards commercial replication;
- **Generate synergies** in economic growth and development priorities in ways that achieve positive socioeconomic, development, and environmental impacts.
- **Use technical assistance resources** to pave the way for innovation and implementation of new business models.
- **Implement effective knowledge management interventions** to achieve the desired demonstration by lowering informational barriers and adequately disseminating the i3-0 Program's outcomes.

6. Application of the Development Financial Institutions (DFIs) Enhanced Principles of Blended Concessional Finance

The IDBG subscribes to the DFIs' Principles on Blended Concessional Finance for Private Sector Projects¹⁸. This common framework seeks to ensure a harmonized, efficient and catalytic use of concessional resources in private sector projects, while avoiding market distortions and crowding out the private sector.

Concessional finance will comprise financial products, including loans, guarantees, and equity investments, provided on terms that are more favorable than those available are from the market, including:

- **Pricing:** Concessional can be achieved through expected returns below those available on the market (i.e. lower interest rate for a loan), as determined upfront, or periodically for achieved and verified results (i.e. gender performance-based interest)
- **Terms:** Other aspects of structure may also make a financing concessional. For example, unless it is reflected in the pricing, lower seniority, longer tenor, back-weighted repayment profile, credit enhancements, or a weaker security package of a transaction would be considered concessional if commercial financial institutions would normally not accept it for a client in a particular market environment.
- **Liquidity:** Finally, finance provided where there is otherwise no access to market is implicitly concessional, even when its expected risk adjusted returns are aligned with market's expectations (i.e. priced at "market")

The IDBG has established a set of guidelines to implement the 5 principles that will be followed in the structuring of Blended Finance Transactions by a dedicated Blended Finance Team in charge of the CTF participation in each transaction.

Additionality

- The IDBG will use blended finance only when there is a relevant case that projects cannot be structured on a commercial basis and without the presence of CTF funds the IDBG would not proceed with the transaction.

¹⁸ DFI Working Group on Blended Concessional Finance for Private Sector Projects. October 2017. <https://publications.iadb.org/handle/11319/8600>

- The IDBG will use blended finance only if it addresses externalities, information asymmetries or other institutional and market failures, or affordability constraints that are hindering positive market dynamics.
- The IDBG will prioritize the use of blended finance for projects with high development impact measured with its internal tool DELTA¹⁹ (Development Effectiveness Learning Tracking and Assessment Tool).

Minimum Concessionality

- The IDBG will ensure that the use of CTF funds will not be greater than necessary to induce the intended investment.
- The IDBG will structure blended finance operations to address as directly as possible gaps in the financing structure and to minimize the need for future concessionality.
- The IDBG will, where possible, size the level of concessionality relative to the value of the obstacle identified.

Crowding in

- The IDBG will ensure that projects supported by the CTF should seek to catalyze private sector investment.
- The IDBG will avoid using CTF funds to enhance the risk/return position of the IDBG own funds in a project financing package without extending the benefits to other investors.
- The IDBG will increase scrutiny on the crowding-in effect when the CTF funds become identical or senior to commercial investors.

Commercial Sustainability

- The IDBG will maintain a high level of scrutiny of the commercial viability of projects and clients.
- The IDBG will identify, monitor and, where feasible, implement measures to overcome the obstacles identified that are barriers to commercial sustainability.
- The IDBG will structure the participation of CTF funds to align incentives to accelerate sustainable market development and reduce demonstrably the level of concessionality to repeat projects as market failures and other obstacles are reduced.

Governance

- The IDBG will ensure a level of independence or oversight within project teams and decision-making bodies managing CTF funds in blended concessional finance operations.
- The IDBG will explicitly monitor adherence to the blended concessional finance principles and guidelines, and as applicable, to CTF guidelines.
- The IDBG will identify and require client adherence to international best practice industry standards, including the environmental, social and governance standards and other policies and procedures of own-account projects.

¹⁹ Measuring Development Results. <http://bit.ly/IICdelta>

7. Fit with Investment Criteria

7.1. Potential GHG Emissions Savings

At this stage, the exact portfolio composition of the i3-0 Program cannot be defined. For the performance indicators targets calculations, the IDBG is using a set of projects currently under portfolio in the selected sectors and within the eligible countries.

The i3-0 Program will support projects expected to reduce GHG emissions by an estimated 3.675 million tCO₂e over 20 years. The IDBG will document the GHG reductions.

7.2. Cost-Effectiveness

Given the direct GHG mitigation potential mentioned above, the cost effectiveness of CTF investments would be ~0.105 tCO₂e/USD, or USD 9.5/tCO₂e (this estimate corresponds to Program lifetime abatement of 3.675 million tCO₂e and a total of USD 35 million of CTF resources).

Assuming the target financial leverage of at least 1:10 of CTF resources (i.e. CTF providing ~10% of the total investment resources needed) the total cost effectiveness considering other sources beyond CTF would be around USD 95/tCO₂e.

7.3. Demonstration Potential at Scale

The i3-0 Program will support innovative solutions across EE, RE+ and ST, for technologies that currently have low levels of penetration in the target markets. Growth potential therefore tends to be quite significant, particularly given that the Program will seek to support business and financing models with high scale-up potential. We therefore consider it reasonable to assume -particularly given the regional scope of the i3-0 Program and dissemination and replication that the IDBG normally does across the region- that the Program could have at least a 5x replication factor. This would result in GHG emission reductions of at least 18.3 M Ton of CO₂.

7.4. Development Impact

This Program has a significant number of potential development co-benefits. Many of these are expected to have immediate direct impact and all are expected to become significant as the demonstration effect of the i3-0 Program impacts in a scale larger than that of the directly supported investments. Expected co-benefits are:

- **Energy stability:** Energy efficiency and self-supply RE projects provide greater stability to industrial clients whose operations rely on consistent flow of energy to maintain productivity. This is especially pronounced in countries with weak grids, unsound utility companies, unpredictable prices and electricity rationing. This high level of instability creates productivity losses and worsens the business climate for the important manufacturing industry which relies on high levels of energy consumption. In addition, energy efficiency and self-supply RE projects reduce demand on the unstable electrical grid which benefits the general public as well.
- **Energy security:** Despite a large share of hydroelectricity, more than 75 percent of total primary energy supply in LAC is based on fossil fuels. In many countries the energy matrix is increasingly vulnerable to price or supply shocks due to heavy reliance on imported fossil fuels. In addition, higher power supply costs result in reduced competitiveness of industry (and particularly in energy intensive, commodity producing sectors where cost increases cannot always be proportionally transferred to

prices). Energy security concerns are heightened by the fact that two base-load technologies (large hydro and coal) have been facing significant environmental, economic, and social barriers for further development in the region.

- **Adaptation to climate change.** Many countries in LAC have significant hydro-based generation, and are therefore vulnerable to changing hydrological profiles, aggravated by climate change. Some of the projects will contribute to reduce this vulnerability.
- **Access to affordable energy:** The development of new distributed generation business models is facilitating the access to energy in off-grid locations, as well as helping to reduce electricity price volatility related with the use of fossil fuels for lighting, heating and generating electricity. The i3-0 Program is designed to encourage the appearance of new business models in distributed generation with special attention to the bottom of the pyramid population.
- **Reduction of air pollutants from transportation:** Air pollution emitted from transportation has negative impacts on the health and welfare of the population. Pollutants that contribute to poor air quality include particulate matter (PM), nitrogen oxides (NOx), and volatile organic compounds (VOCs). The transition to a zero-emission transport technology reduces not only GHG emissions, but also local air pollutants that impact in the environment and the health and quality of life of urban inhabitants.
- **Local employment:** Companies who will benefit from the project due to the lower long-term energy costs, increased energy security and enhanced competitiveness, which should normally contribute to continuous and increased employment. As well, engagement of local labor in the installation, operation and maintenance of the type of projects supported by the i3-0 Program will positively affect the local community.
- **Spill-over effects:** By accelerating the development of this sectors in several countries in the region, it is expected that the development of the sectors in other countries will also receive a boost.
- Other significant co-benefits include increasing energy security, reducing fossil fuel imports, and decreasing the need for costly electricity grid investments.

7.5. Implementation Potential

This Program will be implemented immediately upon its approval by the CTF Trust Fund-Committee with the expected approval of the first project under the i3-0 Program by the end of the first semester of 2019.

The IDBG is already engaged in the origination of projects that fit with some of the innovation areas of the i3-0 Program, such as solar distributed generation, financing of ESCO's, or implementation of clean bus fleets in Latin American cities. In addition, the IDBG has already participated in innovative financing structures as the B Bond structuring of a utility scale solar power plant and has recently reinforced its equity and mezzanine teams in recognition of the relevance of this type of investments products to catalyze innovation and development outcomes in the region.

The IDBG has put in place several instruments that have paved the way for this Program, which is aimed to streamline the approach of the institution towards innovation and become a focal instrument to support clean technologies in the region.

The Energy Efficiency and Self Supply Renewable Energy Program (PCTFDP614A) funded with USD 20 million from CTF is being used to assess new business models around the evolving market of the solar

distributed generation in the Caribbean and in Central America. It will provide a concrete evidence of the effectiveness of different business models to achieve scale and financial sustainability in the region.

Country specific CTF Programs such as the “Chilean Energy Efficiency and Self-Supply Renewable Energy Program (PEEERA)” (PCTFCL204A) or “the Innovative Instruments to Foster Energy Efficiency in SMEs in Colombia” (PCTFCO098A) or the “Mexican Capital Markets Solution for Energy Efficiency Financing” have provided valuable lessons in terms of ESCO models and innovative financial instruments, such as the Green Bonds for the aggregation of small-scale solar distributed generation interventions.

The IDBG technical cooperation activity “Accelerating NDC Implementation. Unlocking Clean Buses in LAC” already in execution is aimed to improve public transportation in LAC cities through the replacement of diesel buses with low-carbon hybrid or electric alternatives. It is funded with USD 1.2 million of IDBG ordinary capital and is active since 2017.

A more specific approach is required for the development of new business models and technological solutions in the areas of energy efficiency in the water sector, as well as the integration of electromobility in the region’s cities.

7.6. Additional Costs & Risk Premium

The investments to be supported by the i3-0 Program are currently perceived as having higher technology and implementation risks and therefore face higher financing costs and first-mover implementation costs when compared to conventional energy sources and solutions.

Given the high initial capital expenditure involved in the i3-0 Program’s approach, these perceived risks result in limited access to financing and high premiums for this kind of projects. In accordance, these perceived risks may derive in an alternative financial approach, using equity structures when the risks involved are misaligned with the expected results of a typical financial structure or producing short term financing to be refinanced with a capital market solution.

Currently, the private sector in the region is interested in long-term investments such as the energy projects proposed, but these investments require access to long-term debt, which at this stage in the market requires developmental institution risk-sharing and innovative financial solutions.

Finally, the demand of local currency financing in some countries will require a detailed assessment and integration into the structure of the projects to ensure their financial sustainability with CTF support.

7.7. Financial Sustainability

The i3-0 Program’s financial sustainability is inherent in the economic viability of identified EE, RE+ and ST investments and the demonstration that these projects will offer, which will reduce perceived risks (and therefore the need for risk mitigation support such as this CTF Program), as well as financing costs in the market for future projects. Furthermore, the i3-0 Program’s efforts will involve local financial institutions, companies, and developers through co-financing, technical cooperation and training, and the dissemination of case studies profiling the projects supported.

Specifically, the USD 1.5 million in grant funding requested will be used in part to enhance a regional innovation ecosystem focused on clean technologies and in part to support transaction costs that otherwise would become unaffordable for first movers in each of the sectors.

7.8. Mitigation of Market Distortions

The market will not be distorted since most CIF countries in LAC currently do not have a well-developed market in the majority of the innovation areas described that could be (negatively) distorted, and therefore investment and financing of these technologies is limited. Nevertheless, the risk of market distortion will be analyzed carefully in a country and project basis as part of the application of the Blended Finance Principles by the IDBG.

Private sector local financial institutions will be crowded in, rather than out, as they tend to be critical for scale-up phases and for the provision of local currency financing, among other.

The program is expected to have a demonstration effect to companies with potential to implement similar projects as well as financial institutions with potential to gain experience with the risk/return profiles of these investments and develop into new business areas. In addition, and to support this objective, the principle of minimum concessionality will be observed in all cases.

7.9. Risks

Potential risks associated with the i3-0 Program include:

- **Demand Risk:**

There is a risk of low demand for the Program's financial support or towards the innovation itself (i.e. cities not willing to switch to clean buses). This risk is mitigated by: (i) the initial pipeline already identified; and (ii) Program flexibility in terms of countries, sectors and financial instruments, which will facilitate identification of additional eligible operations if those in the initial pipeline dropped.

- **Financing Risk:**

Another potential risk is the level of co-financing required, given that the IDBG can only finance up to a certain amount of each project costs.

The presence of IDBG financing and the financial, integrity, corporate governance, environmental and legal due diligence it entails, as well as the CTF administered funds participation, will lower the risk profile of the projects and are expected to enhance access to co-financing from financial institutions.

- **First Mover Risk:**

Initial private sector projects will face typical risks associated with lack of experience and capacity in the sector.

The projects will benefit from the use of the Technical Assistance Facility, which will assist in the development of new business models with the relevant stakeholders in the very early stage of investments. This use of Technical Assistance funds together with the support that the IDBG brand will provide to the first movers will enhance the incorporation of the right project partners, co-lenders and off-takers.

- **Technology, obsolescence and competition risks:**

Given the rapidly evolving technologies and diverse competition landscape, there is an increasing risk that the supported technologies will be overtaken by others (or the same, with higher efficiencies / productivity). This results in market and -more generally- credit risk of the projects. This risk is mitigated by IDBG's thorough due diligence, which includes, where relevant, technology and market advisors that can assess this risk.

- **Off-taker Risks:**

Unlike traditional utility scale projects, some of the projects will have a varied set of off-takers, which requires a different way of assessing offtake credit risk.

Risks arising from the uncertainty of the contracts may be addressed through financial structuring measures, such as sizing the project and exposure against different scenarios and electricity price projections

8. Performance Indicators

Based on an indicative pipeline across sectors and eligible countries:

Key Performance Indicators		Target
Avoided GHG emissions	Annual (tCO ₂ e/year)	183,750
	Lifetime (cumulative, million tCO ₂ e)	3.675
Increased supply of renewable energy	Installed capacity (MW) as a result of CTF interventions	72
	Additional generation from RE (GWh/year)	108
Increased energy efficiency	Energy savings as a result of CTF interventions (GWh/year)	30
Increased finance for low carbon development mobilized	Volume of direct finance leveraged through CTF funding	USD 305 million
	Cost to CTF (USD/tCO ₂)	9.5
	CTF financial leverage	1:10
Number of additional passengers using low-carbon transport per day		135,000
Number of technologies/applications demonstrated		2

Annex 1. Implementation & Supervision Budget.

	Indicative Allocation
Implementation (staff costs for origination, screening, structuring, closing and disbursing the projects)	500,000 USD
Legal expenses	200,000 USD
Transaction supervision, monitoring and evaluation (staff costs and travel)	300,000 USD
Total	1,000,000 USD