

Innovative Instruments for Investment in Zero-Carbon Technologies (i3-0) Phase II
PUBLIC VERSION

Cover Page for CTF Project/Program Approval Request Dedicated Private Sector Programs (DPSP-III)			
1. Country/Region	All CIF countries in LAC	2. CIF Project ID#	PCTFDP711A
3. Public or Private	Public		
	Private		✓
4. Project/Program Title	Innovative Instruments for Investment in Zero-Carbon Technologies (i3-0) Phase II		
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			
Fee on grant			
MPIS (for private sector only)		1.000	
Public sector loan	Harder terms		
	Softer terms		
Senior loan		6.000 ^[1]	
Senior loans in local currency hedged			
Subordinated debt / mezzanine instruments with income participation		5.000 ^[1]	
Second loss guarantees			
Equity		10.000 ^[1]	
Subordinated debt/mezzanine instruments with convertible features			
Convertible grants and contingent recovery grants			
Contingent recovery loans			
First loss guarantees		4.000 ^[1]	
Other (please specify)	Unhedged local currency instruments (Guatemala, Honduras, Nicaragua, Bolivia, Jamaica, Haiti and Guyana)	Senior and Subordinated Debt Instruments (up to USD 11 million)	
Total		26.000	
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)	

¹ Allocations to the different instruments are indicative. See Section 4.6 of the confidential version of the Phase I for detailed description of Senior Debt Instruments.

10. Brief Description of Project/Program (including objectives and expected outcomes)

Background. The [i3-0 Program](#) was approved on July 18, 2018 by the CTF Trust-Fund Committee. Since then, the i3-0 Program has been considered a relevant and flexible tool in the IDB Invest Blended Finance Portfolio of Funds/Programs.

Program objective. The [i3-0 Program](#) Phase II 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 Building 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 Phase II 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 3.6 below. The Program further aims to **mobilize at least USD 250 million investment from the private sector**, with a leverage ratio of CTF investment resources 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.
- Unhedged local currency financing products to contribute to create a conducive environment to develop local financing markets and crowd in local institutional investors, ~~in selected jurisdictions~~

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.

Initial pipeline. The IDBG is currently evaluating the following projects, where support from this program in Phase I is expected to be crucial. Other investments fitting the objective of the i3-0 program will also be considered.

- Equity Investment in a Real Estate Investment Trust to incentivize the Green Building Agenda and the Gender inclusion Agenda in real estate construction and development.
- Equity Investment in a Pay-as-you-go model to promote Access to Energy in off-grid rural areas in Central America.
- Incorporation of electric buses in the renewal of fleets of public transportation concessions.
- Providing staple concessional finance in a PPP structure to promote Renewable Energy and Storage for self-supply.
- Electrification of a ride-sharing car fleet.

Technical assistance. The i3-0 Phase II will rely on the Technical Assistance Facility set up in the Phase I of the Program.

11. Consistency with CTF investment criteria

(1) Potential GHG emissions savings	Please see Section 6.1 below
(2) Cost-effectiveness	Please see Section 6.2 below
(3) Demonstration potential at scale	Please see Section 6.3 below
(4) Development impact	Please see Section 6.4 below
(5) Implementation potential	Please see Section 6.5 below
(6) Additional costs and risk premium	Please see Section 6.6 below
Additional CTF investment criteria for private sector projects/ programs	
(7) Financial sustainability	Please see Section 6.7 below
(8) Effective utilization of concessional finance	Please see Section 5 below
(9) Mitigation of market distortions	Please see Section 0 below
(10) Risks	Please see Section 0 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 3.6) 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 5 below		
18. Indicators and Targets		
Project/Program Timeline		
Expected start date of implementation		December 2019
Expected end date of implementation		December 2022
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)		2,000,000
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	100,000
Installed capacity of renewable energy (MW)		20
Number of additional passengers using low-carbon transport per day		100,000
Energy savings cumulative over lifetime of investment (MWh)		360,000
Annual energy savings (MWh/year) (specify: upon completion of the project/program / on the maximum year / on a representative year)	On a representative year	18,000
Identify relevant development impact indicator(s)		Targets
Number of technologies/ applications demonstrated		At least 2

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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		26.0
MDB 1	IDB Group	50.0
MDB 2 (if any)		
Government		
Private Sector	Equity	50.0
Private Sector	Debt	74.0
Bilateral		50.0
Others (please specify)		
Total		250.0
20. Expected Date of MDB Approval		
IDBG expects that the first investment under the i3-0 program Phase II could reach Credit Approval by H1 of 2020 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) Phase II

IDBG Private Sector CTF Proposal

For submission to the CTF Trust-Fund Committee

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List of Acronyms and Abbreviations

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
DFI	development finance institution
DPSP	Dedicated Private Sector Program
EE	energy efficiency
ESCO	energy service company
EUR	Euro
GHG	greenhouse gases
GW	Gigawatt
GWh	Gigawatt-hour
i3-0	Innovative Instruments 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
NDC	Nationally Determined Contribution
PPP	public private partnership
PV	photovoltaic
RE	renewable energy
RE+	renewable energy plus
REIT	Real Estate Investment Trust
ST	sustainable transport
TC	technical cooperation
USD	United States Dollars

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. 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). 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.

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 programming 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 endorsed 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.

On July 18th, 2018, the DPSP III: Innovative Instruments for Investment in Zero-Carbon Technologies (the i3-0 Program) was approved by the CTF Trust Fund Committee² including USD 32.5 million of investment resources to be deployed across equity & mezzanine products, guarantees and loans, and USD 2.5 million as a grant for Technical Assistance and implementation and supervision expenses.

At the meeting on **January 31st, 2019**, the CTF Trust Fund Committee agreed that any additional CTF resources from project cancellations that can be made available for further programming may be used to fund more projects/programs under DPSP III and that more projects/programs may be added to the remaining DPSP III pipeline. The deadline for submission of projects/programs to the Trust Fund Committee for funding approval under the expanded DPSP III was extended to June 2020.

In the context of the expanded DPSP III Program the IDBG is submitting the second phase of the i3-0 program to expand this instrument and consolidate its vision of Blended Finance Programs

² <https://www.climateinvestmentfunds.org/projects/dpspii-innovative-instruments-investment-zero-carbon-technologies-i3-0>

aiming at flexibility in terms of country reach and sectors and diversification of financial products with a strong accent on mobilization of external resources.

2. Phase I of the i3-0 Program

IDBG’s “Innovative Instruments for Investment in Zero-Carbon Technologies (i3 0)” program was approved on July 18th, 2018. A link to the approved proposal is provided [here](#)³ and will be subsequently referred in the following sections.

2.1. Overview of the Phase I of the i3-0 Program

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 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 addresses 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 cuts 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 at **delivering at least two projects with strong demonstration value or large-scale replication**, using cutting-edge low carbon technologies, business or financing models. The Program further aims at mobilizing **at least USD 305 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.

³ <http://pubdocs.worldbank.org/en/755461542825152131/6490-CTF-DPSP-i3-0-Proposal-v8-Public.pdf>

- Risk-management instruments, mainly in the form of guarantees - aiming to address investment-specific risks.
- Liquidity solutions, including back-stop bond subscriptions - aiming to mitigate financing risk.

In addition, the i3-0 Program aims at replicating and mainstreaming 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.

The design of the i3-0 program Phase II draws from IDBG's experience managing 11 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 approach⁴ require time and resources to build up a highly transformational pipeline, since there is a high mortality rate in the pipeline when searching for

⁴ See for example the Regional Energy Efficiency and Self-Supply Renewable Energy Program. <http://bit.ly/dpspeessre>

innovative solutions and business models. The proposed i3-0 program will keep 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 program⁵** 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. Proposed Program

After 11 months of the approval of the Phase I of the program four preliminary indications may be drawn from the current experience:

- There is an increasing demand for **Local Currency** borrowing ~~in certain eligible countries in line with IDB Invest increasing ability to provide funding in local currency~~. Providing Local Currency financing will contribute to create a conducive environment to develop local financing markets and crowd in local institutional investors ~~in selected jurisdictions~~.
- There is a significant push in **Sustainable Transport** activities in Latin America and the Caribbean driven by the transition towards electric bus fleets in major cities in the region.
- A pipeline of projects fit for **concessional Equity & Mezzanine** (growth capital) has been identified. This is aligned with the institutional push that IDB Invest is undertaking towards a diversified base of financial products which includes a dedicated equity & mezzanine strategy.
- **Green Building** has been identified as a relevant area to be highlighted as one of the innovative solutions of the program across the EE agenda.

To adapt to these market signals, the IDBG has been analyzing a set of additions described in the following sections:

3.1. Looking for a solution to meet the demand of Local Currency Products

There is an increasing demand for Local Currency borrowing in certain eligible countries in line with IDB Invest increasing ability to provide funding in local currency. Providing Local Currency financing will contribute to create a conducive environment to develop local financing markets and crowd in local institutional investors in selected jurisdictions.

The document “Use of Local Currency for Private Sector Projects under the CTF Trust Fund: Proposed Tools and Instruments to Support Local Currency Operations”⁶ provides a set of tools to address the local currency issue when managing CTF resources.

Two types of tools were identified, those based on financing via grants local currency hedges (Tools 1 and 2) and those based on providing guarantees denominated in USD to loans provided in local currency by other lenders (Tools 3 and 4). Since the use of guarantees denominated in USD to mitigate risks on local

⁵ The i3-0 Phase II will draw on the technical assistance resources obtained in the Phase I (US\$ 1.5 million)

⁶ https://www.climateinvestmentfunds.org/sites/cif_enc/files/meeting-documents/ctf_tfc.12_9_use_of_local_currency_0.pdf

currency loans has been already established by the IDBG, the use of grants to finance hedging costs has been internally reviewed.

~~The IDBG has already developed local treasury in Mexico, Colombia and Brazil. In addition, the IDBG is already managing concessional resources with local currency features (mainly non-deliverable swaps) in the above-mentioned countries and Peru.~~

~~There is a remaining set of CIF countries that would benefit of a local currency concessional facility (Guatemala, Honduras, Nicaragua, Bolivia, Jamaica, Haiti, Guyana) in the understanding that there are no alternative sources of financing for the type of projects targeted by the i3-0 program in local currency (mainly local financial institutions).~~

~~Nevertheless,~~ there are some elements to consider that erode the applicability of Tools 1 (financing the cost of the hedge to the Borrower) and 2 (financing the cost of the hedge to the IDBG):

- A cap amount equivalent to a 1% per annum of the hedged facility⁷
- The absence of a hedging market in some of the targeted jurisdictions and the high cost of swaps where there is one available.
- The need to approve a new financial product to implement the Tool 2.

In practical terms, the costs of the hedging mechanisms in the targeted jurisdictions exceed the capped amount for tools 1 and 2, and, uncapped, become a large amount of grant versus the size of the loan (i.e. 30%) that may eventually distort local markets. Therefore, **tools 1 and 2 will not be included in the financial products list of this program.**

In order to address the demands for local currency products the IDBG would require local-currency denominated financing instruments that will be considered new financial products. Therefore, per the Paragraph 11 of the CTF New Financial Product Classification Criteria⁸, “New financial products will be assigned to Group 2 if they possess one or more of the following structurally embedded characteristics detrimental to the adequacy and certainty of the CTF’s net income or liquidity (all other products will be assigned to Group 1). ... ii. Currency: reflows to the CTF are in an unhedged currency other than USD or Euros.” As these products are assigned to “Group 2”, they will be excluded from the CTF Net Income and loss sharing calculation and will not be financed using loan contributions as provided per the CTF Risk Appetite Statement⁹.

Therefore, the IDBG is proposing that **up to USD 11 million** of the investment resources of the of the i3-0 Program Phase II (approx. a 20% of Phase I and Phase II combined) can be deployed in unhedged local currency alongside with IDBG resources across the Senior and Subordinated Debt financial products ~~in the following jurisdictions: Guatemala, Honduras, Nicaragua, Bolivia, Jamaica, Haiti and Guyana.~~

3.2. A higher appetite for Sustainable Transport Solutions

The IDBG is already implementing the “Unlocking Clean Buses in LAC” Program for Technical Cooperation with the following goals:

⁷ https://www.climateinvestmentfunds.org/sites/cif_enc/files/meeting-documents/approved_by_mail_use_of_local_currency_for_private_sector_projects_full_decision.pdf

⁸ https://www.climateinvestmentfunds.org/sites/cif_enc/files/meeting-documents/ctf_new_financial_product_classification_criteria_updated.pdf

⁹ https://www.climateinvestmentfunds.org/sites/cif_enc/files/meeting-documents/ctf_risk_appetite_statement_final_document.pdf

- To mitigate the climate change impacts of the transport sector in LAC cities through the replacement of 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 i3-0 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 has already identified clean / electric fleets as a potential asset class for securitization and aims to support the first issuers with concessional resources that enhance the appetite of private and institutional investors in this type of assets.

The significant scale of this type of investment may require a substantial amount of resources and the i3-0 Phase I and Phase II is one of the best qualified pool of resources across the Blended Finance portfolio of programs at IDBG.

Tentatively, the program may deploy **up to 50%** of the resources in Sustainable Transport investments.

3.3. Higher availability of resources for Equity & Mezzanine products

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 at attracting 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.¹⁰

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

With two projects already in pipeline consuming the majority of the resources indicatively allocated in the Phase I of the program, the IDBG is therefore proposing to double the resources available for these highly transformational transactions with the following breakdown of resources / products.

Financial Product	Amount (USD Million) ¹¹	Amount (%)
Implementation and Supervision Budget	1.0	3.8%
Equity	10.0	38.5%
Subordinated debt / mezzanine instruments with income participation	5.0	19.2%
First Loss Guarantees	4.0	15.4%
Senior loan	6.0	23.1%

¹⁰ Comparative Study of Equity Investing in Development Finance Institutions. IDB, Office of Evaluation and Oversight, March 2017. <http://bit.ly/CIIRE202>

¹¹ Indicative allocations

Total	26.0	100.0%
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3.4. Introducing Green Building in the EE Agenda of the i3-0

Final energy use in buildings grew from 2,820 million tonnes of oil equivalent (Mtoe) in 2010 to around 3,060 Mtoe in 2018, while the share of fossil fuels decreased only slightly, from 38% in 2010 to 36% in 2018.¹²

As a result, direct emissions from buildings increased to just over 3 GtCO₂e in 2018, a slight rebound from just under 3 GtCO₂e in previous years.

When indirect emissions from upstream power generation are considered, buildings were responsible for 28% of global energy related GHG emissions in 2018. In absolute terms, buildings related GHG emissions rose for the second year in a row to an all-time high of 9.6 GtCO₂e.

The speed of energy intensity reductions in the buildings sector has fallen in recent years, from around 2% in 2015 to an estimated low of 0.6% in 2018 – which is significantly less than the floor area increases of 2.5% from 2017 to 2018. This is symptomatic of decelerating energy policy progress, demonstrating that the evolution of building energy codes in particular is not keeping up with rapid growth in emerging economies.

To get on track with the Sustainable Development Scenario (SDS), annual drops in energy intensity per m² globally need to return quickly to at least 2.5% – the rates of the early 2000s.

In some critical emerging markets, particularly in Africa, Latin America and Asia, the rate of change in buildings sector energy intensity needs to double (or more). A similar rate of change is required in major advanced economies, which need to significantly step up deep energy renovations of existing buildings

According to the International Energy Agency (IEA) in 2014 Latin America and the Caribbean generated a 6.3% of their GHG emissions directly from the residential and commercial sector. Across the region, some CIF countries such as Bolivia (8.3%), El Salvador (11.9%), Ecuador (9.2%) and Nicaragua (11.0%) lead the regional building emissions ranking¹³.

From a private sector perspective, voluntary certification of buildings reduces the costs of acquiring information about a building and, by using a third-party certifier, credibly verify the environmental performance of a building. There are two related economic rationales for green building and related policies: to encourage firms to internalize externalities and to encourage the private provision of a public good.¹⁴

A key strategy of voluntary building certification programs is to tie a set of private benefits to public good production by program participants. That is, by building green, a developer averts environmental damage; by certifying green, a building owner signals quality to stakeholders (such as tenants and customers) to obtain a premium for his product. Organizations may be able to capture economic value by certifying hard-to-observe operational improvements.

¹² Tracking Clean Energy Progress. International Energy Agency. <https://www.iea.org/tcep/buildings/>

¹³ <https://datos.bancomundial.org/indicador/EN.CO2.BLDG.ZS?locations=XJ&view=map>

¹⁴ Policy Monitor—Green Buildings: Economics and Policies. Daniel C. Matisoff Douglas S. Noonan Mallory E. Flowers. Review of Environmental Economics and Policy, Volume 10, Issue 2, Summer 2016, Pages 329–346, <https://doi.org/10.1093/reep/rew009>

Despite the many potential benefits of building green, there are key market failures that cause the market to systematically underproduce green buildings. These market failures include information asymmetries and externalities. The trend towards green building can be understood as an effort to better align the private costs of buildings with their social costs.

The Phase II of the i3-0 Program will promote best practices in the construction industry by means of using concessional finance to provide incentives to address the market failures that deter real estate developers and asset managers to invest in more sustainable buildings in terms of water consumption, energy efficiency and waste generation as well as capturing the signaling effect in a set of countries in Latin America and the Caribbean where emissions from the residential and commercial sector are across the highest in the region

3.5. Program Financing Plan

With the proposed **USD 26 million CTF contribution**, IDBG will seek to mobilize investments of approximately **USD 250 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	0.40%	-
	Investment Facility	25.0	10.00%	Equity, Loan, Guarantees,
IDBG	Co-investment	50.0	20.00%	Equity, Loan, Guarantees, Bond Subscriptions
Private Sector / Other DFIs	Project Sponsors	50.0	20.00%	Equity
	Financial Institutions / Co-lenders	124.0	49.60%	Equity, Loan, Guarantees, Bond Subscriptions
Total Financing		250.0	100.0%	

3.6. Risk-tolerant financial instruments and mobilization approaches

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

- Mobilization of Capital Markets
- Mobilization of commercial bank non/limited-recourse financing
- Growth Capital
- Results-based incentives

Please see details in Section 4.5 of the Phase I Proposal.¹⁵

3.7. Technical Cooperation and Knowledge Management

The Phase II of the program will rely on the Technical Assistance component developed in the Phase I for up to USD 1.5 million and the rationale and allocations developed in the Phase I remain valid.

Please see details in Section 4.6 of the Phase I proposal.¹⁶

¹⁵ <http://pubdocs.worldbank.org/en/755461542825152131/6490-CTF-DPSP-i3-0-Proposal-v8-Public.pdf>

¹⁶ <http://pubdocs.worldbank.org/en/755461542825152131/6490-CTF-DPSP-i3-0-Proposal-v8-Public.pdf>

4. Program Strategy for achieving Market Transformation

Please see details in Section 5 of the Phase I proposal.¹⁷

5. 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.

Please see details in Section 6 of the Phase I proposal.¹⁹

6. Fit with Investment Criteria

6.1. Potential GHG Emissions Savings

At this stage, the exact portfolio composition of the i3-0 Phase II 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 Phase II will support projects expected to reduce GHG emissions by an estimated 2.5 million tCO₂e over 20 years. The IDBG will document the GHG reductions.

6.2. Cost-Effectiveness

Given the direct GHG mitigation potential mentioned above, the cost effectiveness of CTF investments would be ~0.100 tCO₂e/USD, or USD 10.0/tCO₂e (this estimate corresponds to Program lifetime abatement of 2.5 million tCO₂e and a total of USD 25 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 100/tCO₂e.

¹⁷ <http://pubdocs.worldbank.org/en/755461542825152131/6490-CTF-DPSP-i3-0-Proposal-v8-Public.pdf>

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

¹⁹ <http://pubdocs.worldbank.org/en/755461542825152131/6490-CTF-DPSP-i3-0-Proposal-v8-Public.pdf>

6.3. Demonstration Potential at Scale

The i3-0 Phase II 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 Phase II 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 12.5 million tCO₂e.

6.4. Development Impact

This Program has a significant number of potential development co-benefits.

Please see details in Section 7.4 of the Phase I proposal.²⁰

6.5. 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 Phase II by the end of the first semester of 2020.

Please see details in Section 7.5 of the Phase I proposal.²¹

6.6. Additional Costs & Risk Premium

Please see details in Section 7.6 of the Phase I proposal.²²

6.7. Financial Sustainability

Please see details in Section 7.7 of the Phase I proposal.²³

6.8. Mitigation of Market Distortions

Please see details in Section 7.8 of the Phase I proposal.²⁴

6.9. Risks

Please see details in Section 7.9 of the Phase I proposal.²⁵

²⁰ <http://pubdocs.worldbank.org/en/755461542825152131/6490-CTF-DPSP-i3-0-Proposal-v8-Public.pdf>

²¹ <http://pubdocs.worldbank.org/en/755461542825152131/6490-CTF-DPSP-i3-0-Proposal-v8-Public.pdf>

²² <http://pubdocs.worldbank.org/en/755461542825152131/6490-CTF-DPSP-i3-0-Proposal-v8-Public.pdf>

²³ <http://pubdocs.worldbank.org/en/755461542825152131/6490-CTF-DPSP-i3-0-Proposal-v8-Public.pdf>

²⁴ <http://pubdocs.worldbank.org/en/755461542825152131/6490-CTF-DPSP-i3-0-Proposal-v8-Public.pdf>

²⁵ <http://pubdocs.worldbank.org/en/755461542825152131/6490-CTF-DPSP-i3-0-Proposal-v8-Public.pdf>

7. Performance Indicators

Based on an indicative pipeline across sectors and eligible countries:

Key Performance Indicators		Target
Avoided GHG emissions	Annual (tCO ₂ e/year)	125,000
	Lifetime (cumulative, million tCO ₂ e)	2.500
Increased supply of renewable energy	Installed capacity (MW) as a result of CTF interventions	25
	Additional generation from RE (GWh/year)	37.5
Increased energy efficiency	Energy savings as a result of CTF interventions (GWh/year)	18
Increased finance for low carbon development mobilized	Volume of direct finance leveraged through CTF funding	USD 250 million
	Cost to CTF (USD/tCO ₂ e)	10.0
	CTF financial leverage	1:10
Number of additional passengers using low-carbon transport per day		100,000
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

Annex 2. Aggregated metrics of the i3-0 Program.

Financial Product	Amount (USD Million) ²⁶	Amount (%)
Implementation and Supervision Budget	2.0	3.28%
Grant for Technical Assistance	1.5	2.46%
Equity	14.0	22.95%
Subordinated debt/mezzanine instruments with convertible features	4.5	7.38%
Subordinated debt / mezzanine instruments with income participation	9.0	14.75%
First Loss Guarantees	14.0	22.95%
Senior loan	16.0	26.23%
Total	61.0	100.0%

Source of funding	Financing component	Amount (USD Million)	Amount (%)	Type of financial instrument
CTF	Implementation and Supervision Budget	2.0	0.36%	-
	Technical Assistance Facility	1.5	0.27%	Grant
	Investment Facility	57.5	10.36%	Equity, Loan, Guarantees, Senior Debt/Backstop Bond Subscriptions
IDBG	Co-investment	110.0	19.82%	Equity, Loan, Guarantees, Bond Subscriptions
Private Sector / Other DFIs	Project Sponsors	110.0	19.82%	Equity
	Financial Institutions / Co-lenders	274.0	49.37%	Equity, Loan, Guarantees, Bond Subscriptions
Total Financing		555.0	100.0%	

²⁶ Indicative allocations

Innovative Instruments for Investment in Zero-Carbon Technologies (i3-0) Phase II
PUBLIC VERSION

Key Performance Indicators		Target
Avoided GHG emissions	Annual (tCO ₂ e/year)	208,750
	Lifetime (cumulative, million tCO ₂ e)	6.175
Increased supply of renewable energy	Installed capacity (MW) as a result of CTF interventions	97
	Additional generation from RE (GWh/year)	145.5
Increased energy efficiency	Energy savings as a result of CTF interventions (GWh/year)	48
Increased finance for low carbon development mobilized	Volume of direct finance leveraged through CTF funding	USD 555 million
	Cost to CTF (USD/tCO ₂ e)	9.9
	CTF financial leverage	1:10
Number of additional passengers using low-carbon transport per day		235,000
Number of technologies/applications demonstrated		4