

COLOMBIA

INVESTMENT PLAN
REVISION - MAY 2013



Libertad y Orden
República de Colombia



DEPARTAMENTO NACIONAL DE PLANEACIÓN



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This **note revises** the Clean Technology Fund (CTF) **Investment Plan (IP)** for Colombia, **endorsed** by the **Trust Fund Committee (TFC)** of the CTF in the meeting held in **March 15 – 16, 2010**, with an envelope of up to US\$150 million in CTF funding.

The areas of intervention remain unchanged.

The **non-conventional renewable energy sector** was presented in the original CTF IP as a priority sector for a possible second phase of the IP.

The GoC's intention is to commit the US\$150 million CTF total funding by Q3-2014.

The impact of the revised programs on CTF objectives is comparable to the one envisioned in the original CTF Plan.

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The **original IP**, was **proposed as a two-phase process**.

The first phase addresses the implementation of **abatement measures** in two key sectors: **urban transport and energy efficiency**.

As a **possible second phase** it was proposed that, “as the Government took further steps toward creating an enabling environment for **renewable energy**, **there would be opportunities for investing in this sector** as part of a possible second phase of the IP, which could include as well further programs on energy efficiency and transport”.

Original Investment Plan (US\$ millions)

Financing Source	Sustainable transport systems (annex 1)	Energy efficiency (annex 2)	TOTAL
CTF executed by IDB	60.0	32.5	92.5
CTF executed by IBRD	40.0	--	40.0
CTF executed by IFC	--	17.5	17.5
CTF total	100.0	50.0	150.0
IDB loans	400.0	130.0	530.0
IBRD loans	100.0	--	100.0
IFC loans	--	90.0	90.0
IDB grants	5.8	--	5.8
IBRD grants	--	--	--
KfW	--	70.0	70.0
Carbon finance	30.0	--	30.0
Other	--	--	--
GoC	340.0	40.0	380.0
Bogotá DC	150.0	--	150.0
Municipalities	240.0	--	240.0
Private sector	960.0	290.0	1060.0
TOTAL	2325.8	670.0	2995.8

Original Investment Plan

The commitment of CTF funding under the CTF Investment Plan for Colombia **has been slower than anticipated** because of the following main reasons:

- 1. Required minimum of leveraged loan funds are too high for Colombia.**

This has become a **strong barrier for initiating with more speed implementation**, due to the difficulty to include the resulting high amounts in the national budget programmed accordingly Colombia's medium term fiscal framework.

The **GoC considers important** the CTF's on-going discussion related to bringing down this required minimum and in this direction **proposes** in the revised IP a **different leveraged loan funds strategy viable** in the current medium term fiscal framework.

Original Investment Plan

2. Current markets conditions in Colombia limit project implementation as expected in the original IP:

The evolution of developed economies and the resulting effect on liquidity and international interest rates, increases or diminishes long term demand for dollars by financial intermediaries. The associated financial market conditions in Colombia have limited the level of effective incentive that results from CTF concessional conditions.

For this reason innovative complementary instruments had to be developed to create and effective project implementation conditions. This innovations, mainly designed under the energy efficiency Hotels and Clinics project, have made viable Hybrid Buses Project and is expected a similar impact on the remaining energy efficiency projects.

Original Investment Plan

- Finally, as of April 2013, the Trust Fund Committee **has committed US\$37.7625** million out of US\$150 million originally endorsed for Colombia (equivalent to **25% of the total endorsement**).
- The following tables show the status of project approval and financing allocation of the original CTF IP endorsed in March 2010.

Program 1: Sustainable Urban Transport

Financing Allocation and Status of Project Approvals (CTF Plan - Endorsed March 15, 2010)

CTF Program / Project Title	MDB	TFC Approval Date	MDB Board Approval Date	Effectiveness Date/ Contract Date	First Disbursement Date	Original CTF Funding (US\$ million)	Leveraged Funding (US\$ million) ⁽¹⁾
Program 1: Colombia Sustainable Urban Transport						100	2,225.8
1.1 Bogotá's SITP (Hybrid Buses)	IDB	Q2-2013*	Q3-2013*	Q3-2013*	Q4-2013*	40	
1.2 Bogotá's SITP (and other major cities): Prep Grant	IBRD	Q2-2013*					
1.2 Bogotá's SITP (and other major cities): Loan	IBRD	Q3-2014*	Q4-2014*	Q1-2015*	Q2-2015*	40	
1.3 SETPs	IDB	Q3-2011	Q3-2011	Q2-2013*	Q1-2014*	20	

(1) The leveraged fund indicated are from the original CTF IP.

* Planned

Program 2: Energy Efficiency

Financing Allocation and Status of Project Approvals (CTF Plan - Endorsed March 15, 2010)

CTF Program / Project Title	MDB	TFC Approval Date	MDB Board Approval Date	Effectiveness Date/ Contract Date	First Disbursement Date	Original CTF Funding (US\$ million)	Leveraged Funding (US\$ million)
Program 2: Energy Efficiency Program						50	620
2.1 EE in the residential sector	IDB	Q3-2013*	Q4-2013*	Q4-2013*	Q4-2013*	10	
2.2 EE in the Services Sector: Prep Grant	IDB	Q4-2012				0.2625	
2.2 EE in the Services Sector: Program	IDB	Q2-2013*	Q2-2013*	Q3-2013*	Q1-2014*	10.7375	
2.3 Development of an ESCO market in Colombia	IDB	Q4-2013*	Q1-2014*	Q2-2014*	Q2-2014*	5.39	
2.4 C-SEF: Loan 2	IDB	Q4-2010	Q3-2013*	Q1-2014*	Q1-2014*	5	
2.4 C-SEF: IDB Technical Cooperation and fees	IDB					1.11	
2.4 C-SEF: Bancolombia loan	IFC		Q2-2011	Q3-2011	Q3-2011	5.4	
2.4 C-SEF: Loan 3	IFC					4.6	
2.4 C-SEF: IFC Technical Cooperation and fees	IFC		Q1-2011	Q1-2011	Q1-2011	1.39	
2.5 EE private sector project	IFC					6.11	
TOTAL						150	2,879.8

* Planned

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Circumstances And Rationale For IP Revision

The overall rationale for CTF intervention remains unchanged. The revisions to the IP reflect adjustments, circumstances and the evolution of relevant national policies and priorities, especially through the National Development Plan (PND) 2010 – 2014, adopted by law 1450 of 2011, as follows:

1. On-going design of the National Low Carbon Development Strategy (ECDBC)

- This GoC's commitment, established in the (PND) 2010 – 2014, will deepen GHG's sectorial mitigation commitment.
- Guidelines for the design are established in a National Policy that contains an Institutional Strategy for the Coordination of Climate Change Policies and Actions, adopted in July 14 2011 (CONPES 3700).

Circumstances And Rationale For IP Revision

2. New environment for a Non-Conventional Renewable Energy Sources Program (NCREP) is a strong window of opportunity.

- The PND 2010 - 2014 **gives priority to the definition of incentives** for investments in generation capacity through “**alternative energy sources**”, and for the first time, as a source for the national interconnected system (SIN).
- On-going **profound institutional reform** energy sector (MME, UPME and CREG)
- One of the most significant steps toward the implementation of the PND 2010 – 2014 is the 148th **resolution issued** in October 21, 2011, by the (CREG) establishing a methodology to determine the “energy firmness” of wind power plants.
- Colombia’s predominant source of electricity power production comes from hydropower, a system vulnerable to hydrological risks, especially because of droughts during El Niño periods. Last el Niño a shortage in gas availability for thermal generation occurred.

Proposed changes: Bring in the I Phase the NCREP as a third priority sector formerly proposed as a possible II Phase priority sector in the original IP.

Circumstances And Rationale For IP Revision

3. Sustainable Urban Transport Program (SUTP)

- The PND 2010 – 2014 **gives priority** to continue working in the **preparation of the Sustainable Urban Transport program as part of the CTF IP for Colombia** and promoting CTF concessional funding objectives.
- The PND 2010 - 2014 **gives priority** to **extend** SITM's results related to social, environmental and economic benefits to traditional collective public transport and other modes through **the new SITP mechanism** in municipalities and metropolitan areas exceeding 600.000 inhabitants.
- As a result of the new development plan for Bogota (2012) and recently approved PPP law (law 1508/2012), previously identified IBRD/SITP project was discussed and reoriented to developed an 100% private funding tramway on a main street.
- No CTF financial resources required for this Bogotá's IBRD/SITP project.

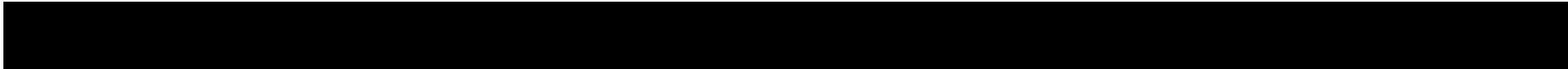
Circumstances And Rationale For IP Revision

3. Sustainable Urban Transport Program (SUTP)

Proposed changes: Initiate project preparation of the US\$40 million IBRD CTF Bogotá's SITP modified as to enable other, one or two selected large cities (more than 600,000 inhabitants), to utilize these CTF resources.

The reorientation of the above mentioned IBRD/CTF project will **accelerate low-carbon decisions** for the selected **SITPs** and **strengthen influence** over the **other cities**, as well as accelerating project implementation.

Bogotá will not be excluded of this new project preparation.

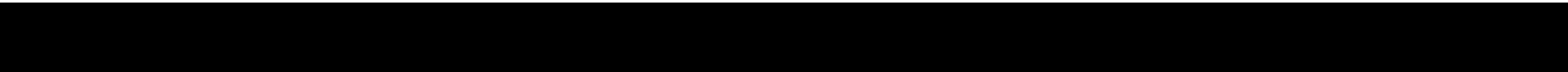


Circumstances And Rationale For IP Revision

4. Energy Efficiency Program (EEP)

- Proposed changes in Sustainable Urban Transport and inclusion of NCREP as new priority requires funding reallocation.
- For this purpose, it is proposed to reallocate US\$11 million from EEP to the above programs.
- GoC's considers that this will not affect the EEP's general expected results associated to the the original IP allocation, as the financed activities will have a similar potential to demonstrate and exemplify how to overcome the institutional, financial, knowledge and regulatory barriers to promote energy efficiency investments.

Proposed changes: reduce in US\$ 11 million the EEP and reallocate to remaining priority



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Proposed Reallocation of CTF Resources. April 2013 Revision (US\$ million)

CTF Program	CTF Funding (CTF Plan Endorsed March 2010)	CTF Funding Reallocation			CTF Funding (Revised CTF IP, April 2013)
		IDB	IBRD	IFC	
Colombia Sustainable Urban Transport System	100		(+) 1		101
Energy Efficiency	50	(-) 0.24		(-) 10.76	39
Non-conventional Renewable energy Program	0	(+) 10			10
Total	150	(+) 9.76	(+) 1	(-) 10.76	150

Adjusted Indicative Financing Plan (US\$ million)

Financing Source	Sustainable Urban Transport	Energy Efficiency	Non-Conventional Renewable Energy	TOTAL
CTF executed by IDB	60.0	32.26	10.0	102.26
CTF executed by IBRD	41.0	--	--	41.0
CTF executed by IFC	--	6.74	--	6.74
CTF total	101.0	39.0	10.0	150.0
IDB loans	300.0	10.00	10.0	320.0 *
IBRD loans	100.0	--	--	100.0 *
IFC loans	--	24.7	--	24.7
IDB grants	5.8	--	--	5.8
IBRD grants	--	--	--	--
KfW	--	--	--	--
Carbon finance	30.0	--	--	30.0
Other	--	--	--	--
GoC			--	--
Bogotá DC		--	--	--
Municipalities	100.0	--	--	100.0
Private sector	425.30	73.50	24.0	522.80
TOTAL	1,062.10	147.20	44.0	1,253.30

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Adjusted Result Indicators- SUTP

Expected result indicators of the Original and the Revised CTF IPs

Indicators	Original CTF Investment Plan for Colombia (March 2010)		Revised CTF Investment Plan for Colombia (April 2013)
	Baseline	Investment Program Results	Investment Program Results ¹
Implementation of integrated public transit systems	3 SITMs implemented	<p>Bogotá's SITP fully implemented targeting a population of 7 million.</p> <p>SETPs implemented in seven cities, targeting a population of 2.4 million</p>	<p>Bogotá's SITP fully implemented targeting a population of 7 million.</p> <p>One or two SITPs fully implemented in Colombia's largest cities targeting a population of 1.5 million⁽³⁾</p> <p>SETPs implemented in seven cities, targeting a population of 2.4 million</p>
Annual GHG emissions from the transport sector in target areas	21.8 Mt CO ₂ per year	<p>Annual emission at 19.0 Mt CO₂ per year, reflecting a 2.8 Mt CO₂e reduction per year. Cumulative (avoided) reductions of 56 Mt CO₂e by 2030 (112 Mt CO₂e by 2050)</p> <p>Bogotá's SITP annual emission reductions of 2.0 Mt CO₂e</p>	<p>Annual emission at 20.6 Mt CO₂ per year, reflecting a 1.2 Mt CO₂e reduction per year. Cumulative (avoided) reductions of 23.4 Mt CO₂e by 2030 (46.8 Mt CO₂e by 2050)</p> <p>Bogotá's SITP annual emission reductions of 0.4Mt CO₂e</p> <p>One or two SITPs (out of seven SITPs) annual emission reductions: One SITP of 0.06 Mt CO₂e or Two SITP of 0.08 Mt CO₂e⁽⁴⁾</p>

Adjusted Result Indicators- SUTP

Expected result indicators of the Original and the Revised CTF IPs

	Original CTF Investment Plan for Colombia (March 2010)		Revised CTF Investment Plan for Colombia (April 2013)
Indicators	Baseline	Investment Program Results	Investment Program Results ¹
Annual GHG emissions from the transport sector in target areas		<p>Seven SETPs annual emission reductions of 0.3 Mt CO₂e</p> <p>Initial implementation of low-carbon bus technology in the SITP and SETPs contributing to additional reductions of 0.2 to 0.5 Mt CO₂ per year</p> <p>Additional reduction of 1.5 Mt CO₂e per year is expected from replication and scale-up in SITMs (seven cities) and SETPs (12 cities)</p>	<p>Seven SETPs annual emission reductions of 0.1 Mt CO₂e</p> <p>Initial implementation of low-carbon bus technology in the SITP and SETPs contributing to additional reductions of 0.2 Mt CO₂ per year</p> <p>Additional reduction of 0.39 Mt CO₂e per year is expected from replication and scale-up in SITMs (four or five remaining cities)</p>

Adjusted Result Indicators- SUTP

Expected result indicators of the Original and the Revised CTF IPs

	Original CTF Investment Plan for Colombia (March 2010)		Revised CTF Investment Plan for Colombia (April 2013)
Indicators	Baseline	Investment Program Results	Investment Program Results ¹
Introduction of low-carbon bus technologies in the transit systems	Standard diesel buses	Bogotá's SITP and SETPs start initial implementation of an advanced hybrid fleet, or other low-carbon bus technologies	Bogotá's SITP and SETPs start initial implementation of an advanced hybrid fleet, or other low-carbon bus technologies
Modal shift from private vehicles to public transit systems	Increased ownership and use of private vehicles	Modal share of public transport grows or remains stable	Modal share of public transport grows or remains stable

Adjusted Result Indicators- EEP

Expected result indicators of the Original and the Revised CTF IPs

Indicators	Baseline	Original CTF IP (March 2010) Program Results	Revised CTF IP (April 2013) Program Results
National electricity consumption	117,000 GWh per year (2030)	112,000 GWh per year (2030)	115,916,6 GWh per year (2030)
CTF Cost-effectiveness (CTF US\$/t CO ₂ e reduction over 20 years)	n/a*		7,96
GHG emissions from electricity generation	36 Mton CO ₂ e per year (2030)	34.4 Mton CO ₂ e per year (2030)	35.76 Mton CO ₂ e per year (2030)

*Abbreviation for not applicable

Result Indicators- NCREP

Expected result indicators of the Original and the Revised CTF IPs

Indicators		Baseline	CTF NCRE Project Results
Co-financing of CTF funding (US\$ million)		0	10
Leveraged co-financing (\$US million)		n/a	34
RE installed capacity (MW)		0	20
GHG emission reductions (MtCO ₂ e/year)		0	0,019
GHG emissions savings (Mt/CO ₂ e) over 20 years (2030)		n/a	0,38
CTF Cost-effectiveness (CTF US\$/t CO ₂ e reduction over 20 years)		n/a	26
Additional possible potential GHGs reduction by substituting a 300MW coal thermal plant:	Wind powered plants (MtCO ₂ e/year)	n/a	0,32
	Wind powered plants (MtCO ₂ e over 20years (2030))	n/a	7,74
	RE/wind installed capacity (MW)	n/a	413
	Geothermal powered (MtCO ₂ e/year)	n/a	0,32
	Geothermal powered plants (MtCO ₂ e over 20 years (2030))	n/a	6,16

*Abbreviation for not applicable

Summary Adjusted Result Indicators

Summary Result Indicators	Target Value (Original CTF IP)	Target Value (Revised CTF IP)
Co-financing of CTF funding (US\$ million)	150	150
Leveraged co-financing (\$US million)	2.879,8	1.103,3
GHG emissions savings (Mt/CO ₂ e)/year)	77	36,42
CTF Cost Effectiveness (CTF US\$/tCO ₂ e reduction over 20 years)	1,95	4,1

Recommendations For TFC - CTF

The GoC recommends the TFC adopting the proposed changes for the following reason among the already presented arguments:

1. Sustainable Urban Transport Program: proposed changes are expected to amplify potential reduction results as new targets will be met with the new US\$40 million IBRD project to be designed.
2. Energy Efficiency Program: continued support to the EEP is requested as expectations are high for project implementation meaning a strong demonstrative capacity potential has been achieved, possible only with CTF funding and GoC's support.
3. Non- conventional renewable energy program: the best window of opportunity in recent years is at hand and project implementation con strongly support NCRES inclusion as a real alternative for future energy generation in Colombia.

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