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BOLIVIA

PROGRAM FOR THE STRENGTHENING OF ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT

(BO-L1183)

LOAN PROPOSAL

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ABBREVIATIONS

CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DGBAP	Dirección General de Biodiversidad y Áreas Protegidas [Directorate General of Biodiversity and Protected Areas]
DGGDF	Dirección General de Gestión y Desarrollo Forestal [Directorate General of Forest Management and Development]
DGGIRS	Dirección General de Gestión Integral de Residuos Sólidos [Directorate General of Comprehensive Solid Waste Management]
DGMACC	Dirección General de Medio Ambiente y Cambios Climáticos [Directorate General of Environment and Climate Change]
DGP	Dirección General de Planificación [Directorate General of Planning]
FONABOSQUE	Fondo Nacional de Desarrollo Forestal [National Forest Development Fund]
IMF	International Monetary Fund
INDC	Intended Nationally Determined Contribution
INE	Instituto Nacional de Estadística [National Statistics Institute]
INRA	National Institute of Agrarian Reform
MDRYT	Ministry of Rural Development and Land
MEFP	Ministry of Economy and Public Finance
MMAyA	Ministry of Environment and Water
NFPS	Nonfinancial public sector
OECD	Organization for Economic Cooperation and Development
PBP	Programmatic policy-based loan
PCR	Program completion report
PDES	Plan de Desarrollo Económico y Social [Economic and Social Development Plan]
RMCA	Reglamento en Materia de Contaminación Atmosférica [Regulation on Air Pollution]
RMCH	Reglamento en Materia de Contaminación Hídrica [Regulation on Water Pollution]
SERNAP	Servicio Nacional de Áreas Protegidas [National Service for Protected Areas]
VAPSB	Office of the Deputy Minister of Potable Water and Basic Sanitation
VMABCCGDF	Office of the Deputy Minister of Environment, Biodiversity, Climate Change, and Forest Management and Development
VRHR	Office of the Deputy Minister of Water Resources and Irrigation
WHO	World Health Organization

PROJECT SUMMARY
BOLIVIA
PROGRAM FOR THE STRENGTHENING OF ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT
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Financial Terms and Conditions				
Borrower:	**Source**	**%**	**Amount (US$)**	**%**
Plurinational State of Bolivia	**IDB (Regular OC):**	85	119,000,000	85
	IDB (Concessional OC):	15	21,000,000	15
	IDB:	100	140,000,000	100
Executing agency:	**Other/Cofinancing:**		0	
Ministry of Environment and Water (MMAyA)	**Local:**		0	
	Total:		140,000,000	100
	Regular OC (FFF)[a]		**Concessional OC**	
Amortization period:	20 years		40 years	
Disbursement period:	1 year		1 year	
Grace period:	4 years		40 years	
Interest rate:	LIBOR-based		0.25%	
Credit fee:	[b]		N/A	
Inspection and supervision fee:	[b]		N/A	
Weighted average life:	12.75		N/A	
Currency of approval:	U.S. dollars			

Project at a Glance
Project objective/description: The objective is to contribute to strengthening and modernization of the policy, institutional, and budgetary framework for environmental management, to promote economic growth compatible with environmental conservation, social development, and making the country less vulnerable to climate change. This loan operation is the first of two consecutive, single-tranche operations that are technically linked but financed independently under the programmatic policy-based loan modality (see paragraph 2.1).
Special contractual clauses: The sole disbursement of resources will be subject to fulfillment of all the policy reform conditions agreed upon in the Policy Matrix, attached as Annex II to this document.
Exceptions to Bank policies: None.

Strategic Alignment						
Challenges:[c]	SI	☐	PI	☐	EI	☐
Crosscutting topics:[d]	GD	☐	CC	☑	IC	☑

[a] Under the terms of the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting changes to the amortization schedule, as well as currency and interest rate conversions. The Bank will take operational and risk management considerations, prevailing market conditions, and the loan's concessionality level into account when reviewing such requests, pursuant to its current applicable policies.

[b] The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable provisions.

[c] SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

[d] GD (Gender Equality and Diversity); CC (Climate Change and Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

I. DESCRIPTION AND RESULTS MONITORING

A. Background, problem to be addressed, and rationale

1. Introduction

1.1 The proposed program is the first operation in a series of two programmatic policy-based loans (PBPs) to support the Government of the Plurinational State of Bolivia in implementing a legal and institutional reform process that contributes to strengthening and modernization of the policy, institutional, and budgetary framework for environmental management, to promote economic growth[1] compatible with environmental conservation, social development, and making the country less vulnerable to climate change. Modernizing this framework will involve a series of regulatory reforms and development of instruments associated with Law 1333 on the Environment of 1992; Law 1700 on Forestry of 1996;[2] and Law 755 on Integrated Solid Waste Management of 2015. The 2016-2020 Economic and Social Development Plan (PDES) of the Government of Bolivia establishes as one of its core tenets the need to promote the environmental sustainability of national development in a context of climate change, including forest conservation and protection to ensure a decrease in vulnerability to adverse climate change phenomena. In its Nationally Determined Contribution (2016), the Plurinational State of Bolivia also reiterated its commitment to increasing its joint mitigation and adaptation capacity through integrated, sustainable management of forests. This operation involves financing of up to US$140 million from the Bank's regular Ordinary Capital and concessional Ordinary Capital resources, with a single disbursement proposed for 2017, once the agreed policy reform conditions in the attached Policy Matrix have been met.

1.2 This programmatic series has a critical role to play in promoting environmental sustainability and implementing climate change management in Bolivia, and builds on technical studies financed by other multilateral agencies and bilateral donors. The strategy of the two individual operations in the programmatic series to support institutional and policy reforms will center on improving the country's environmental governance through a gradual process to consolidate reforms backed by the Bolivian government's long-term technical and political commitment expressed in its PDES. Thus, in the first individual operation of the programmatic series, the reforms seek to lay the technical and political groundwork to institutionalize methodologies and processes based on recognized international standards. Under the second operation, ongoing technical support will be provided to conclude the required institutional and policy reforms to complete the institutional strengthening and environmental governance process in Bolivia.

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[1] For sections of the document that mention economic growth, note that for the Plurinational State of Bolivia this term is understood as comprehensive development, as defined in Framework Law 300 on Mother Earth and Comprehensive Development for Living Well. In addition, for sections of the document that mention ecosystem services, note that for the Plurinational State of Bolivia this term is understood as environmental functions, as defined in Framework Law 300 on Mother Earth. One of this law's principles is the noncommercialization of the environmental functions and natural processes of life systems.

[2] Article 16 of the 2012 Framework Law 300 on Mother Earth and Comprehensive Development for Living Well states that the Plurinational State of Bolivia will promote the comprehensive, sustainable management of components, areas, and life systems to ensure the sustainability of Mother Earth's ability to regenerate, including climate change trends.

2. Macroeconomic situation

1.3 In the past decade, Bolivia has achieved strong economic performance and a notable reduction in poverty. In a boom period for the main export commodities,[3] and supported by prudent macroeconomic management, real GDP grew at an average annual rate of 5%[4] from 2006 to 2015, while the extreme poverty rate decreased by 37.7%, to 16.8%, during the same period.[5] Bolivia's sound macroeconomic positioning lessened the direct impact of the 2009 economic and financial crisis.[6] In addition, the Bolivian financial system's limited integration into international capital markets minimized the financial contagion of the crisis, so Bolivia was able to weather the crisis without falling into a recession, with fiscal and external surpluses, controlled inflation, and stable monetary and financial markets (see Table 1).

Table 1. Main macroeconomic indicators

Indicator	2008	2009	2011	2013	2015	2016p
Real GDP growth (%)	6.1	3.4	5.2	6.8	4.8	3.7
Nominal GDP (in billions of US$)	16.8	17.5	24.1	30.9	33.2	35.7
Nominal GDP per capita (US$)	1,749	1,790	2,395	2,970	3,099	3,276
Inflation (%)	11.8	0.3	6.9	6.5	3.0	5.1
General government revenue (% of GDP)	38.9	35.8	36.2	39.1	37.7	34.7
General government expenditure	35.3	35.8	35,4	38.4	44.6	42.8
General government overall balance (% of GDP)	3.6	0.0	0.8	0.7	-6.9	-8.1
Current account balance (% of GDP)	11.9	4.3	0.3	2.4	-5.8	-6.6
Exports (in billions of US$)	7.1	5.5	8.4	11.7	8.9	9.8
Imports (in billions of US$)	5.1	4.5	7.9	9.4	9.8	12.2
Net international reserves (in billions of US$)	7.7	8.6	12.0	14.4	13.1	10.7

Source: National Statistics Institute (INE), Ministry of Economy and Public Finance (MEFP), Central Bank of Bolivia, and IMF. Projections: 2016.

1.4 An increase in revenues from hydrocarbon exports, along with cyclical improvements in tax revenue intake, contributed to notable improvements in Bolivia's fiscal position in the past few years. In the period 2009-2013, the tax revenues available after the nationalization of the natural gas industry enabled the nonfinancial public sector (NFPS) to achieve an average overall surplus of 1% of GDP. However, given the importance of the primary sector in Bolivia's economic structure,[7] a fall in export prices (mainly hydrocarbons) weakened the national economy. Starting in 2014, as international commodity prices fell, the NFPS began to run fiscal deficits. Faced with this, the authorities responded with countercyclical fiscal and monetary policies to sustain the level of economic activity. The expansionary fiscal policy revitalized domestic demand by increasing public investment and direct transfers. As a result, in 2014 and 2015 Bolivia recorded an average overall deficit of 5.15% of GDP. At year-end 2016, the deficit is projected

[3] The price index for natural gas, which is Bolivia's main export, was 90% higher when comparing the periods 2004-2010 and 1997-2003 (IMF).

[4] Real GDP per capita rose significantly from US$1,196.60 in 2006 to US$2,886.20 at year-end 2015 (IMF).

[5] The poverty rate, measured as the percentage of the population living below the poverty line, decreased from 59.9% to 38.6% from 2006 to 2015 (INE).

[6] In 2009, Bolivia's economy had the strongest growth in the region, at 3.4%, followed by Uruguay (2.4%), Colombia (1.7%), and Peru (1%).

[7] Primary sector activities as a whole account for 30% of Bolivia's GDP (INE, 2015).

to be higher but with GDP growth near 5%[8] and total NFPS public debt around 40.6% of GDP, well below international sustainability thresholds. Prudent economic policy and the fiscal and external surpluses run during the export boom translated into high liquidity[9] for the country, enabling it to finance the aforementioned countercyclical policies.

1.5 With the prices for the principal commodities stabilizing in 2016, the General Budget for Fiscal Year 2017 projects real GDP growth of 4.8%. Comparing this performance with the 1.6% projections of international agencies (IMF, ECLAC) for Latin America and the Caribbean,[10] Bolivia will once again considerably outperform the region as a whole. However, the fiscal balance is expected to continue showing a deficit because of Bolivia's high level of public investment to implement the 2016-2020 PDES.

1.6 According to the IMF's 2016 Debt Sustainability Analysis, Bolivia faces a moderate risk of debt distress in this context,[11] even in the event of external shocks. However, the IMF notes that medium-term debt sustainability will depend on the government's fiscal consolidation efforts to counteract lower revenues from hydrocarbon exports.[12] In the 2017 General Budget, external financing requirements for the NFPS are projected at US$2.642 billion. The amount of this operation (US$140 million) would cover 5.3% of external financing, and the IDB would cover a total of 17% of external financing requirements. The remaining 83% will be covered partly by a new issue of sovereign bonds (38%) and by international cooperation (45%), with major financiers the Andean Development Corporation (CAF), the People's Republic of China, and the World Bank. Bolivia's macroeconomic framework is still appropriate and consistent with the objectives for programmatic loans. For 2016 and 2017, the IMF projects real GDP growth at 3.7% and 3.9%, respectively. These values are lower than observed in 2015 (4.8%), due in part to the drought related to the La Niña phenomenon, which has impacted the economy, and particularly the agriculture sector, since early 2016.

1.7 For 2017, Bolivia will have international reserves equivalent to 30% of GDP[13] and 16 months of imports, and accumulated public sector deposits for 2017 equivalent to 4.5% of GDP,[14] as a safeguard against external shocks.

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8 For the third consecutive year, in 2016 Bolivia will have one of the highest growth rates in the region.

9 Cumulative net international reserves as of October 2016 are equivalent to 30% of GDP (US$10.684 billion). Bolivia's net international reserves as a percentage of GDP are among the highest in Latin America: Uruguay (31.6%), Peru (29.9%), Paraguay (22%), Brazil (16.7%), Chile (15.3%), and Mexico (14.9%).

10 According to the IMF's World Economic Outlook, October 2016.

11 Bolivia has lowered its public debt as a percentage of GDP from 95.7% in 2003 to 31% in 2016, supported by debt relief, consecutive fiscal surpluses, and strong economic growth.

12 In 2014, Bolivia ran its first fiscal deficit in nine years, followed by a 6.9% deficit in 2015 and a similar outlook for 2016, which would put more pressure on public borrowing.

13 Bolivia's net international reserves as a percentage of GDP are among the highest in Latin America: Peru (29%), Uruguay (27%), Paraguay (18%), Brazil (16%), Chile (14%), and Colombia (11%).

14 Projection from the Ministry of Economy and Public Finance (MEFP), reporting a balance of cash on hand and in banks for subnational governments, municipios, and universities of US$1.593 billion for the first half of 2016.

3. Diagnostic assessment of the problem

1.8 In recent decades, Bolivia's economic and social development has been largely driven by the exploitation of natural resources, especially minerals, energy, water, and soil (World Bank, 2015). This development has resulted in significant environmental challenges that have not yet been addressed through effective management and regulation, which is creating substantial costs to the country. Estimates are that the annual costs of environmental degradation are equivalent to 5.2% of GDP. The greatest environmental cost is the impact of air and water quality on the health of the population (mortality rates are 48.9 and 7 per 100,000 inhabitants, respectively). There are also productivity losses associated with soil erosion and improper management of forest resources.

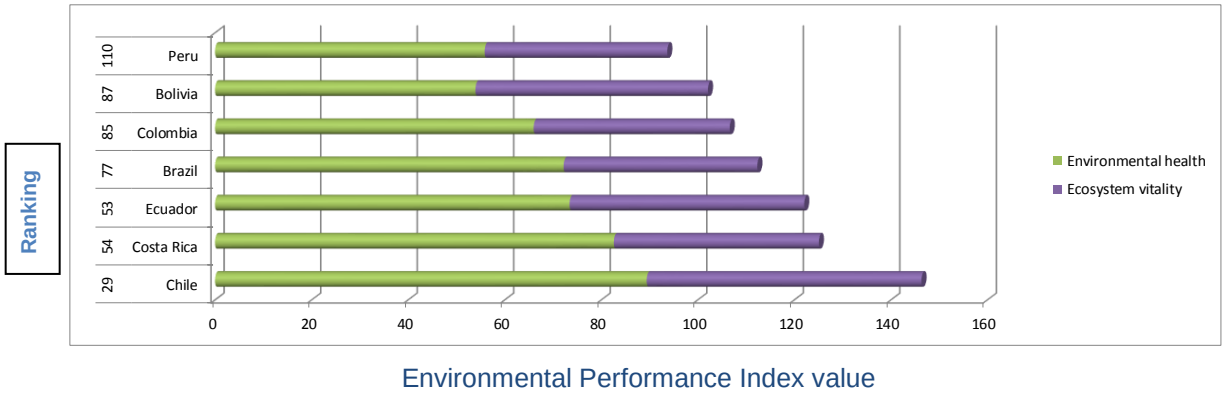
1.9 **Support sustainable economic growth.** Pressures on the environment and natural resources will continue in the future, given the plans to develop infrastructure in the transportation and hydroelectric power sectors, as well as to expand the agricultural frontier and exploit hydrocarbon and mineral resources. Likewise, climate change scenarios in Bolivia pose additional challenges to effective environmental performance. Forecasts show a trend of rising temperatures and changes in precipitation patterns (later start and shorter duration of the rainy season), and more frequent extreme events (hail and torrential rainfall).[15] According to data from the document on the Intended Nationally Determined Contribution (INDC) of the Plurinational State of Bolivia, by 2030, an estimated 27% of the national territory could be affected by persistent drought, and 24% by high-recurrence floods. According to the latest report from the Intergovernmental Panel on Climate Change (IPCC), one of the most significant impacts for the region is the impact on land ecosystems. Prolonged droughts increase tree mortality, diminishing the growth rate of surviving trees and increasing the likelihood of forest fires, above and beyond established trends of deforestation and illegal logging.[16] [17] This all leads to lower environmental performance for Bolivia compared with other countries of the region. According to Yale University's Environmental Performance Index, Bolivia's performance in 2014 trailed that of countries like Ecuador, Costa Rica, and Chile (see Figure 1).

[15] Baseline from climate model scenarios for the Plurinational State of Bolivia (government, 2014).

[16] T. R. Feldpausch et al. 2016. "Amazon Forest Response to Repeated Droughts." Global Biogeochemical Cycles, 2016; DOI: 10.1002/2015GB005133.

[17] See Climate and Development Alliance and Overseas Development Institute (2014). The IPCC's Fifth Assessment Report. What's In It for Latin America? Executive Summary.

Figure 1. Environmental performance



Source: Environmental Performance Index, Yale University.

1.10 **Regulatory and institutional framework for environmental management for pollution control.** Bolivia's environmental legal framework is governed by Law 1333 on the Environment, enacted in 1992. This law establishes the principles of protection and conservation of the environment and natural resources to improve the quality of life for the population. It includes six regulations enacted in 1995: (i) General Regulation on Environmental Management (RGGA); (ii) Regulation on Environmental Prevention and Control (RPCA); (iii) Regulation on Air Pollution (RMCA); (iv) Regulation of Activities with Hazardous Substances (RASP); (v) Regulation on Solid Waste Management (RGRS), subsequently replaced by the General Regulation of Law 755 on Integrated Waste Management; and (vi) Regulation on Water Pollution (RMCH). These regulations make up the sector's environmental legal framework.

1.11 The Ministry of Environment and Water (MMAyA) has most of the institutional jurisdiction over environmental management. In turn, has three deputy ministers with differentiated environmental management roles. The Office of the Deputy Minister of Environment, Biodiversity, Climate Change, and Forest Management and Development (VMABCCGDF) is the national authority with jurisdiction over the environment and the lead agency for environmental quality and the environmental licensing system. The Office of the Deputy Minister of Water Resources and Irrigation (VRHR) works with the VMABCCGDF to manage water quality, while the Office of the Deputy Minister of Potable Water and Basic Sanitation (VAPSB) works with the VMABCCGDF to manage solid waste. Under Framework Law 031 on Autonomous Entities and Decentralization, autonomous municipal governments and autonomous departmental governments also have jurisdiction to protect and contribute to protecting the environment.

1.12 **Status of environmental management for pollution control**. The legal and institutional framework that began with Law 1333 on the Environment needs reform to make it a modern, effective framework. In some cases, the regulations, developed more than 15 years ago, need to be adapted to current socioeconomic

realities and problems. In others, management instruments[18] need to be developed in order to implement existing regulations, contributing to meet the government's goals related to environmental sustainability and climate change.[19] The determining factors and specific problems to be addressed with the support of the reforms proposed under this operation are described below, taking into account the sector characteristics mentioned.

a. **Sector planning**. The Government of Bolivia faces the following challenges to be able to effectively implement actions aimed at achieving targets for pollution reduction and mitigation of climate change in the country: (i) the many different sector entities responsible for policy-making, project execution, and environmental monitoring and supervision make it difficult to coordinate actions and set clear targets at the institutional level; and (ii) the lack of guidance for preparation of investment projects on environmental management and climate change results in a large number of projects that do not apply best practices and very often do not obtain public financing.

b. **Environmental licensing**. The environmental licensing system is an internationally established instrument for environmental protection that goes hand in hand with development, ensuring that development is sustainable and integrative. Licensing facilitates the inclusion of sustainability criteria in strategic decision-making through the evaluation of projects that may impact the environment and may be affected by climate change. This guarantees effective prevention of any adverse environmental impacts that may occur, while establishing effective correction or compensation mechanisms. In Bolivia, the licensing system was established in the Regulation on Environmental Prevention and Control under Law 1333. The diagnostic assessment of its functioning identified three reasons why this regulation is not being effective or efficient: (i) discretionality is allowed in classifying economic activities that require licensing, as well as the requirements to submit environmental impact assessment reports to guarantee a minimum quality for corrective measures; (ii) a license is required for productive activities with minimal environmental impact (category 4), overwhelming staff with application processing (more than 30% of licenses from 2012 to 2016 were in this category, see optional electronic link 4), and reducing the staff time available for monitoring and supervision of productive activities with greater environmental impact; and (iii) no mechanisms are provided to coordinate environmental evaluation criteria among the State's various administrative levels (sector agencies, departments, and municipios).

c. **Air pollution**. The Regulation on Air Pollution under Law 1333 proposes the use of instruments to prevent and control air pollution. It establishes air quality standards, and instruments have been developed for its monitoring. In

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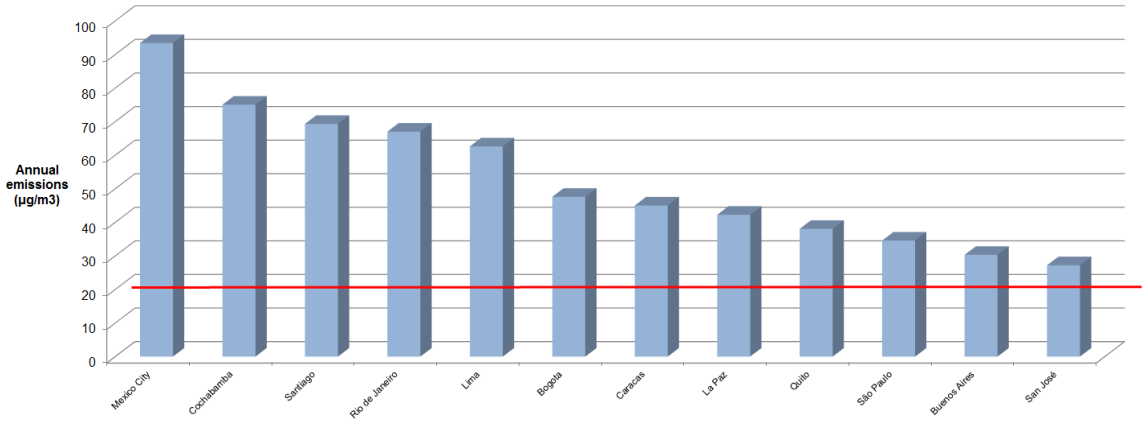
[18] The development of environmental management instruments in the country has been a gradual process, accompanied by heightened awareness in society of the importance of the environment. This has been reflected in the new policy framework under the Framework Law 300 on Mother Earth and Comprehensive Development for Living Well, which takes an integrated view of development, where the quality of environmental functions is crucial to overcoming poverty and generating sustainable productive systems.

[19] Within a context of climate change, effective management of the environment and natural resources is essential, in order to increase resilience and adapt to climate change. See Stephens and van Eeden, UNEP, UNISDR. Environmental Management for DRR.

2001, the Government of Bolivia, with support from the Swiss Agency for Development and Cooperation (SDC), began implementation of the Air Quality Monitoring Network to measure the air pollution levels to which the population is exposed. This network was implemented in 12 priority municipios, and results are published annually in air quality status reports (MMAyA, 2014). These reports show that air quality levels are below the standards required in the Regulation on Air Pollution and those recommended by the World Health Organization (WHO). The cities with the largest populations, like Cochabamba, Santa Cruz, and La Paz, have median annual concentrations of contaminants that are harmful to health, like PM10, well above the 20 micrograms/cubic meter (µg/m^3) recommended by the WHO (see Figure 2). In several cases, PM10 concentrations have reached values that pose a very high health risk. In Santa Cruz, the average from June to November 2013 was 118.2 µg/m^3, and in Cochabamba, the average from June to August of the same year was 130 µg/m^3 (see optional electronic link 5).

Figure 2. Annual Emissions of PM_{10}[20] (µg/m^3) in Cities of Latin America and the Caribbean



Source: WHO (2010).

d. To protect the population from the air pollution levels, the government faces the following policy challenges: (i) prepare design and operation manuals for monitoring networks that standardize the collection and real-time public dissemination of air quality data; (ii) establish contingency plans for public health alerts whenever there are high pollution levels; and (iii) prepare inventories of air pollution sources, in order to establish measures for their mitigation and subsequent control.

e. **Water pollution**. The Regulation on Water Pollution (RMCH) under Law 1333, enacted in 1995, specifies the instruments to be used to control river pollution, which have been only partially developed. Thus, in the past decade, the use of water resources in Bolivia's watersheds has been endangered by pollution of surface waters and aquifers. In some cases, this

[20] PM10 (from "particulate matter") are small solid or liquid particles of dust, ash, soot, metal, cement, or pollen, dispersed in the atmosphere that are 10 micrometers or less in diameter.

pollution has led to social conflicts by making the water unusable in communities that depend on these resources for human consumption or irrigation. In others, high concentrations of heavy metals have caused public health problems. Rivers that cross the main urban centers contain high levels of organic contamination due to the discharge of domestic sewage, industrial pollutants, runoff from mining activities, and waste from other sources, like agriculture.[21]

f. The National Watershed Plan identifies several priority watersheds with serious water pollution problems, such as the watersheds of the Rocha and Katari Rivers, where two of the country's main population centers are located. Likewise, in the INDC document, the Government of Bolivia commits to promoting measures to improve water quality, with a focus on climate change adaptation, such as reforestation and biodiversity management activities. In the Rocha River basin, only 32% of the water intended to supply the city of Cochabamba meets potability requirements (Comptroller's Office Report, 2010). Discharge into the river channel is more than twice the volume for which the city's wastewater treatment plant was designed. In addition, uncontrolled discharge by textile industries, manufacturers, and construction companies occurs downriver from the city. In the Katari River basin and Cohana Bay, where the cities of La Paz and El Alto are located, a high level of pollution from organic matter and heavy metals was discovered, well above tolerable levels for human health (see optional electronic link 6).

g. The Regulation on Water Pollution (RMCH), enacted in 1995, establishes four types of bodies of water with different environmental quality standards depending on their end use, setting maximum allowable limits applicable to each one for discharging into river channels. Despite this, a methodology still needs to be established for classifying Bolivia's water bodies. Without such classification, departmental and municipal administrations are unable to require waste dischargers to observe discharge limits for each type of water body. Therefore, since the regulation cannot be applied, officials are unable to exercise the environmental control needed to protect water quality.

h. In addition to the need to classify the country's bodies of water, there is also a lack of information about the sources of water pollution. Since there are no registries of the different companies discharging waste into rivers, it is difficult to oversee and enforce water quality regulations. These actions should be undertaken within the framework of a water quality management plan at the watershed level that also identifies climate change adaptation needs.

i. Despite the country's water quality problems, in some areas where water is scarce and there is strong demand for irrigation water, using wastewater for irrigation is being considered. Currently, there are no specific regulations on quality standards for wastewater to be used for agricultural purposes. Therefore, it is necessary to develop regulations for reusing water for irrigation, depending on the type of crop, in order to control potential risks to health.

j. In addition to the effect of urban growth in polluting bodies of water, mining extraction activities are a major source of pollution. The direct discharge of

[21] World Bank (2013), Environmental Management in Bolivia. Innovations and Opportunities. Washington, D.C.

process water and contaminated sediment results in acid mine drainage, which has a high content of heavy metals and arsenic (Ministry of Foreign Relations and MMAyA, 2015). The Regulation on Water Pollution has no specific provisions for the management of water pollution caused by mining. It establishes the possibility of issuing technical rules to prevent and control pollution, in coordination with sector agencies. Given the current problems, it is necessary to develop regulations to manage acid waters and effluents within the mining sector. The regulation should also include the establishment of a menu of clean technologies that can be adopted in mining activities, as an instrument to prevent pollution.

k. Mining activities generate water pollution after their useful life. Bolivia has a large number of mining environmental liabilities that are polluting bodies of water. There is currently no regulatory framework for the management of these environmental liabilities, and specific procedures have not yet been determined for their identification and remediation (ECLAC, 2008, 2016). Current efforts have focused on identifying these liabilities. The Mining Geological Service has inventoried 40% of the country's mining environmental liabilities. They are located mainly in the departments of La Paz, Cochabamba, Oruro, and Potosí. Since there is no methodology based on international best practices, the inventory suffers from technical weaknesses. To promote the effective management of mining environmental liabilities, it is necessary to standardize inventory methods and continue the process of inventorying these liabilities. In addition, priorities should be set for their remediation, based on the risks associated with their potential to generate acid drainage.

l. **Solid waste.** According to data reported in the 2016-2020 Basic Sanitation Development Sector Plan, only 38% of the population has access to basic sanitation services under adequate conditions,[22] 21% has only collection and transportation service, and 41% has none of the services, so they dispose of waste in several different ways. This percentage is higher for scattered populations or towns with fewer than 10,000 inhabitants, where the most common elimination methods are burning (23%) and disposal in rivers (7%). Nationwide, 68% of municipios, particularly capital cities and big and midsized cities, have street sweeping services, and the national urban collection[23] coverage is 59.4%. In rural areas, there are no solid waste collection services, and only 5.8% coverage. In terms of final disposal volumes, 32% of the total generated is disposed of in sanitary landfills (per regulatory requirements), and 63% is dumped under conditions that are neither sanitary nor environmentally sound. To manage hazardous and special solid waste, only 4% of municipios have collection and final disposal service for hospital waste.

m. In cities with populations over 100,000, residential collection services are provided by municipal sanitation companies or private operators engaged by the autonomous municipal governments, depending on the city's business model. In a majority of cities with populations between 2,000 and 10,000, the

[22] Entails the delivery of sanitation services under acceptable conditions, which also includes sweeping, cleaning, collection, transportation, and final disposal in a sanitary landfill.

[23] Ratio of solid waste generated by the population to waste collected.

autonomous municipal governments handle solid waste management directly. A majority of these services are not sustainable, so the autonomous municipal governments almost always subsidize the operations of municipal sanitation companies, payments to operating companies, or direct services, and these subsidies generally do not cover all operating costs.

n. The main challenges for the sector are to: (i) promote the implementation of the Integrated Waste Management Law by developing guidelines to formulate, update, and introduce legal, regulatory, and planning instruments, as well as economic mechanisms, in order to implement integrated waste management in Bolivia; (ii) establish criteria to classify municipios according to the amount of waste generated, in order to assign responsibilities for management, pursuant to current regulations; (iii) promote the role of departmental and municipal governments in planning and regulation of integrated waste management by preparing and executing sustainable management programs and plans; and (iv) establish criteria to identify and manage hazardous waste in the country.

1.13 **Rationale for policy reforms for the environmental management of pollution.**[24] The quality of environmental governance, based on efficient and effective policies and management instruments, is a core condition necessary to improve environmental performance and meet sustainability targets (Quiroga et al., 2016). Esty and Porter (2005), after analyzing environmental performance for more than 50 countries, concluded that it is directly related to the development of the regulatory regime, institutional capacity, and the economic and social context in which they operate. Similarly, several studies conclude that, to be effective in terms of performance, environmental management requires a harmonious, balanced institutional structure and coordination with sufficient sector and local presence and with sound regulatory and planning capabilities (Larson et al., 2006; Mahon et al., 2011; Mazur, 2011; Wever et al., 2012; Castro et al., 2015).

1.14 Licensing and environmental impact assessment systems are necessary to guarantee transparent processes for decision-making on investment, and key management instruments. However, using this instrument effectively requires avoiding practices that make it a costly process (Quiroga et al., 2016). Acerbi et al (2014), after analyzing environmental impact assessment procedures adopted in 22 countries of Latin America and the Caribbean, found that, in general, this instrument is used poorly,[25] and the way it gets used has become a “de facto substitute” for regulations to conserve biodiversity, control pollution, and plan land use, prioritizing a focus on managing negative impacts and relegating the strengthening of decision-making processes to second place. Triana and Enríquez (2007) reached similar conclusions. They found that the effectiveness in the application of environmental impact assessments in Latin America has not yet reached the level of developed countries or the principles established by the International Association for Impact Assessment (IAIA). This is partly attributed to the limited consolidation of public participation and interagency coordination processes, which generally occurs once key decisions have been made. There is

[24] References for this section can be found in optional electronic link 7.

[25] Importantly, experiences in the use of licensing systems vary, with different degrees of effectiveness in the countries of the region.

also a lack of real evaluation of alternatives to achieve the solution that best fits environmental demands (Ahmed, 2012).

1.15 Having enough of the right information is one of the core principles of environmental management and a necessary condition for policy decision-makers, businesses, and society in general to adopt effective management measures. Limited environmental information prevents systematic monitoring of the status of quality and quantity and hinders the effective implementation of regulatory and economic instruments that require this information (Awe et al., 2015). The Organization for Economic Cooperation and Development (OECD, 2006) reports that investments in monitoring networks and information systems have been fundamental in strengthening environmental management in developing countries. Likewise, information dissemination policies are essential. One example is a policy introduced in Santiago, Chile, to communicate short-term forecasts of critical environmental pollution episodes to the population. This has achieved a 20% decrease in particulate matter concentrations on days when those critical conditions occurred (Mullins and Bharadwaj, 2014).

1.16 The empirical evidence shows that countries with strong environmental performance are also those that exercise their capacity to monitor and sanction infractions based on environmental harm (International Network for Environmental Compliance and Enforcement (INECE), 2009; OECD, 2009). An inspection system promotes environmental remediation and noticeably improves the environmental performance of companies at a low investment cost. As an example, see Escobar and Chávez (2013), Dasgupta and Wheeler (1998), and Dasgupta et al. (2000).

1.17 **Regulatory and institutional framework for forest and biodiversity management.** The main laws governing forest and biodiversity management are: (i) Law 1700 on Forestry of 1996; and (ii) Agrarian Reform Laws 1715 of 1996 and 3545 of 2006.[26] Law 1700 governs sustainable forest development and the protection of forest lands through: (i) granting rights for forest exploitation; (ii) approving forest management plans, land management plans, and plans for clearing land; (iii) authorizing burns and land clearing; (iv) approving forest exploitation permits; and (v) rehabilitating degraded lands. Laws 1715 and 3545 support the rural land titling and registration process, clarifying property rights for approximately 93 million hectares. The allocation of property rights is essential for forest management, since the instruments to incentivize sustainable, integrated management of forests and to punish violations depend on the ties of responsibility created by a property title.[27] The apex agencies of the legal framework include the VMABCCGDF of the MMAyA, as lead agency for planning and management of forest development for biodiversity and protected areas. The Office of the Deputy Minister for Land (VT) of the Ministry of Rural Development and Land (MDRYT) is responsible for formulating policies, regulations, and strategies on the legal certainty of rural property ownership and the management of indigenous territories. There are several specialized technical institutions to implement the legal framework. In the MMAyA, those institutions are: (i) the Directorate General of Biodiversity and Protected Areas (DGBAP), whose mission is to contribute to the

[26] Law 071 on the Rights of Mother Earth of 2010 and Law 1255 of 1991 ratifying the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), are also of vital importance.

[27] Wunder, S. (2007). The Efficiency of Payments for Environmental Services in Tropical Conservation: Essays. Conservation Biology, 21, 48-58.

integrated management of biodiversity, promote social engagement, and encourage the sustainable use and management of biodiversity resources; (ii) the Directorate General of Forest Management and Development (DGGDF), whose mission is to implement the sustainable, integrated management of forest resources; (iii) the National Service for Protected Areas (SERNAP), whose mission is to conserve the natural and cultural heritage of protected areas; and (iv) the Forest and Land Enforcement and Societal Oversight Authority (ABT), whose mission is to regulate, inspect, and control forestry sector activities. In the MDRYT, the main actor is the National Institute of Agrarian Reform (INRA), whose mission is to guarantee legal certainty as to rural property ownership.

1.18 **Status of forest and biodiversity management.** Despite advances in development of the regulatory framework, a detailed analysis of the sector identifies weaknesses that limit the sustainable management of forest resources and biodiversity. The following are the main challenges:

a. **Biodiversity and ecosystem services.** Bolivia is one of the countries with the largest number of ecoregions on the planet and, therefore, the greatest biological diversity. Both ecosystems and their biodiversity are subject to major pressures and threats, chiefly: (i) deforestation and loss of native forest due to expansion of the agricultural frontier;[28] (ii) variability and climate change, which can have serious consequences for the country's Andean highland areas (Andersen, 2009);[29] (iii) environmental pollution of soil, particularly surface water and groundwater, due to uncontrolled use of agrochemicals, mining, oil and gas, and industrial activity, and discharge of untreated wastewater; and (iv) extraction and illegal trade of species of fauna and flora. This combination of pressures has directly impacted the conservation status of species. There are an estimated 237 species under threat in Bolivia, classified as critically endangered, endangered, and vulnerable.

b. The country has a regulatory and public policy framework for the conservation of biodiversity. Supreme Decree 24781/1997 approved the General Regulation on Protected Areas, which became the basis of one of the main instruments for biodiversity conservation. The National System of Protected Areas has 22 national, 25 departmental, and 83 municipal protected areas. National protected areas cover 17.4 million hectares (16% of Bolivia's territory). In addition, the country has 11 Ramsar sites, with a surface area of 14.8 million hectares (13.5% of Bolivia's territory).

c. The country diagnostic assessment (see optional electronic link 8) shows that current regulatory instruments pose the following challenges to promoting effective conservation of biodiversity: (i) 40% of Ramsar area surfaces lack legal protections and management plans; (ii) there are no protocols for monitoring, control, and enforcement actions related to international trade in endangered species of wild fauna; (iii) about 25% of the 17.4 million hectares of national protected areas do not have a current management plan that

[28] MMAyA, 2015. Fifth National Report to the United Nations Convention on Biological Diversity, Vivir bien en armonía con la Madre Tierra [Living Well in Harmony with Mother Earth]. La Paz, Bolivia. 108 pages.

[29] Andersen, L. E. 2009. Cambio climático en Bolivia. Impacto sobre bosques y biodiversidad [Climate Change in Bolivia. Impact on Forests and Biodiversity]. Institute for Advanced Development Studies. Working paper series on development, no. 11/2009. La Paz, Bolivia. 47 pages.

includes climate change adaptation measures; (iv) the absence of mechanisms to promote revenue generation based on the public use of protected areas hinders the financial sustainability of the National System of Protected Areas; and (v) there are no financial mechanisms to reduce deforestation and increase the reforestation of degraded ecosystems.

d. **Forest management.** In Bolivia, there are 50 million hectares of forests; 80% of forests are located in lowland areas, and the remaining 20% are on the eastern slope of the Andes, inter-Andean valleys, and parts of the high plains. From 2001 to 2014, the average annual deforestation rate was 240,000 hectares, principally in lowland areas. Cumulative deforestation as of 2016 is estimated at around 6 million hectares, which represents a loss of 12% of Bolivia's forest cover. Deforestation is mainly associated with agricultural encroachment by medium- and large-scale commercial agriculture and small-scale farmers (Muller et al., 2014).[30] Forest degradation is mainly related to forest fires and grassland burning. The forest fires, in turn, are due mainly to the use of fire as a land preparation technique for farming. From 2001 to 2012, a total of 24 million hectares impacted by fires were identified: 19% were wooded areas, and 81% other vegetation like grasslands and savannas.[31] The use of fire as a farming practice has generated 2 million hectares of degraded land, which are quickly losing nutrients and becoming eroded.

e. Considering this context, Bolivia's main challenge is how to increase food production while decreasing deforestation and forest degradation. The sector diagnostic assessment identified that: (i) the modernization of the forestry legal and regulatory framework did not include specific policies and programs for its implementation, so policies and programs need to be developed for this; (ii) the institutionalization of the deforestation monitoring system is an essential policy reform to control and prevent deforestation and forest degradation; (iii) the formalization of property rights in rural areas is fundamental to improve the government's ability to enforce the forestry legal framework and policies to support reforestation and forest management, and sanction noncompliance; and (iv) the restoration of areas degraded through reforestation requires developing a specific innovation policy, to close the existing technology gap in the forestry sector and provide the necessary incentives to make reforestation viable.

1.19 **Rationale for policy reforms for forest and biodiversity management.**[32] Evidence shows that forest areas under the greatest threat of deforestation are those where no property rights have been assigned (Andam et al., 2008; Ferraro and Hanauer, 2011; Nelson and Chomitz, 2011; and Joppa and Pfaff et al., 2012). In these open-access areas,[33] regulations established in environmental and

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30 Müller, R.; Pacheco, P.; and Montero, J.C., 2014. The Context of Deforestation and Forest Degradation in Bolivia: Drivers, Agents, and Institutions. Occasional Paper 100. Bogor, Indonesia: CIFOR.

31 Rodriguez-Montellano, A.M., 2013. Dinámica de Incendios forestales y quemas en Bolivia [Dynamics of Forest Fires and Burns in Bolivia]. Fundación Amigos de la Naturaleza. Series of thematic reports, Santa Cruz department, Bolivia.

32 References for this section can be found in optional electronic link 9.

33 An open-access status arises when, despite the existence of some type of property rights over the resources (governmental or community), there is no capacity to effectively enforce their use and exploitation.

forestry laws are not being enforced properly. Without this, the open-access status of these resources leads to degradation and deforestation. Substantial advances were made in Bolivia in assigning rights to forest resources by creating protected areas, issuing forest concessions, and titling lands to indigenous communities. In these areas, there is still deforestation and degradation, but the degradation and deforestation rates are lower than in untitled areas (free access) and areas titled to agricultural Producers. Therefore, it is essential to have policy reforms to improve the administration of protected areas with management and financial sustainability plans.

1.20 Estimates are that private property[34] still has between 30% and 40% of forest cover (Murguia, 2016). The Forestry Law regulates forest areas located on private, community, or State-owned property. Under this law, forest lands are classified based on their highest capacity for use. The most important category for conservation purposes are protected forest lands, which cannot be used for agriculture and livestock production because of their degree of vulnerability to degradation of ecosystem services and biodiversity. In areas with this type of activity, empirical evidence shows that the formalization of property rights isolated from forest management policies does not guarantee forest protection (Liscow, 2013). Therefore, the key complementary policies for forest management on private property involve: (i) monitoring, controlling, and sanctioning infractions in order to control illegal deforestation; (ii) increasing competitiveness in the forestry sector (for example, through forest innovation); and (iii) implementing economic incentives for recovery (Seymur and Busch, 2016).

1.21 In response to ecosystem deterioration processes, for a long time there was a reliance on protected areas, their demarcation, and the largest biological corridors as a solution to protect biodiversity. Several studies have shown that establishing protected areas has had a positive effect worldwide, especially regarding some deforestation indicators in their areas of direct and indirect influence (Joppa and Pfaff, 2010; Andam et al., 2008; Nelson and Chomitz, 2011; Blackman, 2013). An important challenge to the proper functioning of protected areas in the region is the availability of funds (Bruner et al., 2004). In many countries, improving the systems to collect entry fees from tourists increased the amount of revenue available to maintain protected areas, such as in Honduras (47%), Chile (38%), Ecuador (34%), and Argentina (30%) (Bovarnick et al., 2010).

1.22 **Lessons learned**. The operation includes lessons learned and recommendations from both the Bank's experience in the sector (and reflected in the Environment and Biodiversity Sector Framework Document (document GN-2827-3) and other multilaterals (World Bank, 2011[35] and 2015[36]) based on similar environmental reform processes in other countries of the region, as well as the recommendations of document RE-485-6 of the Office of Evaluation and Oversight, "Technical Note: Design and Use of Policy-based Loans at the IDB," and reflects the Bolivian government's experience in environmental management, as reflected in the 2016-2020 PDES and the 2016 INDC. Among these lessons is the importance of: (i) prioritizing policy reform conditions to ensure the effectiveness of the reform;

[34] Private property owners are small-, medium-, and large-scale farmers.

[35] World Bank, 2011. Promoting Environmental Sustainability in Peru: A Review of the World Bank Group's Experience. IEG Working paper. Washington, D.C.

[36] World Bank, 2015. Environmental Development Policy Loan. Project Performance Assessment Report. Brazil. Report no. 92270-BR. Independent Evaluation Group. Washington, D.C.

(ii) strengthening environmental management systems so that they can address growing and shifting demands; (iii) promoting environmental management public policies with a preventive approach for the productive sector to implement more sustainable practices; and (iv) guaranteeing the sustainability of policy reforms by ensuring that regulatory agencies possess the technical capacity and expertise.

1.23 **Sustainability of reforms**. The policy reforms proposed in the program are accompanied by an increase of both financial and human resources available for environmental and natural resource management. From 2012 to 2015, public spending[37] at the different levels of government (State agencies, autonomous municipal governments, and autonomous departmental governments) increased at a mean average of 6%, reaching a total of US$210 million. The MMAyA and decentralized administrative units increased staff from 2014 to 2015 by some 15%. For the next five years, with its 2016-2020 PDES, the government has established national budget objectives that continue increasing resources allocated to management activities associated with the proposed reforms. To support and strengthen these processes, this first programmatic loan includes the approval of the Comprehensive Development Sector Plan (see paragraph 1.31), which will assign objectives and budget resources to various environmental institutions to ensure the effectiveness of their activities. In addition, the second programmatic loan includes the preparation of an organizational development and capacity-building plan (see paragraph 1.31) that ensures an adequate level of technical capacity for the program's reforms to be fully effective.

1.24 **Strategy of the Government of Bolivia.** A core tenet of the 2016-2020 PDES is the need to promote the environmental sustainability of national development. Its objectives and targets include: (i) decreasing air, water, and soil pollution; (ii) increasing forest cover and decreasing illegal deforestation and forest degradation; and (iii) integrated management of biodiversity and ecosystems. These priorities are consistent with the objectives and components of this operation, and reinforce the commitment of the Government of Bolivia to the successful implementation of this first programmatic loan.

1.25 **IDB country strategy with Bolivia.** The program is aligned with the IDB country strategy with Bolivia 2016-2020 (document GN-2843), as far as the strategic objectives of "reduction of vulnerability to natural disasters and climate change" and "improving the effectiveness of public governance." Policy reforms will strengthen pollution management and reduce vulnerability to changes in precipitation and temperature, which could worsen existing environmental pollution. At the same time, forestry sector reforms will promote effective adaptation to climate change. In addition, environmental licensing instruments will be reformed to make them more effective and efficient, which will improve the effectiveness of public management.

1.26 **Strategic alignment.** The program is consistent with the Update to the Institutional Strategy 2010-2020 (document AB-3008) and aligned with two of its crosscutting thematic areas: (i) climate change and environmental sustainability, which are at the heart of the policy reforms for this programmatic loan; and (ii) institutional capacity and the rule of law, since the government's ability to formulate and introduce regulations and management instruments will improve, as will the

[37] The methodology used for estimates is included in the Analysis of Bolivia's Environmental Public Spending, chapter 4.

formulation of more effective investment plans. Under the joint methodology of the multilateral development banks for calculating climate finance, 67.3% of the operation's resources are associated with policies that will promote climate change adaptation and mitigation activities. These resources contribute toward the IDB Group's target of increasing lending for climate change projects to 30% of all approvals by end 2020.

1.27 The program is also aligned with the Corporate Results Framework 2016-2019 (document GN-2727-6) through the following indicators: (i) beneficiaries of sustainable management and use of natural capital, included in the Results Matrix through the indicator "beneficiaries of improved water quality management;" (ii) reduction of greenhouse gas emissions, included in the Results Matrix through the indicator "reduction of deforestation rate," which assumes a reduction in emissions; and (iii) proportion of land areas protected, included in the Results Matrix through the indicator "number of hectares of national protected areas with a current management plan."

1.28 The program is aligned with the Environment and Biodiversity Sector Framework (document GN-2827-3), contributing to its first dimension of success focused on promoting environmental governance systems that operate efficiently and effectively. The program is aligned with the Climate Change Sector Framework (document GN-2835-3), contributing to its second dimension of success focused on promoting the strengthening of environmental governance measures that facilitate planning of actions in response to climate change and its impacts. The program is consistent with the Public Utilities Policy (document GN-2716-6), as far as reforms associated with solid waste management. These reforms contribute to meeting the financial sustainability and economic evaluation conditions and align with principles of this policy (see optional electronic link 3).

1.29 **Synergies with other Bank operations and donor projects**. The program is supporting a reform process that will have synergies with several of the Bank's operations in the country with a value of US$372 million, such as the Lake Titicaca Cleanup Program (loans 3730/BL-BO and 3731/OC-BO), which contributes to decontamination of the Katari River basin and solid waste management; the Rural Land Regularization and Titling Program (loan 3722/BL-BO), which will formalize property rights for lands where reforestation is to be promoted; the National Irrigation Programs with a Watershed Approach II and III (loans 3060/BL-BO and 3699/BL-BO), which will implement watershed management measures; and the Program for Comprehensive Solid Waste Management Implementation in Bolivia (loan 2880/BL-BO), which will finance solid waste management through the construction of sanitary landfills and waste reclamation plants, and institutional strengthening of autonomous municipal governments.

1.30 This program will also have synergies with US$144 million in other investment projects of other multilateral agencies in the country. The Andean Development Corporation (CAF) is implementing the programs My Water IV and Fire-Free Amazon, related to water pollution and forest resource management. The World Bank is implementing projects for integrated management of watersheds, risk-reduction for biodiversity conservation using adaptive fire management, and a pilot program on climate resilience.

1.31 The reform program has also included the development of technical inputs to formulate regulations and reforms (connected to more than half of the policy reform

commitments), which have been financed by other multilateral agencies and bilateral cooperation agencies such as the Andean Development Corporation, the World Bank, the European Union, the development cooperation agencies of Belgium, Switzerland, and Italy, and the Royal Embassy of Denmark. Additionally, complementary to the proposed operation, the French Development Agency (AFD) is in technical dialogue with the Government of Bolivia to identify opportunities for strengthening Bolivia's environmental management, in coordination with the thematic areas addressed in this program.

B. Objectives, components, and cost

1.32 **Program objective**. The objective is to contribute to strengthening and modernization of the policy, institutional, and budgetary framework for environmental management, to promote economic growth compatible with environmental conservation, social development, and making the country less vulnerable to climate change. The program has three components: (i) macroeconomic stability; (ii) environmental management for pollution control; and (iii) integrated management of forests and biodiversity.

1.33 The expected impacts of the programmatic series are to decrease the incidence of environmental factors on public health and to control the deforestation process. The Policy Matrix establishes the sequence of program commitments, structured into the following components:

1.34 **Component 1. Macroeconomic stability.** The objective of this component is to ensure a macroeconomic environment consistent with the program objectives.

1.35 **Component 2. Environmental management for pollution control.** The objective of this component is to develop key regulations and public policy instruments to improve and implement environmental management in the various productive sectors, as well as to prevent and reduce environmental pollution and increase resilience to climate change. For the first operation, the main policy commitments this component are to: (i) approve a comprehensive institutional plan for the sector entities responsible for policy-setting, project execution, and environmental monitoring and supervision; (ii) prepare a diagnostic study and make recommendations to strengthen the environmental licensing system; (iii) approve manuals to standardize monitoring of air quality and develop contingency plans for states of air pollution alert; (iv) approve the classification methodology for bodies of water, and rules for managing acid waters and effluents in the mining sector; (v) approve manuals for inventorying mining environmental liabilities; and (vi) approve the implementation plan for Law 755 on Integrated Solid Waste Management and programs for integrated solid waste management in priority municipios. For the second operation, the main commitments are to: (i) approve preinvestment methodology guidelines for environmental and climate change projects; (ii) develop and approve the regulations for an environmental licensing system that includes monitoring and supervision of corrective measures proposed in the licenses issued; (iii) publish air quality levels in real time and prepare an inventory of pollution sources in a priority municipio, including the approval of regulations for a contingency plan for states of alert due to air pollution; (iv) implement classification rules for bodies of water in at least one priority watershed, including an inventory of the main pollution sources in the Rocha River and Katari-Lake Titicaca watersheds, as well as prepare action plans to manage water quality in a priority watershed, including approval of the regulation on reuse

of water for irrigation; (v) prepare an inventory of environmental liabilities and approve a program to restore areas of environmental liabilities in priority zones; and (vi) approve the regulations on hazardous waste management.

1.36 **Component 3. Integrated management of forests and biodiversity.** The objective of this component is to develop priority regulations and public policy instruments for the remediation of degraded ecosystems and sustainable, climate-change-resilient integrated management of forests and biodiversity.

a. **Subcomponent 1. Biodiversity and ecosystem services.** The objective of this subcomponent is to develop regulations and public policy instruments for conservation of the country's biodiversity and ecosystem services. For the first operation, the main policy commitments of this subcomponent are to: (i) approve the national strategy for the protection and management of Ramsar sites; (ii) approve policies on the international trade in endangered species of wild fauna and flora, and sign agreements with autonomous departmental governments for monitoring and inspection; (iii) approve the management plan for one priority protected area; (iv) amend the regulation governing the National Forest Development Fund (FONABOSQUE), to declare reforestation projects in protected areas eligible for financing. For the second operation, the main policy commitments of this subcomponent are to: (i) prepare wetlands inventories, approve wetlands management manuals, and enter into agreements with autonomous municipal governments for their implementation; (ii) prepare a regulation for implementation of the policies on international trade in endangered species of wild fauna and flora; (iii) approve the specific regulation for tourism operations authorizing entry fees for one priority protected area; and (iv) approve the regulation for FONABOSQUE to be used in protected areas.

b. **Subcomponent 2. Sustainable and integrated management of forests.** The objective of this subcomponent is to develop regulations and public policy instruments to reduce, prevent, and control deforestation and forest degradation, as well as remediate degraded areas through reforestation of small, medium, and large rural properties. For the first operation, the main policy commitments of this subcomponent are to: (i) approve the National Program to Monitor and Control Deforestation and Degradation; (ii) approve rules identifying the entity responsible for generating and disseminating official information on forest fires and hot spots; (iii) prepare an implementation strategy for the National Afforestation and Reforestation Program; and (iv) prepare a work plan to prioritize land titling in areas served by the National Afforestation and Reforestation Program. For the second operation, the main policy commitments of this subcomponent are to: (i) approve the plurinational strategy for integrated fire management and the regulations of the National Program to Monitor and Control Deforestation and Degradation; (ii) establish the legal framework, design and implement the Forest Information and Monitoring System; (iii) approve the proposal on technical instruments for the implementation of integrated forest management and remediation of degraded areas in forest reserves; and (iv) implement land titling in priority areas for afforestation and reforestation projects.

C. Key results indicators

1.37 The program's expected outcomes are indicated in the Results Matrix. The main impact indicators are: (i) national environmental risks to public health exposure index; and (ii) national deforestation rate. The outcome indicators are: (i) number of environmental inspections performed; (ii) number of beneficiaries of improved management of water quality in priority watersheds; (iii) population with access to real-time information on air quality in priority municipios; (iv) additional tons disposed of in sanitary landfills in priority municipios; (v) surface area of national protected areas with a current management plan; and (vi) number of hectares reforested in degraded areas. With implementation of the reforms, the national environmental risks to public health exposure index is expected to decline from 39% (2014) to 37% (2018), and the national deforestation rate from 38% (2014) to 30% (2018).

Table 3. Key results indicators

Description of indicator	Baseline	Target
Impact indicator		
National environmental risks to public health exposure index	0.39	0.37
National deforestation rate	38%	30%
Outcome indicator		
Number of environmental inspections performed by the Ministry of Environment and the departments	144	216
Number of beneficiaries of improved management of water quality in priority watersheds	0	2,244,280
Population with access to real-time information on air quality in priority municipios	0	632,013
Additional tons disposed of in sanitary landfills	0	174
Surface area of national protected areas with a current management plan (%)	75.7%	87.2%
Hectares reforested in degraded areas	0	30,000

D. Economic evaluation

1.38 A cost-benefit analysis was performed for several of the program's expected outcomes related to impacts: (i) reduce exposure to environmental risks to public health; and (ii) reduce deforestation rate. The costs included in the analysis were those related to the reform (costs of implementing and operating the new institutions and procedures, or strengthening them) and the incremental costs of investment, operation, and maintenance.

1.39 The findings of the analysis show that the program is viable for its two objectives. The program generates a positive return and yields a net present value of US$466 million, with an internal rate of return of 35%. Several sensitivity tests were done to see how introducing changes in major variables could impact costs, benefits, or assumptions and therefore the economic viability of the policy reforms. The results of these tests demonstrate, overall, that the reforms would remain viable when variables impacting their costs and/or benefits change. The analysis, methodology, and calculations are included in the Project economic analysis.

II. Financing Structure and Risks

A. Financing instruments

2.1 This loan operation is the first of two consecutive, single-tranche operations that are technically linked but financed independently under the programmatic policy-based loan modality. This modality has been selected pursuant to document CS-3633-1, "Policy-based Loans: Guidelines for Preparation and Implementation," since it offers the flexibility to adapt to changing circumstances during execution and revise the program's scope as time goes on. This is important, since execution of the first operation will generate knowledge and experience that will serve as the basis for reforms to be implemented during the second operation, so room will be required to make adjustments and adapt to the new knowledge. The objective set for the programmatic series will be achieved by fulfilling the commitments established for the two operations. The amount of the second PBP will be determined with the Government of Bolivia during the programming process, based on the country's financing requirements and the availability of Bank resources.

2.2 The financing for this first PBP will be up to US$140 million, which is expected to be disbursed in the first quarter of 2017. The amount was based on two criteria (see paragraph 1.4): (i) the fiscal resources needed by the country due to the crisis related to the ongoing drought; and (ii) debt sustainability under the guidelines of document CS-3633-1 (see paragraph 1.6). This financing will come 85% from the regular Ordinary Capital resources, and 15% from concessional Ordinary Capital resources. Since this is a PBP operation, there will be a single disbursement, once the corresponding loan contract has been signed and the policy conditions have been met, according to the agreed means of verification (see required electronic link 2).

B. Environmental and social safeguard risks

2.3 This operation will have no adverse environmental impacts, and includes environmental sustainability as an intrinsic requirement of the program. Under Directive B.13 of the Environment and Safeguards Compliance Policy (Operational Policy OP-703), this operation, as a PBP, requires no classification.

C. Other risks

2.4 Implementing the proposed structural changes takes time and requires the timely allocation of resources. This programmatic loan has been structured as two operations, in order to ensure that the planned activities occur, and corrective steps could be taken to meet the proposed objectives. The agreed commitments for the first operation were exhaustively reviewed with staff of the entities involved, who have reaffirmed their respective commitments. The two risks have been identified in public management and governance, related to delays in the timely completion of two reforms. These risks have been rated as medium. The Bank has adopted mitigation measures that include close monitoring and supervision of progress on commitments, providing specific financial support through technical cooperation funding (operation ATN/OC-15581-RG).

III. Implementation and Management Plan

A. Summary of implementation arrangements

3.1 The borrower is the Plurinational State of Bolivia, represented by the Ministry of Development Planning (MPD). The executing agency will be the Ministry of Environment and Water (MMAyA), which will be responsible for tracking fulfillment of the Policy Matrix commitments made by various government institutions (see Annex II). As the execution unit, the MMAyA will have the following responsibilities: (i) maintain official communication with the Bank and provide evidence of fulfillment of the operation's conditions and all other reports requested by the Bank under the agreed terms and conditions; (ii) promote actions to achieve the policy objectives set, particularly the conditions included as triggers for this program; and (iii) collect and deliver to the Bank all information and indicators enabling the Government of Bolivia and the IDB to monitor, measure, and evaluate the program outcomes. The MMAyA's Directorate General of Planning (DGP) will have the role of coordinator, establishing a Strategic Committee made up of key representatives from the deputy ministers' offices (Environment; Potable Water and Basic Sanitation; Water Resources and Irrigation) and other government institutions involved (Ministry of Development Planning; SERNAP), and providing evidence of the commitments assumed by each responsible unit, as specified in the Means of Verification Matrix.

B. Summary of arrangements for monitoring results

3.2 The MMAyA will coordinate the timely fulfillment of the commitments for this first operation, as well as the remaining commitments and progress of the reform. It will also be responsible for providing information on progress with respect to the Policy Matrix and Results Matrix, as well as provide evidence of the means of verification to the Bank. The Results Matrix indicators will guide the evaluation of program implementation progress and will be used for program evaluation upon completion of the last programmatic operation. The borrower and the Bank have agreed to monitor program execution based on monitoring meetings on dates to be set by the executing agency and the IDB. The timing for the preparation of the second programmatic operation will be determined based on this monitoring and the agreed triggers.

3.3 The program completion report (PCR) will be prepared six months after the end of the second operation and will follow the new guidelines in effect (document OP-1242-5). The evaluation will be based on an analysis of core criteria and noncore criteria. The PCR core criteria, which essentially assess program performance, are determined objectively based on the program outcomes and outputs and scored according to: (i) effectiveness; (ii) efficiency; (iii) relevance; and (iv) sustainability. The PCR noncore criteria are those that are evaluable but do not rate the effectiveness of the operation. They assess the operation's contribution to the Bank's development objectives, compliance with the monitoring and evaluation plan, the use of country systems, and the implementation and mitigation of environmental and social safeguards. The borrower has agreed on the indicators and baseline to be used for this final evaluation with the Bank (Results Matrix) and will gather all information necessary for program monitoring and evaluation, and compile all information contributing to preparation of the PCR by the Bank.

3.4 The evaluation of program impacts and outcomes will employ a reflexive methodology that measures the respective indicators before and after the program. Resources from technical cooperation operation ATN/OC-16008-BO (see paragraph 2.2) have been set aside for the impact evaluation. The budget and the schedule of activities for this evaluation are detailed in the Monitoring and impact evaluation plan.

IV. POLICY LETTER

4.1 The Bank has reached agreement with the Government of Bolivia on the Policy Letter, which describes the planned objectives and actions for the entire programmatic series and reaffirms the government's commitment to the reforms and activities agreed upon with the Bank (see required electronic link 1). The Bank has also reached agreement with the Government of Bolivia on the Policy Matrix (Annex II), which describes the policy commitments for this program, and the Results Matrix and Means of Verification Matrix.

Development Effectiveness Matrix			
Summary			
I. Strategic Alignment			
1. IDB Strategic Development Objectives	**Aligned**		
Development Challenges & Cross-cutting Themes	**-Climate Change and Environmental Sustainability -Institutional Capacity and the Rule of Law**		
Regional Context Indicators	**-Greenhouse gas emissions (kg of CO2 e per $1 GDP (PPP)) -Proportion of terrestrial and marine areas protected (%)**		
Country Development Results Indicators	**-Beneficiaries of improved management and sustainable use of natural capital (#)**		
2. Country Strategy Development Objectives	**Aligned**		
Country Strategy Results Matrix	**GN-2843**	**(i) Reduce vulnerability to natural disasters and climate change; and (ii) Improve the effectiveness of public governance.**	
Country Program Results Matrix	**N/A**	**Document under discussion.**	
Relevance of this project to country development challenges (If not aligned to country strategy or country program)			
II. Development Outcomes - Evaluability	**Evaluable**	**Weight**	**Maximum Score**
	8.5		**10**
3. Evidence-based Assessment & Solution	**9.6**	**33.33%**	**10**
3.1 Program Diagnosis	**3.0**		
3.2 Proposed Interventions or Solutions	**3.6**		
3.3 Results Matrix Quality	**3.0**		
4. Ex ante Economic Analysis	**9.5**	**33.33%**	**10**
4.1 The program has an ERR/NPV, a Cost-Effectiveness Analysis or a General Economic Analysis	**2.5**		
4.2 Identified and Quantified Benefits	**2.0**		
4.3 Identified and Quantified Costs	**2.0**		
4.4 Reasonable Assumptions	**2.0**		
4.5 Sensitivity Analysis	**1.0**		
5. Monitoring and Evaluation	**6.5**	**33.33%**	**10**
5.1 Monitoring Mechanisms	**1.5**		
5.2 Evaluation Plan	**5.0**		
III. Risks & Mitigation Monitoring Matrix			
Overall risks rate = magnitude of risks*likelihood	**Medium**		
Identified risks have been rated for magnitude and likelihood	**Yes**		
Mitigation measures have been identified for major risks	**Yes**		
Mitigation measures have indicators for tracking their implementation	**Yes**		
Environmental & social risk classification	**B.13**		
IV. IDB´s Role - Additionality			
The project relies on the use of country systems			
Fiduciary (VPC/FMP Criteria)			
Non-Fiduciary			
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:			
Gender Equality			
Labor			
Environment			
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project	**Yes**	**Technical assistance was provided to support the revision of existing policies and the design of new policies to be implemented with the PBP.**	
The ex-post impact evaluation of the project will produce evidence to close knowledge gaps in the sector that were identified in the project document and/or in the evaluation plan			

Note: (*) Indicates contribution to the corresponding CRF's Country Development Results Indicator.

The project is the first of two planned operations of a series of programmatic loans supporting policy reforms (PBP) aimed to contribute to the strengthening and modernization of the normative, institutional and budgetary framework for environmental management. This first operation plans three components: 1) macroeconomic stability; 2) environmental management for pollution control; and 3) integrated management of forests and biodiversity.

The documentation provides an adequate diagnosis of the current situation of the environmental normative and institutional framework for the control of pollution, and the state of the environmental management for its control, as well as the state of forest and biodiversity management and its main challenges.

The proposed operation is related to the magnitude of identified deficiencies and challenges. The results matrix (RM) reflects the objectives of the program and shows a clear vertical logic. The higher-level indicators have values that are the result of the economic analysis. The RM includes SMART indicators at the level of impacts, outcomes, and outputs, which include their respective baseline values, targets, and means for collecting their information. Empirical evidence on the effectiveness of this type of interventions is cited. In general, the evidence cited complies with internal validity; however, external validity is not obtained, since most interventions with internal validity cited are from different contexts.

The economic analysis is based on a Cost-Benefit Analysis (CBA). Six separate analyzes are carried out for the main sub-components. In general, the benefits are due to the improvement in environmental and forest management. The analysis adequately identifies the costs used, and the assumptions are reasonable. However, for the analysis on air quality improvement, the assumptions and benefits are not as well supported by the cited evidence as the rest of the analyzes. The CBA reports a NPV and an IRR for each of the sub-analyzes in the following ranges: NPV of US $0.2 million for improvements in Solid Waste and US$7,988 million for RAMSAR Management; IRR of 14.2% for improvements in Solid Waste and an IRR of 186.9% for improvements in Air Quality. On the other hand, the global NPV is US$8,690 million, while the overall IRR is 75%. The CBA performs a series of reasonable sensitivity analyzes based on the most important variables.

The monitoring and evaluation plan proposes a before-and-after evaluation for the impact indicators, as well as an ex-post CBA for the relevant sub-components

The risks identified in the risk matrix seem reasonable and are classified as medium risks. The risks include mitigation actions and compliance indicators.

POLICY MATRIX

Expected outcomes	Agreed commitments Programmatic loan I (2017)	Agreed commitments Programmatic loan II (2018)
Component 1. Macroeconomic stability		
(1.1) Maintain a stable macroeconomic framework	Maintain a stable macroeconomic framework consistent with the objectives of the program and the Policy Letter	Maintain a stable macroeconomic framework consistent with the objectives of the program and the Policy Letter
Component 2. Environmental management for pollution control		
(2.1) Improve the capacity for strategic and institutional planning and improve the efficiency and effectiveness of key environmental management instruments	Prepare a strategic plan to identify the actions to be taken, budgetary needs, distribution of environmental management and climate change responsibilities, and expected outcomes contributing to the country's environmental protection objectives. Responsibility: DGP	Prepare interagency agreements for environmental management according to the territorial planning model established in the planning instruments for at least two autonomous departmental governments Responsibility: VMABCCGDF
		Approve an organizational development and capacity-building plan for the evaluation, monitoring, and supervision of strategic projects, including climate change mitigation and adaptation considerations Responsibility: DGP
		Approve investment project formulation guidelines to make more resources available for environmental management projects (including climate change projects) Responsibility: DGP
	Approve a diagnostic study and recommendations to reform the environmental licensing system, in order to optimize the procedure and increase the transparency, objectiveness, and effectiveness of environmental management, as well as strengthen the participatory process and its financial sustainability Responsibility: DGMACC	Approve the proposed regulation to reform the environmental licensing system, in order to optimize the procedure and increase the transparency, objectiveness, and effectiveness of environmental management, as well as strengthen the participatory process and its financial sustainability Responsibility: DGMACC
(2.2) Strengthen air quality management	Prepare and approve a manual for the design and operation of air quality monitoring networks that standardizes measuring methods and data interchange protocols Responsibility: DGMACC	Publish air quality levels for at least one priority municipio online in the National Environmental Information System (SNIA) on a daily basis, comparing it with maximum permissible levels Responsibility: DGMACC
		Prepare an inventory of the main pollution sources in priority municipios and make recommendations for its continuity Responsibility: DGMACC

Expected outcomes	Agreed commitments Programmatic loan I (2017)	Agreed commitments Programmatic loan II (2018)
	Prepare a proposal for a contingency plan for states of air pollution alert containing maximum permissible levels and alert thresholds, protocols to declare and lift states of alert, coordination mechanisms, and measures to be implemented to reduce exposure for the population Responsibility: DGMACC	Prepare a regulatory proposal to implement the contingency plan for states of air pollution alert Responsibility: DGMACC
		Raise awareness and disseminate the contingency plan for states of air pollution alert at the municipal level Responsibility: DGMACC
(2.3) Improve the country's water resource quality management	Prepare an inventory of the main sources of water resource pollution (companies, agribusiness, etc.) in the three municipios of the upper Rocha River basin Responsibility: VRHR	Prepare an inventory of the main sources of water resource pollution (companies, agribusiness, etc.) in the three remaining municipios of the Rocha River basin and recommendations for incorporating it into the watershed master plan
		Prepare an inventory of the main sources of water resource pollution (companies, agribusiness, etc.) in priority areas of the Katari-Lake Titicaca watershed and recommendations for updating and incorporating it into the watershed master plan Responsibility: VRHR
	Prepare rules on the methodology for classification of bodies of water, establishing geographical criteria, hydrological and geomorphological characteristics, and water quality parameters Responsibility: VRHR	Approve and implement classification rules for bodies of water for at least one body of water Responsibility: VRHR
	Prepare rules for managing acid waters and effluents in the mining sector Responsibility: VRHR	Approve rules for managing acid waters and effluents in the mining sector and implement a clean technology pilot project for the treatment of acid waters from mining activity in a priority zone Responsibility: VRHR
	Prepare an action plan for the water quality management strategy in at least one vulnerable microwatershed, seeking to bring the mining industry into compliance with the maximum permissible levels Responsibility: VRHR	Incorporate an action plan to manage water quality into at least one priority watershed master plan Responsibility: VRHR

Expected outcomes	Agreed commitments Programmatic loan I (2017)	Agreed commitments Programmatic loan II (2018)
	Prepare a technical study to determine the parameters for the quality of water reused for irrigation in at least one crop Responsibility: VRHR	Approve a regulation on water quality parameters for water reuse for irrigation for each type of crop Responsibility: VRHR
(2.4) Strengthen the process of environmental liability management	Prepare and approve a field work methodology for inventorying and describing mining environmental liabilities according to international best practices Responsibility: DGMACC	Implement the approved methodology in at least one priority area, and prepare a proposed action plan Responsibility: DGMACC
		Prepare and publish map of environmental liabilities for at least two priority zones in the National Environmental Information System (SNIA) Responsibility: DGMACC
(2.5) Improve the status of solid waste in the country	Approve the implementation plan for the Integrated Solid Waste Management Law addressing climate change considerations, establishing guidelines to strengthen the sector within the policy framework under this law Responsibility: DGGIRS	Validate the draft supreme decree for the identification of hazardous waste pursuant to Law 755 Responsibility: DGGIRS
	Approve the regulation implementing the Integrated Solid Waste Management Law addressing climate change considerations, containing the classification of municipios according to the amount generated and assigning responsibilities for management Responsibility: DGGIRS	Approve the regulation for operational management of hazardous waste Responsibility: DGGIRS
	Approve municipal programs for integrated management of urban solid waste in the municipios of Sucre and El Puente Responsibility: DGGIRS	

Expected outcomes	Agreed commitments Programmatic loan I (2017)	Agreed commitments Programmatic loan II (2018)
Component 3. Integrated management of forests and biodiversity		
A. Biodiversity and ecosystem services		
(3.A.1) Increase the number of hectares protected with management and financial sustainability plans	Approve the strategy for management of Ramsar sites based on international best practices, coordinated with the objectives of the Economic and Social Development Plan (PDES) related to climate change, biodiversity, and wetlands Responsibility: DGP	Implement the strategy for integrated management of wetlands, including Ramsar sites Prepare the national wetlands inventory Approve wetlands management manuals Sign intergovernmental agreements with the municipios of the priority areas Responsibility: DGBAP
	Approve policies on international trade in endangered species of wild fauna and flora based on international best practices	Prepare a regulation for implementation of the policies on international trade in endangered species of wild fauna and flora Responsibility: DGBAP
	Sign an agreement for monitoring, control, and supervision of activities related to international trade in endangered species of wild fauna with the Cochabamba Governor's Office Responsibility: DGBAP	
	Approve a management plan for at least one priority protected area Responsibility: SERNAP	Approve the specific regulations for tourism operations authorizing entry fees for one priority protected area Responsibility: SERNAP
	Approve the legal instrument amending the regulation governing the National Forest Development Fund (FONABOSQUE), to declare reforestation projects in protected groundwater recharge areas eligible for financing Responsibility: SERNAP	Approve proposed internal rules and regulations, as well as institutional and regulatory arrangements, to get the financial mechanism up and running for the protection of water sources in protected areas Responsibility: FONABOSQUE and SERNAP

Expected outcomes	Agreed commitments Programmatic loan I (2017)	Agreed commitments Programmatic loan II (2018)
B. Sustainable and integrated management of forests		
(3.B.1) Support the implementation of sustainable and integrated management of forests	Approve the Program to Monitor and Control Deforestation and Degradation for the sustainable and integrated management of forests addressing climate change considerations, with the following components: (i) monitoring and control of deforestation (Forest Information and Monitoring System); (ii) monitoring, control, and fighting of forest fires; (iii) integrated fire management (prevention); and (iv) remediation of forests in degraded areas. Responsibility: DGGDF	Approve the plurinational strategy for integrated fire management Responsibility: DGGDF
		Approve the regulations for Supreme Decree 2914, "Program to Prevent and Control the Deforestation and Degradation of Our Forests" Responsibility: DGGDF
	Approve rules identifying the public entity responsible for generating and disseminating official information on forest fires and hot spots in a systematic and ongoing manner for administrative purposes, as well as to be shared with society Responsibility: DGGDF	Establish the legal framework, design, and implementation of the Forest Information and Monitoring System Responsibility: DGGDF
	Prepare an implementation strategy, scopes of work, public institutions involved in national and subnational execution, private organizations, coordination mechanisms, promotion mechanisms, and the dissemination, evaluation, and monitoring strategy for implementation of the National Afforestation and Reforestation Program addressing climate change considerations Responsibility: DGGDF	Approve the proposal on technical instruments for the implementation of integrated forest management and remediation of degraded areas in forest reserves Responsibility: DGGDF
	Prepare and approve a work plan to prioritize land titling in areas served by the National Afforestation and Reforestation Program Responsibility: INRA	Implement the National Afforestation and Reforestation Program in the titled areas identified in the first phase Responsibility: DGGDF

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-__/__

Bolivia. Loan ____/BL-__ to the Plurinational State of Bolivia
Program for Strengthening of Environmental and Natural Resource Management

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Plurinational State of Bolivia as Borrower, for the purpose of granting it a financing to cooperate in the execution of a program for strengthening of environmental and natural resources management. Such financing will be chargeable to the Bank´s Ordinary Capital (OC) resources in the following manner: (i) up to the amount of US$21,000,000 subject to concessional financial terms and conditions ("Concessional OC"); and (ii) up to the amount of US$119,000,000 subject to financial terms and conditions applicable to loan operations financed from the Bank's regular program of OC resources ("Regular OC"), as indicated in the Project Summary of the Loan Proposal, and subject to the Special Contractual Conditions of said Project Summary.

(Adopted on ___ of_____2017)

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