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Aligning Colombia's Financial System with Sustainable Development

CURRENT PRACTICE AND FUTURE POTENTIAL TO MOBILIZE INVESTMENT FOR THE GREEN ECONOMY

Inquiry: Design of a Sustainable Financial System

IFC International Finance Corporation WORLD BANK GROUP

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Executive Summary

A range of factors is driving increasing focus within the financial system on the linkages with sustainable development. With a new set of Sustainable Development Goals from the United Nations (UN) to be agreed upon in September 2015 and the Climate Change Conference of the United Nations Framework Convention on Climate Change (UNFCCC) coming up in Paris at the end of 2015, national and international organizations are interested in providing enabling conditions for a greener economy.

In this scenario, the financial system plays a fundamental role in mobilizing capital to a greener economy and creating general awareness about the importance of this shift and the opportunities it creates. Domestic policies and frameworks play a critical role, and almost three-quarters of climate finance, one of the components of sustainable finance, originates and is being invested in the same country.[1]

Sustainable or green finance, terms that will be used interchangeably in this document, refers to the capability of the financial system to integrate environmental, social, and governance (ESG) criteria in the investment or credit decision-making process, and to allocate resources in projects, financial assets, or portfolios with a positive impact on sustainable development challenges.

Since 2012, the G20 Development Working Group has been focusing on inclusive green growth and has asked the International Finance Corporation (IFC) to support its efforts to mobilize private investment, including from institutional investors, in this regard. Supported by Germany's *Gesellschaft für Internationale Zusammenarbeit* (GIZ), IFC is working with the G20's GreenInvest Platform to create the enabling environment and engage domestic investors in countries to support this agenda. The

United Nations Environment Programme (UNEP) recently initiated the "Inquiry into the Design of a Sustainable Financial System" (UNEP Inquiry) to advance design options that would deliver a step change in the financial system's effectiveness in mobilizing capital toward a green and inclusive economy. Working in partnership, IFC and UNEP are exploring this topic in Colombia.

This document has been commissioned by the IFC and the UNEP Inquiry to explore the state of green finance in Colombia within the wider economic and financial sector context, and at the same time, to identify challenges and potential solutions that would enhance the application of environmental, social, and governance (ESG) criteria in the financial sector decision-making process and mobilize more investments for the transition toward a green economy.

The project involved two major steps: first, it undertook a holistic mapping of the Colombia green finance landscape with regard to the relevant stakeholders and the relevant types and volumes of finance, as well as current and planned financial policies, regulations, and standards; second, it then identified the challenges that prevent increased green capital flow, and discussed how these might be overcome.

The consulting team conducted more than 32 interviews with the heads of relevant institutions in the financial sector - specifically, private pension funds, private equity funds, insurance companies, commercial banks, development banks, asset managers, financial associations, government and regulatory agencies, and private standard setters, underpinned by desktop research based on public information sources.

ECONOMIC AND ENVIRONMENTAL CONTEXT

Colombia is one of the most dynamic emerging economies and has consistently improved its economic development indicators. In fact, GDP has grown at average rates of 4.7 percent (2003-2013), the inflation rate has dropped below 4 percent for the last five years, and foreign direct investment has multiplied by 10 in the last 10 years. However, in 2013, the oil and gas industry represented nearly 50 percent of exports, 16 percent of fiscal income, and 5 percent of GDP, which shows the importance of this carbon-intensive sector for the economy. Moreover, Colombia ranks as the 51st country in terms of the highest greenhouse gas (GHG) emissions per capita. In addition, the country is vulnerable to extreme weather events: over the past 40 years, natural disasters in Colombia have caused $7.1 billion[2] in losses, with severe floods in 2011 causing an estimated of $4.9 million[3] in damage.

GREEN GROWTH POLICIES IN COLOMBIA

The Colombian Government has implemented three kinds of long-term development policies for green growth: strategic policies, operational policies, and specific incentives.

The strategic policies include the OECD Declaration on Green Growth and the National Development Plan 2014-2018 (in process of approval by the Congress) that defines a crosscutting strategy of Green Growth. The operational policies include the "Institutional Strategy for the Articulation of Policies and Actions Related to Climate Change" (CONPES 3700) that creates the National System for Climate Change (SISCLIMA) and the SISCLIMA Financial Committee. This category also comprises the Intended National Determined Contributions (INDC) and the National Green Business Plan at the Ministry of Environment. Finally, the government has developed specific incentives for green investments, such as economic incentives, tax-related incentives, and research and development (R&D) incentives.

Based on this policy framework, it is possible to determine a general estimate of the challenge that the Colombian economy faces in order to make the transition toward a greener economy. The National Development Plan 2014-2018 baseline document indicates total financing needs from the Green Growth crosscutting strategy of $3.8 billion, mainly from public sources. Moreover, CONPES 3700 (Climate Change Strategy) also outlines general estimates for climate change adaptation and mitigation financing needs, using some of the main strategic projects at the country level. According to this estimate, the climate change component alone will require around $3.2 billion, primarily from public sources; the full amount including private sources would be much larger.

GREEN FINANCE EXPERIENCE IN COLOMBIA

The Colombian financial system has reached a relevant size within the economy while enjoying a healthy position, characterized by controlled non-performing loan rates properly provisioned, solvency ratios above minimum requirements, and solid profitability measures.

Moreover, the financial system has made sound advances in the integration of ESG criteria into the decision-making process. The governance criterion has the longest trajectory of implementation, followed more recently by the environmental factor. The "Código País" experience related to governance criteria is an interesting example of how a new topic can be integrated into the financial sector agenda, creating general awareness, and becoming a useful tool to strengthen risk analysis. However, new and emerging sustainability risks (different than transparency, corruption, and governance structure risks) such as stranded assets risk, climate risks, and social risks, among others, have not been fully integrated into the financial institutions' risk assessment.

Commercial and development banks present the most relevant advances in green finance among the financial subsectors. However, there is still a gap in integrating green finance into the banks' core business. Banks are using relevant frameworks for integrating sustainability criteria into their decision-making process (e.g., The Equator Principles, Principles for Responsible Investment – PRI, Natural Capital Declaration) and have engaged in relevant sustainability initiatives such as the Dow Jones Sustainability Index (DJSI), United Nations Global Compact, and Global Reporting Initiative (GRI), among others. In 2012, some of the most relevant commercial and development banks associated in ASOBANCARIA signed the Green Protocol, a commitment to promote green finance. Commercial banks and development banks have also started to evaluate the implementation of environmental and social management systems (SARAS for its acronym in Spanish). However, only 6 out of 17 banks have established between one and four products under a "green" denomination, and green credit lines comprise only between 0.1 percent and 2.43 percent (an estimated $164 million) of the total banks' portfolio.

The Colombian Stock Exchange (BVC) has been a relevant actor promoting green finance. In 2011, the Securities Exchange adhered to the United Nations Global Compact and defined a sustainability strategy. In July 2014, it partnered with the United Nations Sustainable Stock Exchanges (SSE) and committed

to increase awareness of responsible investment in the Colombian market, disseminate its Guides to Responsible Investment, and support the development of the Colombian chapter of the Latin Forum of Sustainable & Responsible Investment (Latin SIF).

Institutional investors such as pension funds and insurance companies are starting to identify opportunities to integrate green finance elements in their businesses, but still lack robust initiatives and general awareness inside their organizations.

Private equities, led by Colcapital, have some relevant initiatives aimed at recognizing the social and environmental performance of their investments. However, this is still not a generalized practice. On the other hand, there are already some private equity funds fully dedicated to impact investing and identifying ESG factors as business opportunities.

Market analysts and credit rating agencies have started to develop frameworks and tools to assess ESG risk factors in their analysis. However, those frameworks are not as sophisticated and developed as operational and financial risk frameworks.

CHALLENGES AND PROPOSED SOLUTIONS

Based on this experience and the interviews conducted, this report highlights the main challenges and potential solutions that were raised from the interviewees' perceptions and opinions. This process is intended to contribute to an applied, down-to-earth approach to understand the green finance landscape in Colombia and identify practical recommendations.

Based on the analytical framework proposed by the OECD, there are three main categories of green finance challenges and potential solutions:[4]

Challenges or solutions	Definition
General	These are challenges or potential solutions that relate to the general Colombian investment and financial ecosystem, and that have effects on investing in any kind of company, project, or financial instrument, or applying any kind of evaluation methodology.
Specific to green finance	These are challenges or potential solutions that relate specifically to the green finance ecosystem in the country, and that have a direct effect on green investments, whether projects, companies, or financial instruments.
Related to environmental, social and governance (ESG) methodologies	These are challenges or potential solutions that relate specifically to the green finance ecosystem in the country, and that have a direct effect on integrating environmental, social, and governance (ESG) criteria into the investment or financing decision.

The next table presents the challenges and proposed solutions identified during the interview process for Colombia:

Category	Challenges	Proposed solutions
General	• Short-term prevalence in the decision-making process. • Low market capitalization.	• Strengthen corporate governance and long-term vision in financial institutions. • Promote transformational leadership.
Specific to green finance	• Lack of standard definitions around green finance. • Lack of clarity around environmental impacts (positive or negative). • Absence of green investments pipeline. • Gaps in innovative initiatives.	• Establish basic standard definitions for green finance. • Develop incentives for financial institutions that promote green finance. • Have government be a sponsor of green investments, specifically projects. • Articulate information sources and entities around green finance. • Design and promote attractive market signals (certifications, seals, etc.) • Strengthen financial institutions' disclosure of their green finance performance. • Focus capital market innovation in collective investment funds, private equity, ETFs, and green bonds.
Related to environmental, social and governance (ESG) methodologies	• Lack of standardized methodologies. • Lack of specific capabilities for assessing ESG factors.	• Implement standardized methodologies and tools for risk assessment. • Provide permanent education and communication for practitioners. • Create specialized teams, with specific ESG capabilities.

RECOMMENDATIONS AND NEXT STEPS

Evidence in other countries has shown some levers that can lead to a significant transformation in the financial system toward green finance. In Colombia, there are four main levers that can lead to sound transformations in the financial system:

- ***Exemplary leadership:*** individual institutions such as Grupo Sura, Grupo Bancolombia, and Davivienda, the Colombian Stock Exchange, or responsible investment funds such as Fondo Inversor, can show the benefits of green finance and the competitive advantage it creates, and can transfer best practices to other market players.

- ***Real sector crisis:*** crises are always a powerful driver for change. Major natural disasters or major industrial disasters, originated in environmental or social issues, can focus the attention of investors and civil society, and can lead to a general awareness of green finance. The La Niña phenomenon in 2010-2011 is an example of this.

- ***Policy innovation:*** there are interesting experiences such as Código País related to governance criteria integration, the micro-finance industry development in Colombia, the financial

committee at SISCLIMA, and the active participation of government institutions in Green Protocol. Replicating these practices to other financial subsectors and articulating them into a generalized, country-level green finance vision can become a significant lever for change.

- ***Multilateral institutions requirements:*** great-scale infrastructure projects will become part of the Colombian economy landscape in forthcoming years. Those projects demand significant resources, most of them provided by multilateral institutions. These institutions demand rigorous approaches to social and environmental risks that can spill over to the financial institutions and, finally to the real sector.

Regulations around green finance may be proposed in order to create mechanisms to increase the viability of projects or investments with positive impact on sustainable development challenges, as well as restrictions for projects or activities that have a negative impact on the environment. However, in the context of Colombia, there is a need for a debate about what kind of intervention is needed in order to mobilize green finance and the role for all the stakeholders in this process.

Finally, taking into account that there are several ongoing initiatives from the financial sector that are showing good practices for the entire financial system, especially in commercial and development banks, there is an opportunity to find potential paths to mobilize other institutions. In particular, this opportunity reflects the potential to better manage long-term sustainability risks, mobilizing capital at the necessary scale based mainly on the fourth generation (4G) infrastructure plans, and strengthening the market infrastructure with standards and methodologies for ESG risk assessment, disclosure, and transparency, among others, which could enable the transition toward a greener, more inclusive economy.

1 INTRODUCTION

Context

A range of factors is driving increasing focus within the financial system of the linkages with sustainable development. Natural disasters and climate change, loss of natural capital and biodiversity, depletion of non-renewable resources, water stress and soil erosion, financial inclusion, poverty eradication, and inequality are some sustainable development challenges that pose unprecedented risks and "indicate structural weaknesses and risks which remain unresolved" (UNEP, 2011). Furthermore, new opportunities are emerging to mobilize the innovative capacity of the financial system to better meet the long-term needs of the real economy in a sustainable way.

With the Climate Change Conference of the United Nations Framework Convention on Climate Change (UNFCCC) coming up in Paris at the end of 2015 and a new set of Sustainable Development Goals from the United Nations (UN) to be agreed on 2015, national and international organizations are interested in providing enabling conditions for a greener economy.

In this scenario, the financial system plays a fundamental role in mobilizing capital to a greener economy and creating general awareness about the importance of this shift and the opportunities it creates. For example, almost three-quarters of climate finance, one of the components of sustainable finance, originates and is being invested in the same country, indicating the strong role for domestic policies and frameworks in enabling these flows.[5]

Sustainable or green finance, terms that will be used interchangeably in this document, refers to the capability of the financial system to integrate environmental, social, and governance (ESG) criteria in the investment or credit decision-making process, and to allocate resources in projects, assets, or portfolios with a positive impact on sustainable development challenges.

Since 2012, the G20 Development Working Group has been focusing on inclusive green growth and has asked the International Finance Corporation (IFC) to support its efforts to mobilize private investment, including from institutional investors in this regard. In partnership with Gesellschaft für Internationale Zusammenarbeit (GIZ), IFC is working with the G20's GreenInvest Platform to engage domestic investors and create the enabling environment in countries to advance this agenda. Recently, the United Nations Environment Programme (UNEP) initiated the "Inquiry into the Design of a Sustainable Financial System" (UNEP Inquiry) to advance design options that would deliver a step change in the financial system's effectiveness in mobilizing capital toward a green and inclusive economy. Working in partnership, IFC and UNEP are exploring this topic in Colombia.

Colombia is one of the most dynamic emerging economies and has consistently improved its economic development indicators. In fact, its GDP has grown at average rates of 4.7 percent (2003-2013), the inflation rate has dropped below 4 percent for the last five years, and foreign direct investment has multiplied by

10 in the last 10 years, just to name some examples. However, because its economic growth is mainly based on carbon-intensive activities and the extraction of raw materials such as oil and gas, the country is vulnerable to extreme weather events and ranks as one of the highest in per capita greenhouse gas (GHG) emissions.

Specifically, in 2013, the oil and gas industry represented nearly 50 percent of exports, 16 percent of fiscal income, and 5 percent of GDP, which shows the importance of this sector for the economy. Moreover, Colombia ranks as the 51st country in terms of the highest GHG emissions per capita. Additionally, during the last 40 years, natural disasters in Colombia have caused $7.1 billion (1.88 percent of GDP)[6] in losses, which means an average loss of $177 million per year.

Although this poses an evident risk for the long-term growth and sustainability of its economic model, Colombia has a historic opportunity to change its growth path and create a competitive advantage based on a green growth strategy. Again, the financial sector will play a fundamental role.

However, there is currently limited evidence of the features of domestically sourced green finance in Colombia, particularly among the different subsectors that comprise the financial system. At the same time, although Colombia has reasonably sophisticated financial institutions and markets, there is little systematic research into the specific features and flows of green finance, especially from private capital markets and institutional investors.

This document has been commissioned by the IFC and the UNEP Inquiry to explore the state of green finance in Colombia within the wider economic and financial sector context, and at the same time, to identify challenges and potential solutions that would enhance the application of environmental, social, and governance (ESG) criteria in the financial sector decision-making process, and mobilize more investments for the transition toward a green economy.

First, the document undertakes a holistic mapping of the Colombia green finance landscape with regard to the relevant stakeholders and the relevant types and volumes of finance, as well as current and planned financial policies, regulations, and standards. Second, it aims to identify the challenges that prevent increased green capital flow, and discusses how these might be overcome.

The consulting team, integrated by conTREEbute (sustainability agency), Carlos Flórez (independent financial expert), and Veronorte (merchant bank focused on shared value investment opportunities), conducted more than 38 interviews with the heads of relevant institutions in the financial sector, specifically private pension funds, private equity funds, insurance companies, commercial banks, development banks, asset managers, financial associations, government and regulatory agencies, and private standard setters, underpinned by desktop research based on public information sources.

Green finance definition

For the purpose of this document, the definition of green finance given by Kaminker, C. et al. (2013), "Institutional Investors and Green Infrastructure Investments: Selected Case Studies," will be the central concept:

> *"(…) Green investments refer broadly to low carbon and climate resilient investments made in companies, projects and financial instruments that operate primarily in the renewable energy, clean technology and environmental technology markets as well as those investments that are climate change specific or ESG screened."*

> *"In terms of the OECD's Green Growth Strategy, these would include energy-efficiency*

projects, many types of renewable energy, carbon capture and storage, nuclear power, smart grids and electricity demand side-management technology, new transport technologies (electric vehicles), floodplain levees and coastal protection as well as sustainable agriculture and water infrastructure."

The terms "sustainable" and "green" finance will be used interchangeably in this document, understanding that green refers to not only environmental issues, but also social and corporate governance issues. Although there is a marked emphasis on environmental challenges in this document given its initial scope, there are references to social and corporate governance challenges, and the findings of this mapping exercise broadly apply to sustainable development challenges.

Analytical framework

Based on the analytical framework proposed by Kaminker, C. et al. (2013), "Institutional Investors and Green Infrastructure Investments: Selected Case Studies," the challenges and potential solutions identified during the interview process will be framed in three main categories:

Challenges or solutions	Definition
General	These are challenges or potential solutions that relate to the general Colombian investment and financial ecosystem, and that have effects on investing in any kind of company, project, or financial instrument.
Specific to green finance	These are challenges or potential solutions that relate specifically to the green finance ecosystem in the country, and that have a direct effect on green investments, whether projects, companies, or financial instruments.
Related to environmental, social, and governance (ESG) methodologies	These are challenges or potential solutions that relate specifically to the green finance ecosystem in the country, and that have a direct effect on integrating environmental, social, and governance (ESG) criteria in the investment or financing decision.

Source: Based on Kaminker, C. et al. (2013). Own definitions.

Main results

The interviews and the desktop research in this project evidenced the prevalence of a short-term focus in the decision-making process, low market capitalization, and the market signals being provided by the current regulatory framework as being among the main challenges on green finance being faced by the Colombian financial system. These are compounded by the lack of standard definitions around green finance, insufficient clarity around environmental impacts (positive or negative), the absence of a robust green investment pipeline, and gaps in capital market innovation. Moreover, the research identified the unavailability of standardized methodologies to assess ESG criteria, and the limited awareness and capacity of financial practitioners on their implementation, as a significant barrier to including ESG considerations in risk management frameworks and investment decision-making processes.

A broad range of solutions were proposed by the interviewees to address these challenges ranging from designing and promoting attractive market signals (certifications, seals, etc.) to strengthening financial institutions' disclosure requirements around their green investment performance. Other solutions identified included the need for strengthening long-term vision in financial institutions, promoting

transformational leadership from leading institutions, establishing standard definitions for green finance, providing incentives and information sources for financial institutions that promote green finance, and focusing capital market "green" innovation on collective investment funds, private equity, Exchange-Traded Funds (ETFs), and green bonds. Requiring implementation of standardized methodologies and tools, supported by permanent education and communication for practitioners, including the formation of specialized teams with specific ESG capabilities will help embed these criteria into investment decision-making.

In general, the evidence shows that there is a robust policy framework that can foster green growth and stimulate the participation of the private sector, including the financial private sector. In the latter, evidence shows general awareness and interest toward the country's sustainable development challenges. The most relevant players in the financial system understand the implications of these challenges and envision an active role of their institutions. However, there is still a gap between the magnitude of these challenges and a relatively low level of implementation of decisive measures from the private financial sector that aim toward a transition to a greener, more inclusive economy. This situation can stem from the fact that there has not been any relevant social or environmental issue that causes a negative impact either reputational or operational, thus creating a sense of urgency and forcing the financial system to autonomously take more decisive measures.

On the other hand, there are several key initiatives from financial sectors, especially in commercial and development banks, that are showing good practices for the entire financial system and evidence an opportunity to find potential paths toward this complex, but necessary transformation. In particular, this opportunity reflects the potential to better manage long-term sustainability risks, mobilizing capital at the necessary scale, and strengthening the market infrastructure.

Regarding the management of long-term sustainability risks, this includes the increased exposure to oil and gas financial assets, the stranded assets risk, and the exposure to physical impacts that could increase the potential for non-performing loans, and increased exposure for the insurance sector. From the scale perspective, the large infrastructure investment plans, mainly the fourth generation (4G) infrastructure plans, create an opportunity to mobilize capital at the necessary scale, suggesting the clear need to ensure that these investments are not exposed to the long-term risks highlighted above, and can contribute to adapting or mitigating the economic system to the sustainable development challenges. From the market infrastructure perspective, the country has a unique opportunity for implementing standards and methodologies for risk assessment, disclosure, and transparency, among others, which help shift the transition toward green finance without necessitating a regulatory intervention.

Finally, drawing on experience from other countries, four additional levers have been identified that can drive transformations in the financial system: i) Exemplary leadership: leading institutions can demonstrate the benefits of green finance; ii) Real sector crisis: major natural or industrial disasters linked to environmental or social issues can focus the attention of investors and civil society; iii) "Policy entrepreneurship": this approach can replicate policy innovations across financial subsectors and consolidate them in a broad national green finance strategy; and iv) Multilateral institutions requirements: large infrastructure projects often involve multilateral institutions that require compliance with rigorous approaches to social and environmental risks that can spill over to the financial institutions and the real sector.

The results of this project, its consultations, and its analysis are intended to provide a platform for holding a convening with relevant stakeholders, and to initiate a cross-sector conversation in the financial system around barriers and opportunities to strengthen green finance in Colombia from a regulatory and operational perspective

2 ECONOMIC AND ENVIRONMENTAL CONTEXT AND GREEN GROWTH POLICIES IN COLOMBIA

This chapter outlines the economic development and environmental context in Colombia as the broader framing for detailing the policy developments being introduced to drive a long-term transition toward a sustainable, low-carbon, and resilient growth path.

Development and growth challenges

Colombia is one of the most dynamic emerging economies in the world. Its GDP has grown at an average rate of 4.7 percent (2003-2013), foreign direct investment has grown by a factor of 10 in the last 10 years, and the inflation rate has decreased below 4 percent for the last five years,

The current National Development Plan (2014-2018), in process of approval, is based on three strategic pillars: Peace, Equality, and Education. This Plan also states six crosscutting strategies: Competitiveness and Strategic Infrastructure; Social Mobility; Rural Transformation; Security, Justice, and Democracy for Peace Building; Good Governance; and Green Growth. The investments considered in this Plan amount to an estimated of $350 billion. Some of the main goals proposed in the Plan comprise:

Goal	Baseline 2014	Goal 2018
Homicide rate *	27.8	23
Armed conflict victims (collective and individual) that have advanced toward a reparation process	395,902	920,210
Rural poverty	42.8%	36.0%
Social breaches in armed conflict municipalities	38.6%	28.8%
Investment as GDP %	28.8%	29.5%

Source: National Development Plan (2014-2018)

*Homicides per hundred thousand inhabitants.

These goals proposed in the National Development Plan are aligned with the Medium-term Fiscal Framework[7] elaborated by the Ministry of Finance, which analyses previous macroeconomic and fiscal results, and describes the projections for future behaviour on the main macroeconomic variables and expected fiscal results for the years 2015-2025.

Colombian economic policy and forecasts are based on three fundamental principles. The first one is keeping an open market economy that allows the country to benefit from international commercial agreements, enhance productivity, and increase potential economic growth. The second one is having a state that promotes equality and competitiveness, provides efficiently public goods, and eliminates market failures. The third one is providing macroeconomic stability that manifests itself with steady growth, low inflation, financial stability, and consolidation of fiscal balances.

Forecasts incorporate, as an assumption, that economic growth in the period 2015-2025 will average 4.8 percent, in line with the estimations of potential GDP, boosted by the infrastructure investment plan known as Fourth Generation (4G) – a plan that aims to upgrade more than 8.000 kilometers of roads, with a budget of $23.4 billion,[8] implemented through private-public partnerships (PPP) and that aims to improve Colombia's competitiveness. It also assumes inflation rates in the middle of the range established by the Central Bank (2 percent to 4 percent), oil prices of $97 per barrel, and coal prices of $80 per ton.

For 2014, the current account deficit is expected to reach 3.6 percent of GDP, increasing from 3.4 percent in 2013. This number is expected to decrease to 2.9 percent in 2025, averaging 3.2 percent in the period 2015-2025, which would imply that the current account financing need would be around $12 billion annually.[9] The Government estimates this deficit will be financed by a surplus in the capital account, which is expected to stabilize at 3.4 percent of GDP for this period, in line with the present levels of Foreign Direct Investment (FDI) that reached $16.7 billion in 2013.

However, economic growth and financial stability projections face long-term challenges that stem from sustainable development issues, with environmental issues being an important element. For example, financial planning in the Medium-term Fiscal Framework takes into account exposure to some environmental risks. Realized environmental risks include $990 million as contingent liabilities for lawsuits related to damages caused by the "La Niña" phenomenon. Plaintiffs in these cases claim to have incurred losses of $2.12 billion and demand such compensation. This fiscal risk accounts for 1.8 percent of total claims against the nation. At the same time, contingent liabilities for the 4G infrastructure projects, which include possible social and environmental compensations, are accounted for $890 million. Furthermore, the Adaptation Fund, which fosters economic recovery projects in the areas affected by "La Niña," will have additional resources of $3.81 billion in 2014-2018.

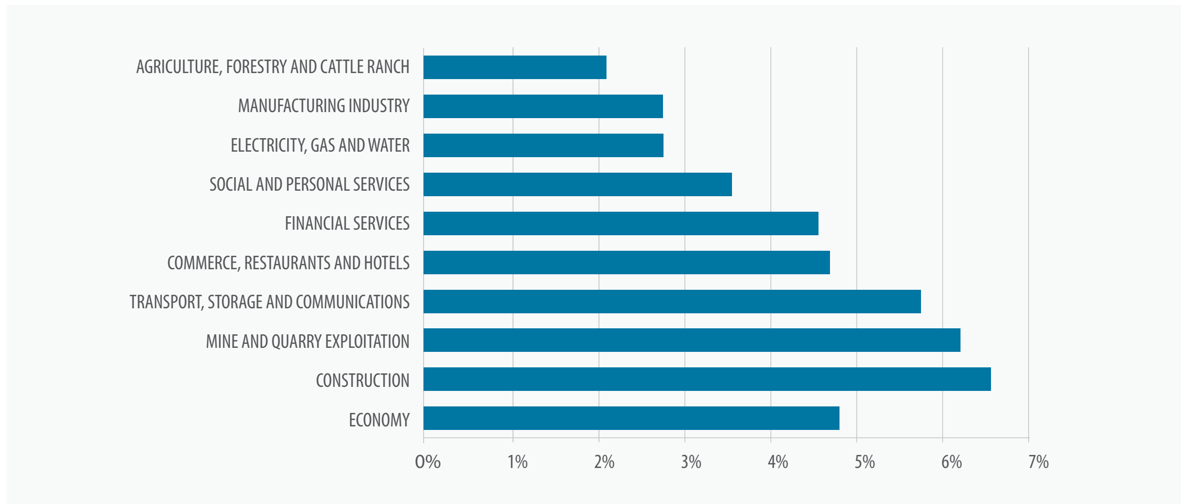
Moreover, the National Development Plan 2014-2018 indicates that the Colombian economic model is unsustainable, based on the World Bank net adjusted savings index, as a measure of the real savings rate after considering natural resource depletion and potential harm to the environment. According to the National Development Plan 2014-2018, "Colombian economy is more intensive in the use of natural resources than the average OECD countries, with pressures over natural resources by extractive industries, extensive livestock, urbanization and transportation systems,"

For the purposes of this report, three types of specific environmental challenges for the Colombian economy will be outlined, related to fossil fuel dependency, GHG emissions, and extreme weather events.

Challenges related to fossil fuel dependency:

When analyzing the performance of the different sectors of the Colombian economy during the period 2003-2013, the activity "Mine and quarry exploitation," composed of oil, gas, coal, and minerals extraction, showed an average growth of 6.2 percent per annum, the second biggest figure among nine sectors. The economy as a whole expanded at an average annual pace of 4.8 percent.

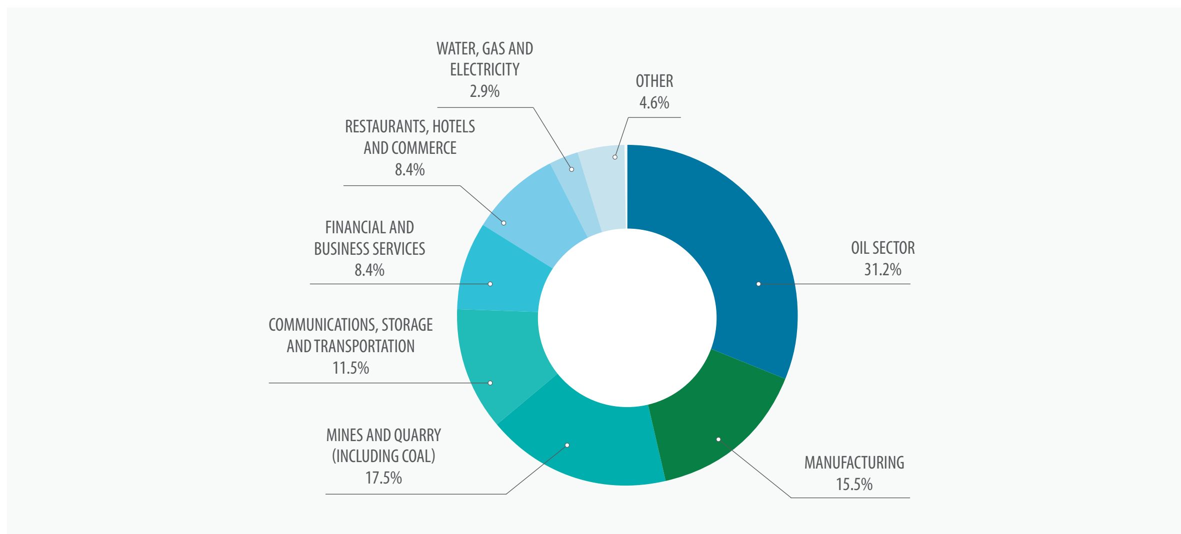
FIGURE 1. ECONOMIC GROWTH BY SECTOR. 2003-2013



Source: Banco de la República. Own calculations.

Moreover, activities such as oil sector, mines and quarry (including coal) account for nearly 48 percent of total Foreign Direct Investment (FDI), which indicates a strong focus of foreign capital on extractive activities.

FIGURE 2. PERCENTAGE DISTRIBUTION OF FDI BY SECTOR (2013)



Source: Procolombia. Quarterly Report on FDI. Third Quarter 2013.

Nonetheless, the Colombian oil and gas sector is facing complex times, due mainly to the drastic world price reduction and uncertainty about additional flows of investment to support its growth.

As stated by the Asociación Colombiana de Petroleos (ACP) in November 2014, "the tendency of organizations over this panorama [of low oil prices] could be, on top of cuts in operational spending, prioritization of growth projects or sustaining production in order to maintain cash flows that allows them to keep operations within the country." In fact "some oil enterprises have already considered reductions of investments for 2015 of up to 40%" (ACP, November 2014).

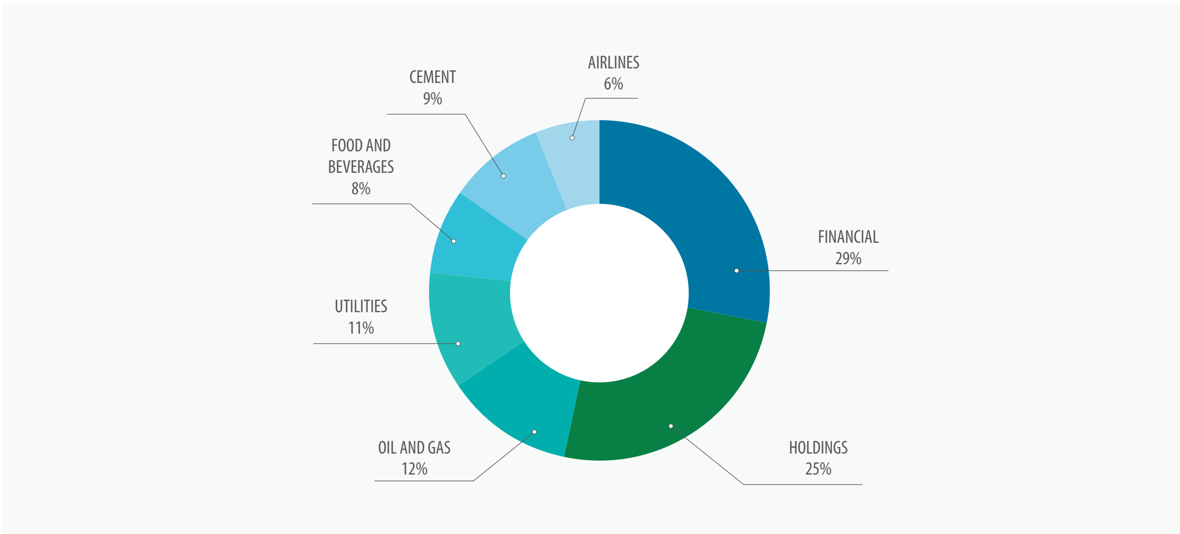
Additionally, Central Bank announced a 3.7 percent decrease of FDI in the first trimester of 2014 compared to the same period in 2013, mainly due to lower capital flows toward the oil and mining sector; in the

National Hydrocarbon Agency (ANH in Spanish) oil round in 2014, 95 exploration areas were offered but there were bids for only 27, being the lowest number of bids ever.

One sign of the potential risk that this situation brings is the significant weight of oil and gas companies in the main stock index of Colombia, named COLCAP, a market-capitalization weighted index that includes the 20 most liquid stocks listed in the Colombian Stock Exchange.[10]

By the end of 2013, the oil and gas companies (Ecopetrol, Pacific Rubiales, Canancol, and Petrominerales) represented 25.2 percent of the total. By the end of 2014, the steep decline in the price of oil significantly drove down the market capitalization of companies in the oil and gas sector, which slashed their participation in the index to 11.9 percent. Since Colombia has no control over oil barrel prices, the country is dependent on the behavior of other countries' production, thus increasing market volatility.

FIGURE 3. COLCAP INDEX BY SECTORS. IV QUARTER 2014



Source: Bolsa de Valores de Colombia. Canasta Colcap (2014)

Additionally, the stranded assets debate remains a latent risk for financial system. Public and private financial institutions continue allocating capital to the fossil fuel industry, increasing the companies' share prices and assuming the proven and estimated reserves will be cost-effectively extracted, used, and sold. However, assuming the precautionary principle is to be put into action and the politically agreed upon 2°C maximum increase in the earth's surface temperature target is to be met to stop major climate change, most oil, gas, and coal reserves must be kept untouched. "Globally, a third of oil reserves, half of gas reserves and over 80 percent of current coal reserves should remain unused from 2010 to 2050 in order to meet the target of 2°C," according to Christopher McGlade and Paul Ekins.[11]

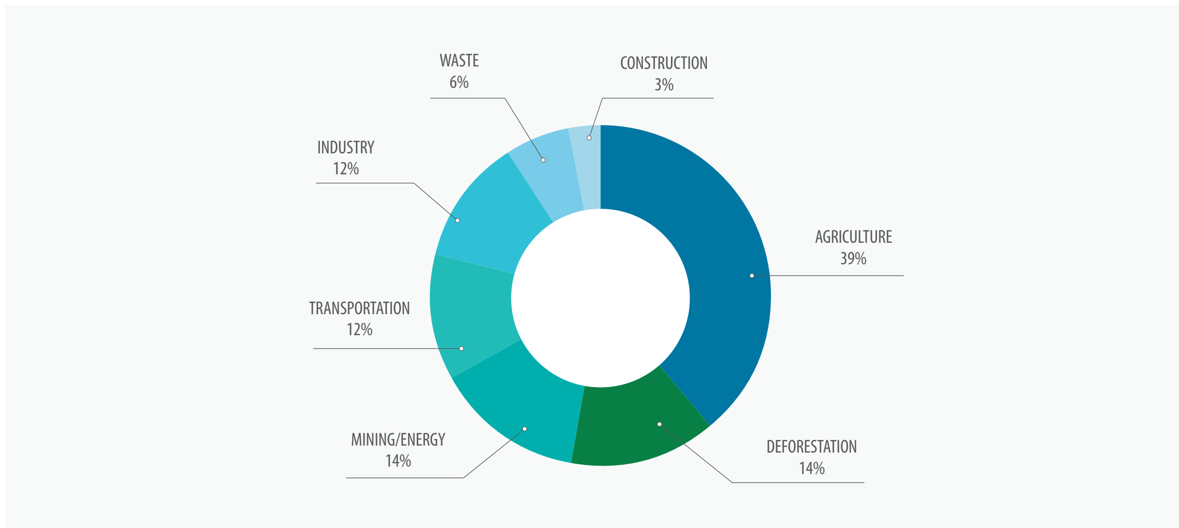
If these reserves are kept uncommercialized, they will turn into stranded financial assets, presenting an uncalculated risk for the capital market. If, on the contrary, these reserves are exploited, climate change and its ramifications will pose a serious risk for the country and the world.

As shown before, dependency on fossil fuels not only creates a risk for the economy, as a direct effect of the market volatility, but also poses an indirect risk as "continuous emissions of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems," as the Intergovernmental Panel on Climate Change (IPCC) has stated in its 2014 Synthesis Report.

Challenges related to greenhouse gas (GHG) emissions:

Colombia is the 117th country with the highest GHG emissions and is responsible for 0.21 percent of global GHG emissions. This rate is one of the lowest in Latin America and the Caribbean, the country ranks as 51st in terms of the highest GHG emissions per capita. The main sources of GHG Emissions, as shown in the following figure, are agricultural activities, deforestation, mining and energy consumption, industrial activities, and transportation.

FIGURE 4. GHG EMISSIONS BY SECTOR



Source: Ministry of Environment. ECDBC, 2014.

Moreover, Colombia's total primary energy consumption per dollar of GDP (Btu per year 2005 in U.S. dollars/market exchange rates) exceeds by 7 percent that of the United States and by 9.6 percent that of Australia, two of the most polluting countries[12], meaning that Colombia is a low carbon emitter, but has a carbon intensive economy.

Challenges related to extreme weather events

Colombia has a high frequency of extreme weather events and an increasing incidence of climate related emergencies[13]. During the last 40 years, natural disasters in Colombia have caused $7.1 billion (1.88 percent of GDP)[14] in losses, which means an average loss of $177 million per year. "Between 1970 and 2011, there have been 28,000 registered disastrous events; 60 percent of these have been reported in the last decade. Moreover, during the period of 2010 and 2011, one fourth of the last decade's disastrous events and deaths caused by natural events were registered"[15].

The Ideam (Institute of Hydrology, Meteorology and Environmental Studies) has undertaken various analyses of data from 600 meteorological stations about the variability of weather starting in the year 1971, from when it has identified a linear increase in average temperature and in extreme weather events.[16] "One of the biggest impacts of climate change is the risk of disasters. Colombia is the Latin American country with the most disasters each year, without counting earthquakes and volcanoes, but climate risks: drought, floods, heavy rains and all that is happening in Colombia (...)"[17]

As shown by the National Development Plan of 2010-2014 with the support of the World Bank, 85 percent of the productive systems in Colombia are located in areas vulnerable to desertification, 48 percent of

the territory is susceptible to erosion, and 28 percent of the country's population lives in areas under high flooding potential.[18] As an example of the diversity in weather change that the same region in Colombia can experience is the Valle del Cauca Basin case. In the lower regions of this basin, there has been an average increase of 0.1 days per year that exceed 50 mm of rainfall, whereas in higher regions of the same basin, there has been an average decrease of 0.3 days per year that exceed 50 mm of rainfall.[19] Such variation in weather conditions in the same region exemplifies the vulnerability of Colombia to weather events and its increasingly unpredictable nature.

Additionally, Colombia experiences a bimodal meteorology characterized by rainfall, with each region experiencing a rainy season at particular months lasting for different periods of time and a common weather event every three to six years named ENSO (El Niño-South Oscillation), causing extreme weather for months throughout the country. Due to the country's geographic position, Colombia experiences direct impacts from this phenomenon as seen in 2011, when La Niña affected 3.2 million people, and 2,390 people died. It caused $4.9 million in losses, the closing of 80 roads, and the reduction of the economy by 0.12 percent of the national 2010 GDP, which had been estimated to grow by 4.43 percent before La Niña took place.[20]

Moreover, as reported by the National Planning Department, during the 2006-2009 to 2010-2013 period, the natural disasters linked with hydro-meteorological causes increased from 4,286 to 8,504, and the number of affected families increased from 4.4 million to 6.4 million respectively, which states the vulnerability of the Colombian population to natural events and the importance of a serious climate change adaptation plan.

In the last 60 years, a process of rapid urbanization has occurred. Just 60 years ago, 39 percent of Colombians were living in urban areas. In 2011, this figure was 74 percent.[21] Furthermore, 30.6 percent of the country lives in poverty and 9.1 percent in extreme poverty[22], which represents people living in places most prone to disasters and less prepared to sustain future changes. In fact, 84.7 percent of Colombia's population lives in zones exposed to two or more natural threats.

This weather condition also poses a challenge for the Central Bank mandate to keep low and stable inflation rates, because it has created an increasing volatility for the consumer price index, coming mainly because of the weight of the agricultural sector (nearly 30 percent) in the overall result. The exposure of the country to ENSO and natural disasters has led in the past to a shortage of agricultural products, with an important impact on the price level in the whole economy. Due to the short-term and cyclical development of this phenomenon, there is an increasing level of awareness of this challenge for the economy.

In conclusion, the previous sections show that the Colombian economic growth path may be facing difficulties and need to be balanced with environmental concerns. Fossil fuel dependency, GHG emissions, and extreme weather events have the potential to harm long-term growth. The level of awareness about these issues is being undertaken in several government agencies and is reflected in the overall Colombian policy framework. The next sections present the policy developments being introduced to drive a long-term transition toward a sustainable, low-carbon, and resilient growth path.

Longer-term development policy frameworks

Policies are essential to provide a shift toward green growth. They provide frameworks, structure, and concrete action plans to prepare and enable conditions to guide the transformation of the economic system. The Colombian Government has implemented three kinds of long-term development policies: strategic policies, operational policies, and specific incentives.

Strategic policies:

OECD Declaration on Green Growth

In 2012, Colombia signed the OECD Declaration on Green Growth, in which countries commit to pursue a strategy of green growth and green investments, and encourage the sustainable management of natural resources, reforming subsidies and price signals in the long term, liberalizing trade in environmental goods and services, and promoting green growth in partner countries through international cooperation.

National Development Plan 2014-2018

In October 2014, the Colombian Government released the basis for the National Development Plan 2014-2018 (PND 2014-2018 in Spanish). This plan, which is still currently under negotiations, states the objectives and methodologies to accomplish, during the next four years, on the matters of peace, eradication of extreme poverty, education, infrastructure, agriculture, and sustainability.

Considering Colombia's vulnerability to environmental challenges, one of the topics explicitly mentioned in the Plan is the crosscutting strategy of green growth. In this chapter, the government recognizes it is undergoing environmentally unsustainable economic growth due to the intensive use of natural resources exercised primarily by the extraction industry, extensive livestock grazing, a high rate of urbanization, the age of the transportation fleet, and its high use of roads through the country.

This plan formulates three medium-term objectives:

1. Advance with sustainable, low-carbon growth.
2. Protect and assure a sustainable use of natural capital and improve environmental quality.
3. Achieve resilient growth and reduce vulnerability from disaster risk and climate change.

In PND 2014-2018, green growth is defined as "an approach that tends for a sustainable development that ensures long-term economic and social wellbeing of the population, ensuring that the source of resources can provide environmental goods and services the country needs and that the natural environment can be capable of recovering faster than the impacts of the productive activities." This plan is an important step in the right direction, because it is already approaching the growth and environmental challenges at a country level, with the involvement of the economic planning agencies of the government.

Operational policies:

Colombian Low-Carbon Development Strategy

In 2011, the DNP developed the Institutional Strategy for the Articulation of Policies and Actions Related to Climate Change (CONPES 3700) through which the National System for Climate Change (SISCLIMA) was created in order to assemble and guide other climate change initiatives such as the Colombian Low-Carbon Development Strategy (in Spanish "Estrategia Colombiana de Desarrollo Bajo en Carbono" - ECDBC), the National Strategy of Emission Reduction by Deforestation and Degradation (ENREDD+), the Disaster Protection Financial Strategy (EPFD), and the National Plan for Climate Change Adaptation (PNACC). These organizations are already established and active, moving forward the CONPES 3700.

According to the ECDBC, if Colombia increases by 15 percent the use of renewable sources of energy by 2030, there could be annual reductions of 9 MtCO2eq or 51 percent of GHG emissions over the business-as-usual projections for 2030. The implementation of types of transportation to balance the dependency on roads, complemented by a renovation of the cargo fleet, could also have the potential to reduce an additional 2.5 MtCO2eq annually.[23]

During 2013, Behrentz et al. performed a study of abatement cost curves[24] in order to examine the cost of reducing carbon dioxide emissions per sector. The study's main conclusion was that "50% of potential mitigation actions analyzed correspond to negative costs" where "most of the measures used in the project are conservative in scope and based on options and technologies available in the market. Mitigation potentials in each sector resulting from the application of the evaluated options vary between 10% and 50% of cumulative emissions over the period 2010-2040."

The development of a Sectorial Action Plan (PAS in Spanish) for every economic sector has been based on the referred study to clearly identify sectorial mitigation priorities and means of implementation so as to facilitate their integration into sectorial planning and the National Development Plan. Specific actions within the PAS called Nationally Appropriate Mitigation Actions (NAMAs) have also been formulated in order to promote tools and actions that guide the country toward a low-carbon economy and a better adaptation to the global dynamics of climate change. The national portfolio of PAS and the national portfolio of NAMAs are shown in the tables below.

TABLE 1. PAS PORTFOLIO

Responsible Ministry	PAS	Status
Ministry of Transportation	• Transportation PAS	Approved
Ministry of Mines and Energy	• Mines PAS • Electrical Energy PAS • Hydrocarbons PAS	Approved
Ministry of Housing, City and Territory	• Housing PAS • Solid Waste and Waste Water PAS	Approved
Ministry of Agriculture and Rural Development	• Agricultural PAS	Formulated
Ministry of Commerce, Industry and Tourism	• Industry PAS	Formulated

Source: Colombian Low-Carbon Development Strategy (2014).

TABLE 2. NAMAS PORTFOLIO

Sector	NAMA	Status	Responsible Agents
Transportation	Urban transportation	Identified	PMR, MT, MADS
	Transit-Oriented Development (DOT in Spanish)	Under formulation	MVCT, MT, MADS, NDP, Findeter, CCAP
	Load Transportation	Under formulation	MT, GIZ
	Non-motorized transportation	Identified	MT, GIZ, Transfer
Energy	Domestic refrigerators substitution	Under formulation	CAF, MADS, ANDI, CCAP, MME, UPME
	Energy efficiency in Public illumination	Pre-formulation	Findeter, BID, UNAL, UPME, MME
	Energy efficiency in hotels	Pre-formulation	MADS, Perspectives Bancoldex
	Public constructions	Identified	UPME, GIZ
	Power ZNI (Non-interconnected zones in English) with renewable energy sources	Under formulation	IPSE, MME, UPME, Carbon Trust
	Thermal Districts	Identified	MADS, EPM, Switzerland Cooperation
Hydrocarbons	Hydrocarbon Sector	Identified	Ecopetrol
Industry	Steel Mill	Under formulation	MADS, MCIT, PTP
	Metalworking	Under formulation	MADS, MCIT, PTP
	Brickyard NAMA	Identified	CAEM, MADR
Wastes	Solid Wastes NAMA	Under formulation	MVCT, MADS, CCAP
Housing	Sustainable Housing	Pre-formulation	MVCT, USAID, GIZ
Forestry	Forestry NAMA	Under formulation	MADS
Agriculture	Panela NAMA - Energy efficiency improvements in trapiches	Pre-formulation	FEDEPANELA, MADS, MADR
	NAMA coffee landscapes	Pre-formulation	PNUD, FEDECAFE, MADS, MADR
	Fruit trees and land use NAMA	Identified	MADR, CIAT
	Sustainable livestock and forest livestock systems	Identified	Forest Livestock Projects (Proyectos Silvopastoriles)

Source: Colombian Low-Carbon Development Strategy (2014).

Responsible agents: MADS – Ministerio de Ambiente y Desarrollo Territorial de Colombia, MVCT – Ministerio de Vivienda, Ciudad y Territorio de Colombia, CCAP – Center for Clean Air Policy, PTP– Programa de Transformación Productiva, CAEM – Corporación Ambiental Empresarial, CIAT – Centro Internacional de Agricultura Tropical, MADR– Ministerio de Agricultura y Desarrollo Rural de Colombia, EPM – Empresas Públicas de Medellín, PMR – Partnership for Market Readiness, MME – Ministerio de Minas y Energia de Colombia, GIZ – German Cooperation Agency, MCIT – Ministerio de Comercio, Industria y Turismo, IPSE – Instituto de Planeación y Promoción de Soluciónes Energéticas par alas Zonas No Interconectadas., UPME – Unidad de Planeación Minero Energética, ANDI– Asociación Nacional de Empresarios de Colombia

Intended National Determined Contributions (INDC)

Countries around the world have committed to build a new international climate agreement at the Paris Climate Summit in December 2015 under the United Nations Framework Convention on Climate Change (UNFCCC). For this summit, countries have agreed to outline national commitments so as to move forward to a low-carbon economy and prevent a higher than 2°C rise in the earth's surface temperature. These commitments, named Intended Nationally Determined Contributions (INDCs), will form the basis for the 2015 agreement and apply to all countries, developed and developing. Colombia is in the process of building its own INDCs based on baseline and projections studies, abatement curves, MAPS, NAMAS and the ECDBC.

SISCLIMA Financial Committee

In 2011, the National Planning Department (DNP) developed the Institutional Strategy for the Articulation of Policies and Actions Related to Climate Change (CONPES 3700) through which the National System for Climate Change (SISCLIMA) was created. The SISCLIMA has a Financial Committee that recommends climate change national financial strategies. This committee is made up of the National Planning Department (DNP) and its Sustainable Environmental Development Department, Ministry of Environment, Ministry of Foreign Affairs, Ministry of Finance, the Adaptation Fund Management, and the Presidential Cooperation Agency (ACP). This committee is working on creating institutional capabilities, in the private and public sector, to finance climate change mitigation and adaptation actions. Some of its most relevant initiatives are preparing the country to apply for Green Climate Fund (GCF) financing and the partnership with the financial system, mainly commercial banks, through Protocolo Verde (which will be explained in more detail) to coordinate actions between public and private initiatives.

Adaptation Fund

After the evidence of the Colombian vulnerability toward climate change raised by the economic, environmental, and human losses caused by the La Niña phenomena of 2010-2011, the Adaptation Fund was created. The Fund is intended to finance the construction, reconstruction, recovery, and economic and social reactivation of the sectors affected by the 2010-2011 La Niña phenomenon, with mitigation and risk prevention criteria.

Between July 2011 and February 2012, the Adaptation Fund received nearly 900 projects for an estimated $18.5 billion, but had an estimated available budget of $4.5 billion from the government. In the prioritization process, the Fund selected 29 projects in seven areas, including four macro-projects in the risk mitigation area, according to an urgency and impact methodology specifically designed for this purpose.

Areas	**Budget ($Millions)**
Housing	1,059
Transportation	1,055
Water systems	265
Education	333
Economic Reactivation	239
Environment	184
Risk mitigation	1,316
Operational expenditures	17
Crosscutting resources	29
Total	**4,496**

Source: Adaptation Fund Annual Report 2014.

It is worth noting the specific budget allocated for "Environment" line. According to the Adaptation Fund 2014 Report, these resources will be directed to update the management and zoning plans for water sources, moorland delimitation, wetland delimitation, soil and water sources protection and restoration, and a hydro-meteorological alert system.

National Green Business Plan (NGBP)

The Ministry of Environment and its Green Business Office (GBO) recently published the National Green Business Plan (NGBP), which serves as a strategy to guide for decision makers interested in participating in green investments and attract those unfamiliar with the economic drivers of these projects.

Green businesses are defined as "goods or services that generate positive environmental impacts and also incorporate sound environmental, social and economic practices, with a focus on product lifecycle, helping to preserve the environment and natural capital that supports the development of the territory."[25] As pointed out by GBO, there is a lack of robust information systems or tools that can monitor investments in green business, limiting the information about the number of green investments being made, flows of capital, impacts of these on the natural environment and the economy, as well as information about responsible investors.

The GBO is working on a new platform called the "Green Business Portal" to unify the information about green projects from private and public sources, according to the National Green Business Plan definitions. According to the Green Business Office, this database is an adaptation from the Investment Gateway (IG) developed by the United Nations Conference on Trade and Development (UNCTAD) and aims at having a robust platform where all the information about green projects, from the institutional framework to their implementation and monitoring, will be available.

Specific incentives:

Framed in the strategic and operational policies, the government has created specific incentives for green projects or investments in three general categories:

TABLE 4. INCENTIVES FOR GREEN PROJECTS

Instrument		Description and Legal Framework
Economic	Eco-Certificate	Ecological certificate to products with good environmental performance. Resolution 1555/2005. Establishes the Guidelines for Using the Colombian Environmental Seal for the promotion of products that can reduce adverse effects, compared with other products in the same category, thus contributing to an efficient use of natural resources and a high protection of the environment.
	CDM (Clean Development Mechanism)	Possibility of generating certificates of emission reduction or GHG capture with a profit that meets Kyoto Protocol requirements. Resolution 551/2009 adopts the requirements and establishes national approval process for projects currently in operation in Colombia to reduce emissions of greenhouse gases that are eligible for the Clean Development Mechanism.
	CIF (Forestry Incentive Certificate)	Economic recognition granted by the state for protective/productive reforestation. Act 139 of 1994 creates the Forestry Incentive Certificate (CIF) as recognition by the state for the positive externalities of reforestation in both environmental and social benefits. Its purpose is to promote the realization of direct investments in new productive/protective forest plantations. Decree 1824 of 1994 determines the reforestation project cost and amount of CIF.
	Incentive for Forest Conservation Certificate	Economic recognition granted by the state to landowners (public or private) for the conservation of natural forest. Decree 900 of 1997 regulates the forestry incentive for conservation, established by Law 139 of 1994 and paragraph of Article 250 of Act 223 of 1995, for areas where there are natural forest ecosystems with little or no intervention.
	Payment for Environmental Services	A voluntary transaction with an approach to conservation targeting. It aims to transfer positive incentives to providers of environmental services. (Sommerville et al, 2010)
Tax Related	VAT (Value Added Tax) Reductions	Decree 2332 of 2001. The acquisition of equipment and systems necessary for environmental control and monitoring, import of equipment for the treatment and recycling of waste and wastewater, projects that reduce greenhouse gas emissions, and equipment needed to convert vehicles to natural gas will incur no Value Added Tax. The savings for entrepreneurs is 16 percent of the value of the purchase of the equipment. Articles 424-5 and 428-f, of the Tax Code
	Income Tax Reduction	It is possible to deduct the value of the investment in environmental control and improvement from the settlement basis income up to an amount not exceeding 20 percent of net income. The savings can reach up to 6.8 percent of total income tax in a year. Tax Code, Articles 157 and 158 #2, 207 #1 and 5: The sale of wind energy, which also generates greenhouse gas reductions for the international carbon market, and revenues from ecotourism services, do not pay tax income on profits. The savings is 34 percent of the income that will no longer pay tax. Note: The tax benefits related to VAT require a certificate issued by the Ministry of Environment and Sustainable Development; the certification must be issued in the Regional Autonomous Corporation (CAR), Urban Environmental Authority or the Ministry, subject to each case.
	Property Tax Exemption for Conservation	Property tax exemption for properties with natural forest cover.
Research and Development (R&D) Incentives	Project Financing from National Royalties Fund resources	Royalties Advisory Council approved the Agreement 029 of 2010 to finance investment projects of CTI. These should be directed to regional development and benefit local authorities, as stated in Article 28 of Law 1286 of 2009. There will be funding for applied basic investment and experimental development projects, projects of technological and social innovation, the creation and strengthening of regional research units, and regional training programs for human talent for CTI support. Colciencias, as the governing body of public R&D, will be responsible for these projects under previous submission for approval by the Royalties Advisory Council. Although agreements primarily benefit local authorities, partnerships between research centers, businesses, and public entities are also promoted.

Source: Ministry of Environment. NGBP, 2014

The Colombian Tax Code deserves a specific mention in this section. This Code defines green investments that are subject to tax incentives. The article 2 in Decree 2532 of 2001 defines environmental control systems, environmental monitoring systems, and environmental programs in the context of the Tax Code as follows:

> *"(…) 2. Environmental control systems: It is the ordered set of equipment, elements, or machinery whether imported or national, used for the development of actions that aim to achieve measurable and verifiable results in diminishing the demand of renewable resources, or prevention and/or reduction in the volume and/or the improvement in the quality of liquid waste, atmospheric emissions or solid waste. The control systems can happen within the productive process or activity, which is defined as environmental control from the source, and/or at the end of the productive process, which is defined as environmental control at the end of the process."*

It is worth noting that, according to OECD, only environmental related tax benefits amounted to 0.7 percent of GDP and 3.7 percent of total tax revenues in 2011.[26] Also according to the National Statistics Management Department (DANE by its acronym in Spanish) (2012), industrial establishments obtain environmental tax benefits (Decree 3172 of 2003 for income reduction and Decree 2532 of 2001 for VAT reductions) for $12 million.

Following the general policy framework and challenges of environmental issues for the economy, the next section presents, at a country level, the flow of environmental protection investments and expenditures undertaken by the public and private sectors, and the general financing needs to develop a green growth strategy. The financial system plays a central role in order to irrigate resources to fulfill those needs.

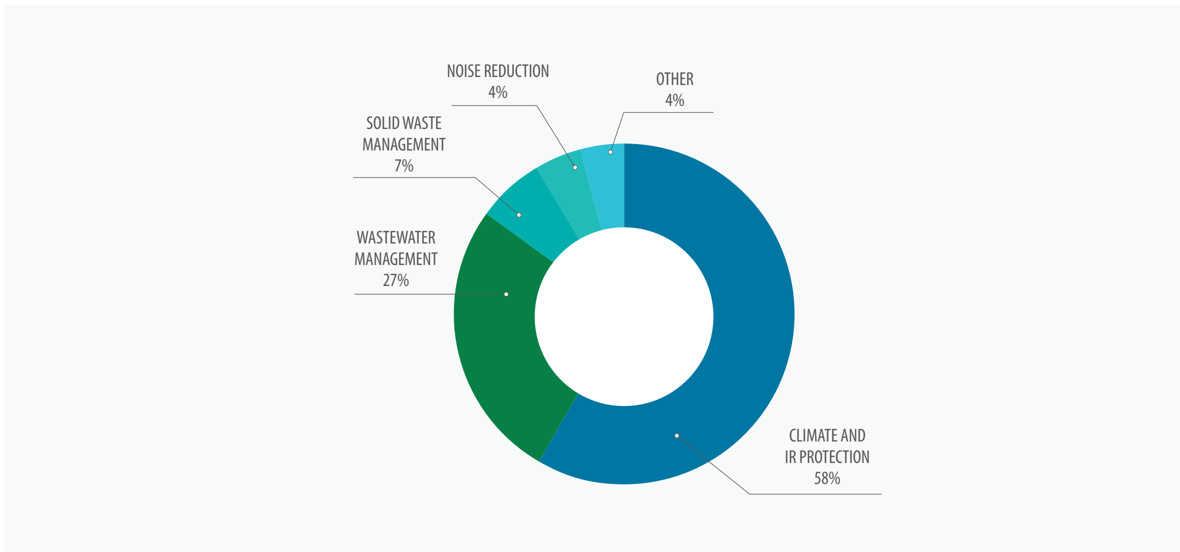
Environmental Investments and Financing Needs

The National Statistics Management Department (DANE by its acronym in Spanish) is the national responsible entity for planning, compiling, gathering, analyzing, and making public Colombian official statistics. One of the surveys undertaken by the DANE is the Industrial Environmental Survey (Encuesta Ambiental Industrial) to gather information from investments, costs, and expenditures related to environmental protection, solid waste generation, and water management, and the manufacturing industry's environmental management instruments. The last published Industrial Environmental Survey was developed in 2013, referring to data from 2012 and interviewing 2,777 industrial establishments out of 11,126 in Colombia.[27]

In the survey, environmental protection activities are defined as "activities directed towards prevention, reduction and elimination of contamination and other environmental degradation effects."[28] The environmental protection activities considered in the Industrial Environmental Survey of 2012 are climate and air protection, wastewater management, solid waste management, groundwater, surface water and soil protection, noise reductions, biodiversity and landscape protection, development and research, environmental management, and environmental training.

In 2012, industrial establishments invested $115.23 million on environmental protection, mainly in air and climate protection (58.5 percent) and water management (26.5 percent). Out of $67.41 million invested in air and climate protection, 92 percent was invested in polluting gases and particulate material treatment.

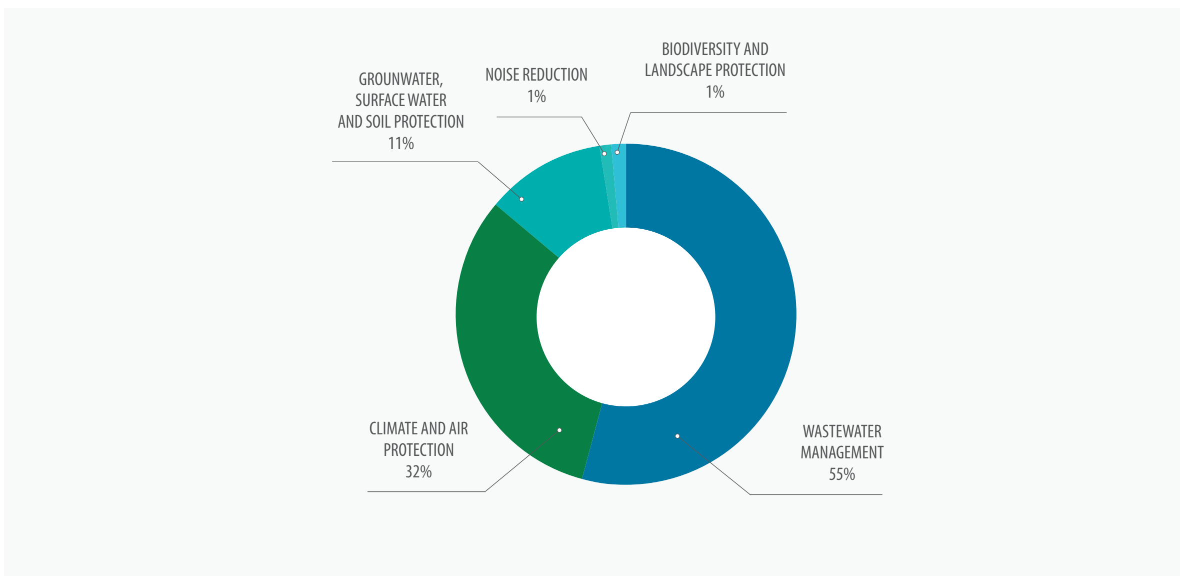
FIGURE 5. INDUSTRIAL INVESTMENT ON ENVIRONMENTAL PROTECTION (2012)



Source: DANE, 2012

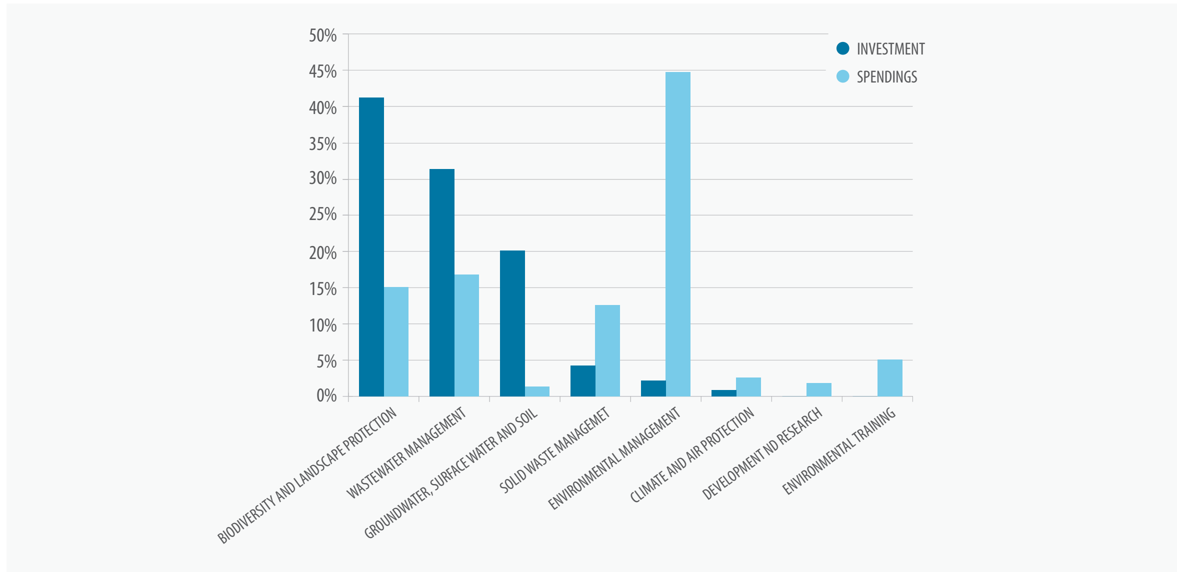
In the same year, industrial establishments spent $145.39 million on environmental care and paid $46.28 million on staff dedicated to environmental protection. From the spending on environmental care, 53.86 percent was on wastewater treatment and 31.57 percent on atmospheric pollution prevention. The investment of 2012 was 2.2 percent lower with respect to that of 2011.

FIGURE 6. INDUSTRIAL EXPENDITURE ON ENVIRONMENTAL PROTECTION (2012)



Source: DANE, 2012

FIGURE 7. GOVERNMENT'S ENVIRONMENTAL PROTECTION INVESTMENTS AND SPENDING (2012)



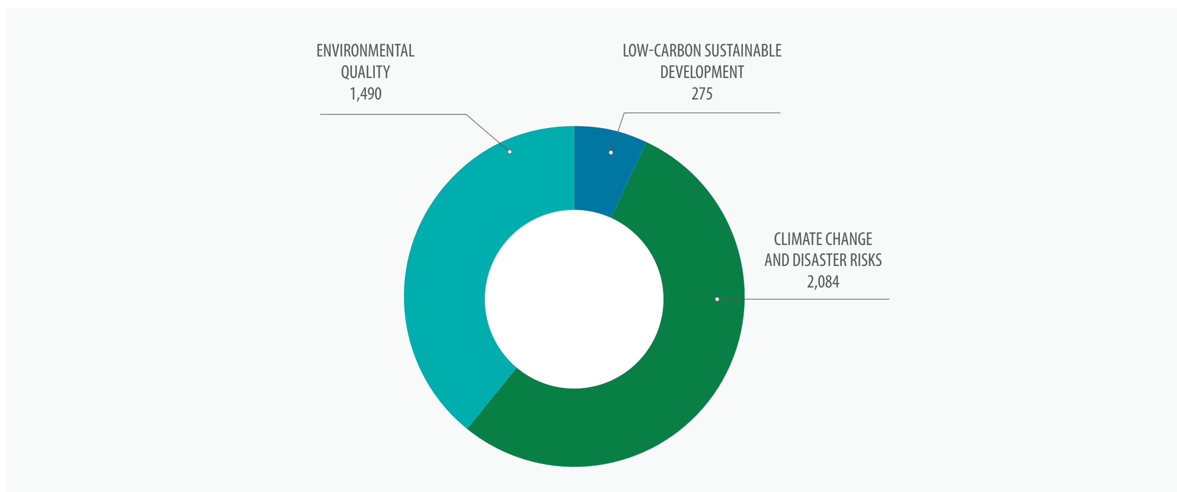
Source: DANE.

In the same report, it is also stated that the Colombian government spent $407.67 million on environmental protection: 15 percent on biodiversity and landscape protection, 16.81 percent on wastewater management, and 44.71 percent on environmental management. Nevertheless, it invested $503.48 million: 41.19 percent on biodiversity and landscape protection, 31.38 percent on wastewater management, and 20.14 percent on groundwater, surface water and soil protection.

Despite the information about environmental protection activities, there is currently little formal evidence of the financing need that the country will face to address its main environmental challenges. However, there are some rough estimates that can be a useful framework for understanding the magnitude of this financial effort.

The first estimate arises from the National Development Plan 2014-2018. The baseline document indicates total financing needs from the Green Growth Transversal Strategy of $3.8 billion, stating three main action lines and the main financing sources.

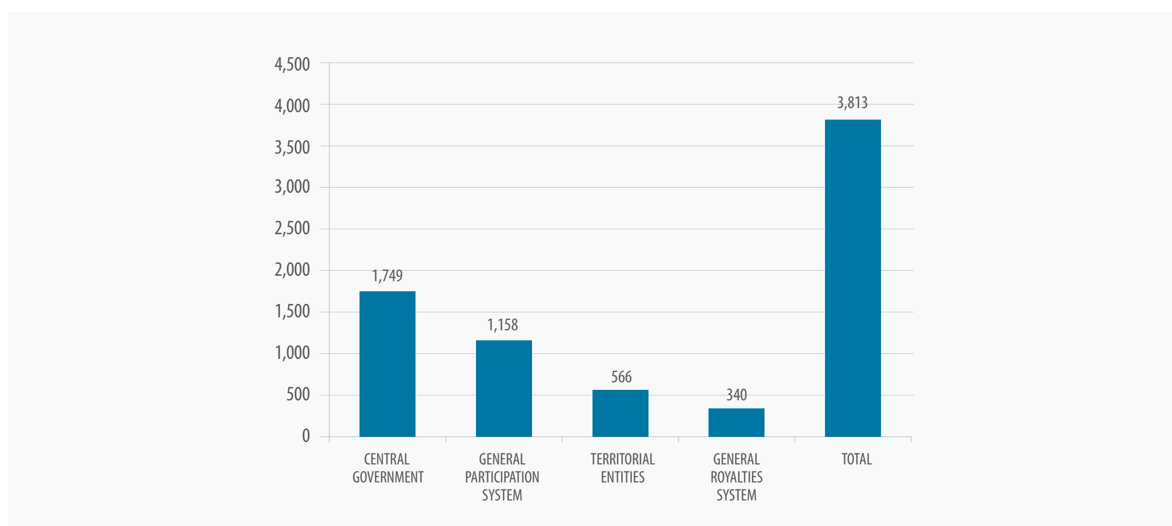
FIGURE 8. GREEN GROWTH FINANCING NEEDS BY SOURCE ($MILLIONS)



Source: National Development Plan 2014-2018.

Climate change and disaster risks represent 54 percent of total green growth financing needs, followed by environmental quality investments (39 percent) and low-carbon, sustainable development (7 percent).

FIGURE 9. GREEN GROWTH FINANCING NEEDS BY SOURCE ($MILLIONS)



Source: National Development Plan 2014.2018.

When analyzed by source, the $3.8 billion will come mainly from the central government, the General Participation System, and the territorial entities. It is important to note that there are no private resources considered for financing this strategy.

On the other hand, CONPES 3700 (Climate Change Strategy) also outlines general estimates around climate change adaptation and mitigation financing needs, using some of the main strategic projects at the country level. According to this estimate, only the climate change component will demand around $3.2 billion in financial resources.

TABLE 5. CLIMATE CHANGE STRATEGIC PROJECTS

Strategic Project	Max. Value ($Billions)
Coastal zone erosion mitigation	**1**
Ecosystem protection in macro-zones Magdalena, Cauca and Caribe	1
Environmental management at Colombian Macizo	0.25
Main country ecologic structure	0.50
Continental erosion mitigation	0.25
Environmental management Ubaté (Laguna de Fúquene) zona	0.225
Total	**3.2**

Source: CONPES 3700.

Whether with public or private resources, the financial system will play a key role in mobilizing resources demanded by environmental challenges. Thus, an adequate green finance ecosystem, one that favors the integration of environmental, social, and governance (ESG) considerations in the financing decision-making process, and specifically dedicates resources to these sustainable development challenges will be key to advancing the transition to a greener, more inclusive economy.

Challenges for financial sector toward sustainability

The challenge for the system as a whole is incorporating sustainability challenges into its business strategy, and using them as competitive advantages and innovation drivers. In a recent study developed for UNEP named "Barriers to the Access and Management of Climate Finance in Colombia" [29], Sandoval (2013) identifies four main groups of barriers:

1. Institutional, political, and regulatory framework.
2. Access to public finance and international resources.
3. Private sector, financial instruments, and financial markets.
4. Information, capabilities, and clean technologies.

In the set of barriers related to private sector, financial instruments, and financial markets, this study mentions the following specific barriers:

- Lack of strategies to incentivize climate finance private participation.
- Lack of knowledge and experience about climate change in the financial sector.
- Low capabilities to assess and mitigate the risk in financial operations related to climate change and protection against climate disasters.
- Limited development of financial instruments to manage climate change.
- Low level of development in carbon markets.

These findings are aligned with the insights found in the interviews conducted for this project. However, they are focused mainly on climate finance and need a deeper understanding of the perceptions that practitioners and decision makers in the financial sector have around the broader agenda of sustainable, green growth.

On the other hand, E3G (2014) an independent, non-profit European organization, in its study "Strategic national approaches to climate finance"[30] (E3G, 2014), outlines the case of Colombia. In particular, it concludes that Colombia has advanced in developing an adequate ecosystem for climate finance and has some interesting initiatives that could be scaled up to foster climate finance:

"Colombia's regulatory and legislative experiences in the environmental sector, healthy private sector institutions, and the holistic approach to the national financial ecosystem represented by the mandate of the SISCLIMA Finance Committee offer a wide range of financial tools and mechanisms that could help drive the implementation of national climate change strategies.

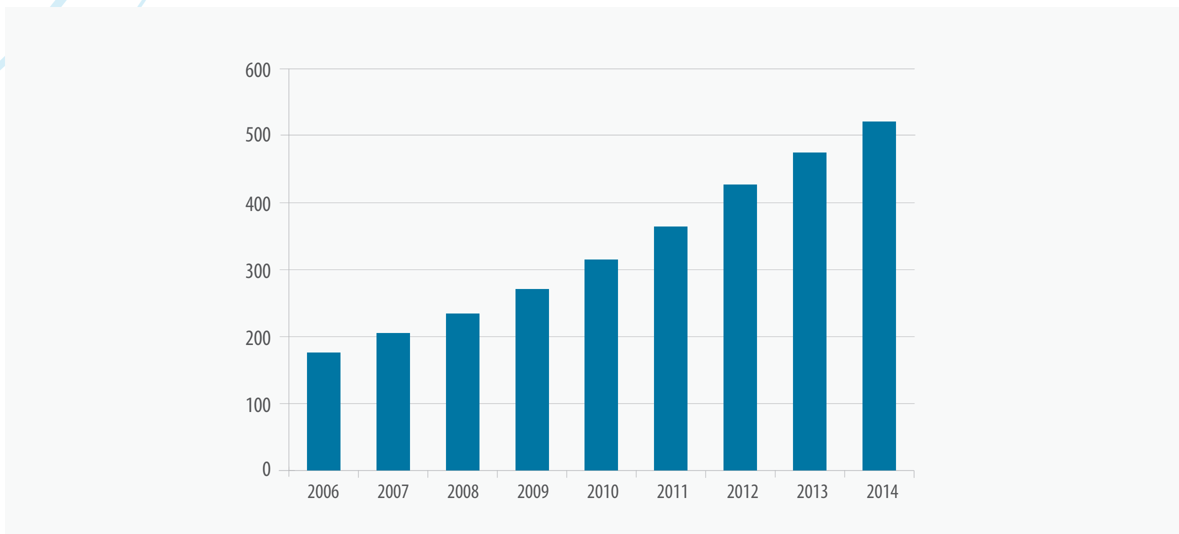
"Achieving this outcome will, however, require better strategic coordination, such as the formulation of a National Financing Plan. Colombia has recognized this, alongside other priorities in terms of financing its NAMAs and assessing the potential for existing national financing mechanisms to coordinate climate finance. In summary, Colombia has established a sound platform and is on a clear trajectory to develop a robust national climate financing strategy."

The way in which green finance can be broadly introduced within a country's economic system depends on the architecture of its financial sector. The next chapter describes the Colombian financial system's main institutions and features.

3 COLOMBIA'S FINANCIAL SYSTEM

The Colombian financial system, as of September 2014[31], had assets equivalent to $521 billion.[32] The system has enjoyed substantial and stable growth over the last decade. For the period 2006-2013, the compound annual growth rate (CAGR) was 15.3 percent. By the end of 2013, assets totaled $474 billion, 2.7 times the assets the system had in 2006 when they reached $175 billion.

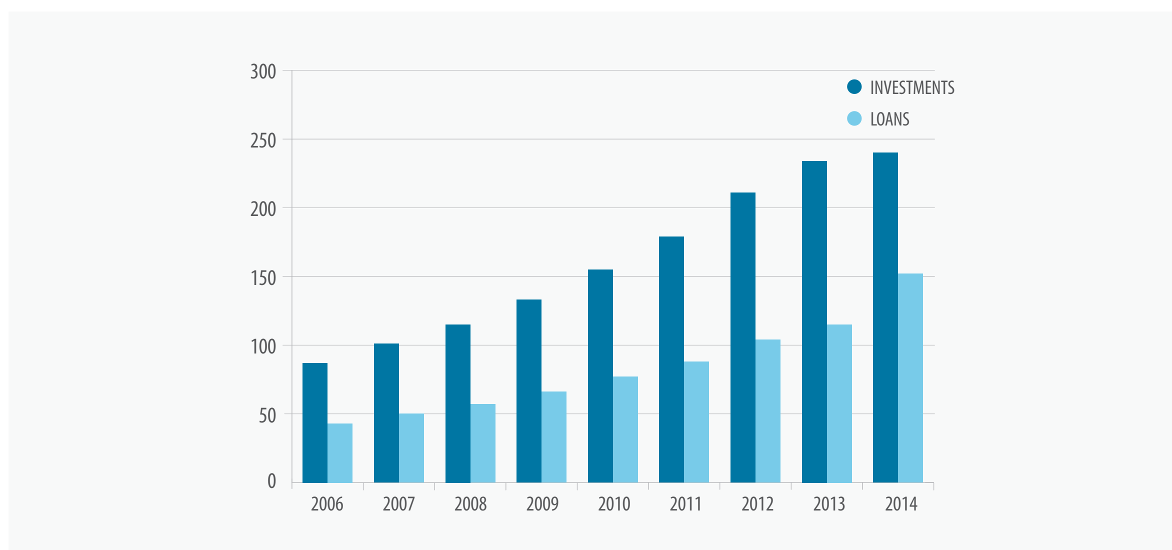
FIGURE 10. FINANCIAL SYSTEM ASSETS ($BILLIONS)



Source: Superintendencia Financiera de Colombia.

Ending in September 2014, the mix of assets in the financial system was led by investments with 46 percent of the assets ($240 billion), followed by loans with 29 percent ($152 billion), and others (mainly available resources and active positions in the money market) with 24 percent. During the period 2006-2013, investments had a CAGR of 14.6 percent while loans grew at a CAGR of 16.2 percent.

FIGURE 11. TOTAL INVESTMENTS AND LOANS ($BILLIONS)



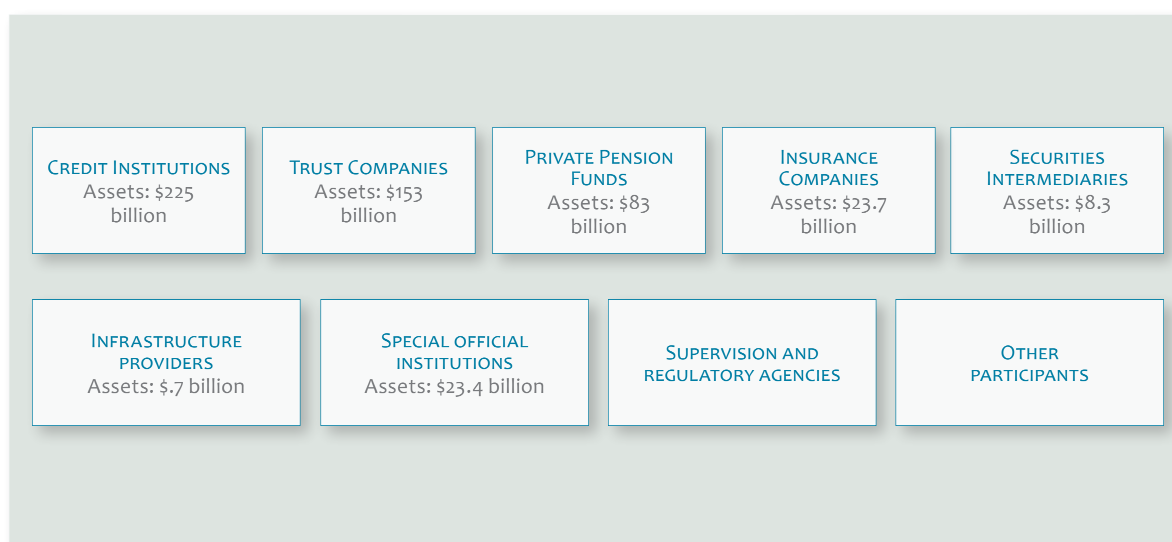
Source: Superintendencia Financiera de Colombia.

By type of assets, the investment portfolio of the whole system is currently composed of local government debt[33] (39 percent), local equity (21 percent), debt issued by entities supervised by the SFC (16 percent), and securities issued by international agents (10 percent).

Financial sector outline

A wide variety of organizations participate in this industry. According to the nature of their activities, the most relevant participants can be grouped into nine categories. The next figure presents those categories, followed by a general description and their main participants.

FIGURE 12. FINANCIAL SYSTEM CATEGORIES AND ASSET SIZES



Source: Based on Superintendencia Financiera de Colombia. Total assets.

Credit institutions:

This category includes banks, financial corporations, financing companies, and financial cooperatives. These institutions, as of September 2014, manage assets of $225 billion, equivalent to 43 percent of the financial system's assets. The compound annual growth rate of the assets for the period 2006-2013 was 16.8 percent. Within the category, banks are the biggest players, accounting for 91 percent of the corresponding assets. The sector has consistently become more relevant to the economy. The ratio of loans to GDP is 43 percent, up from 25 percent in 2000.

TABLE 6. LIST OF COMMERCIAL BANKS (AS OF SEPTEMBER 2014)

Banco de Bogotá	Banco Caja Social	Banco WWB
Banco Popular	Banco Davivienda	Banco Coomeva
Corpbanca	Banco Colpatria Multibanca	Banco Finandina
Bancolombia	Banco Agrario de Colombia	Banco Falabella
Citibank	Banco Comercial AV Villas	Banco Pichincha
Banco GNB Sudameris	Banco ProCredit Colombia	Banco Cooperativo Coopcentral
BBVA	Bancamía	Banco Santander de Negocios Colombia
Banco de Occidente		

Source: Superintendencia Financiera de Colombia.

Different indicators show that credit institutions are in a healthy position. The category's return on equity (ROE) and return on assets (ROA) are currently at 12.59 percent and 1.84 percent. Non-performing loans (NPL) amount to 3.21 percent (housing and commercial loans show NPL rates of 2.08 percent and 2.38 percent, while consumption and microcredit register 4.64 percent and 7.24 percent,) and the provisions to NPL ratio is 142 percent. Finally, solvency ratios have been consistently around 15 percent (with the minimum set at 9 percent).

Large local conglomerates dominate the financial landscape[34] The number of credit institutions has declined in the last 15 years as many of them were merged, purchased, or liquidated. Currently, there are 57 credit institutions, of which 22 are banks (see Table 6). Restructuring and consolidation initiatives have been occurring in some financial conglomerates to allow them to compete more efficiently and access new capital sources. They have also been expanding abroad, especially in Central America.

Due to the nature of its business, loans are the most relevant asset in this category. Out of the total assets of the credit establishments ($225 billion), 67 percent are loans ($152 billion). Currently, loans are distributed as follows: 59.2 percent are commercial loans, 27.3 percent consumption loans, 10.5 percent housing loans, and 2.8 percent microcredit. Investments within the credit establishments represent 17 percent, reaching $39 billion. Local government debt is their main investment, representing 54 percent of the portfolio.

Microfinance, while still representing a small percentage of the total loan portfolio (2.87 percent), has been gaining traction. In 2006, the government created a program, known as Opportunity Banking (Banca de las Oportunidades in Spanish) managed by Bancoldex, as a cross-sector strategy to improve access to financial services to micro and small enterprises, as well as low-income households.[35] Since its inception, a total of 16.4 million loans have been provided for a total of $24.7 billion.[36] This program works with a network of financial institutions and NGOs who fund loans with their own resources.

These financial inclusion efforts have revealed positive results as the number of adults with at least one financial product grew from 16.8 million in 2009 to 23.2 million in 2014, taking the access to financial services index[37] from 57.3 percent to 72.6 percent in the same period. Supporting this movement, the figure of *correspondent banks* (CB) – commercial establishments as pharmacies, supermarkets, and stores that partner with financial institutions to provide basic banking services - developed further in Colombia, soaring from 5,617 CB that handled 14.9 million transactions in 2009 to 95,730 CBs managing over 118.5 million transactions in 2014[38].

Finally, a 2013 International Monetary Fund (IMF) assessment[39] on the financial sector concluded the following on this sector: "Colombian banks appear resilient to a variety of shocks. Their substantial net interest income serves as solid cushion against the effects of losses related to credit risk, while their reliance on stable deposits for funding helps guard against liquidity shocks. Banks maintain small exposures in the interbank market, keeping contagion risk quite low. However, more significant risks do arise from the high concentration of the commercial loan portfolio."

The "Asociación Bancaria de Colombia" (ASOBANCARIA) is the association that represents the interests of the credit institutions.

Trust Companies:

This sector is integrated by the trust companies and the funds they manage. There are 27 trust companies in Colombia (see Table 7).

TABLE 7. LIST OF TRUST COMPANIES (AS OF SEPTEMBER 2014)

BBVA Fiduciaria	Fiduciaria de Occidente	Fiducentral
Corpbanca Fiduciaria	Fiduciaria Bogotá	Fiduagraria
Colmena Fiduciaria	Helm Fiduciaria	Fiducoldex
Old Mutual Fiduciaria	Cititrust Colombia Soc. Fiduciaria	Fiduciaria Davivienda
Fiduciaria la Previsora	Fiduciaria Colpatria	Fiducolseguros
Fiduciaria Fiducor	Fiduciaria GNB	Fidupaís
Alianza Fiduciaria	Fiduciaria Bancolombia	Fidugestión
Fiduciaria Popular	Acción Fiduciaria	Credicorp Capital Fiduciaria
Fiduciaria Corficolombiana	Servitrust GNB Sudameris	BNP Paribas Securities Services

Source: Superintendencia Financiera de Colombia.

Their assets under management reach $153 billion. During the period 2006-2013, they grew with a CAGR of 14 percent every year. Companies in this category manage different pools of resources that could be grouped into four sets: Trusts ($97 billion), social security system resources ($34 billion), collective investment funds, which are similar to mutual funds ($20 billion), and voluntary pension funds ($700 million).

Trust companies, as a group, show a ROE of 21.7 percent and a ROA of 17.4 percent. Moreover, 71.8 percent of their income is generated from commissions and management fees.

The investments of this category reached $88 billion, which represents 37 percent of the total investments in the financial system. By asset class, investments are concentrated in local government debt (37 percent), local equity (22 percent), and debt issued by entities supervised by the SFC (21 percent).

The "Asociación de Fiduciarias de Colombia" (ASOFIDUCIARIAS) is the association that represents the majority of trust companies' interests. It was established in 1986.

Private Pension Funds:

This category currently has four participants who manage a total of $82.6 billion in mandatory pension funds, severance funds, and voluntary pension funds (see Table 8). During the period 2006-2013, the compound annual growth rate of the assets under management was 15.9 percent.

TABLE 8. PENSION FUND MANAGERS AND ASSETS UNDER MANAGEMENT ($BILLIONS)

Manager	Moderado	Conservador	Mayor Riesgo	R. Programado	Voluntary	Severance	Total
Porvenir	28,3	2,2	0,1	1,7	1,3	1,9	35,6
Protección	22,4	1,5	0,5	2,1	2,3	1,5	30,3
Colfondos	8,4	0,8	0,0	0,9	0,3	0,4	10,9
Old Mutual	3,1	0,3	0,1	0,3	1,9	0,1	5,8
Total	62,20	4,85	0,74	4,95	5,95	3,88	82,6

Source: Superintendencia Financiera de Colombia. Own calculations.

In 2012, Colombia adopted a multi-fund plan that offers workers during their accumulation period three different funds according to their risk profile and age. "Mayor Riesgo" is the riskiest one, having more exposure to stocks and private equity; "Conservador" is the most conservative, having less exposure to stocks and no private equity; and "Moderado" is the medium risk category and currently holds more than 75 percent of the resources. There is a fourth fund, for affiliates already retired or their beneficiaries called "Especial de Retiro Programado," whose investment guidelines are similar to "Conservador."

It is important to note that pension funds have explicit benchmarks and have to guarantee minimum returns to their affiliates, calculated by Superintendencia Financiera de Colombia. If they fail to do so, the managing companies have to provide their own capital to meet the minimum return.

The total number of affiliates reached 12.4 million workers in September 2014, with "Fondo Moderado" serving 11.7 million, and "Mayor Riesgo" serving only 44,452 affiliates.

The investment portfolio of "Fondo Moderado," the fund that holds 85 percent of the mandatory pension fund resources ($62 billion), is distributed as follows: local government debt (35.8 percent), local equity (26 percent), debt issued by entities supervised by the SFC (6 percent), local private equity (2.3 percent), and securities issued by international agents (20 percent), focused on international equity (16 percent) and international private equity (2.6 percent). Pension funds do not allocate any resources to assets categorized as loans. Most of the equity exposure, both local and international, is related to broad indexes so that they do not have extensive specific risk tied to companies.

The "Asociación Colombiana de Administradoras de Fondos de Pensiones y de Cesantías" (ASOFONDOS) is the association that represents all the private pension funds. It was created in 1994.

Insurance Companies:

The sector manages assets of $23.7 billion. During the period 2006-2013, its assets had a CAGR of 14.4 percent every year. Although having different subcategories, the most relevant ones considering assets under management are life insurance and general insurance, accounting for $15.5 billion and $6.9 billion respectively.

The ratio of total insurance premiums to GDP currently is 2.59 percent, where life insurance represents 1.26 percent, and general insurance amounts to 1.33 percent. The density index, measured as the annual insurance expense per capita (total insurance premiums/population), amounts to $192. Currently, the aggregate ROE for the sector is 12.4 percent and the ROA is 2.6 percent.

There are 23 companies operating general insurance and 19 in the life insurance market. When taking into consideration all the different players in this industry, such as insurance cooperatives, foreign reinsurance companies, insurance brokers, and capitalization companies, the number of participants grows to 113.

The investment portfolio of the life insurance companies is valued at $12.9 billion. The most relevant asset class was Colombian government debt (30.8 percent), followed by securities issued by entities supervised by SFC (27 percent), other public debt (11.9 percent), and equity (10 percent).

On the other hand, the investment portfolio of the general insurance companies reached $3 billion. Local government debt (31 percent), securities issued by entities supervised by SFC (22.9 percent, securities issued by international agents (19.2 percent), and equity (10.6 percent), are their main asset classes. Loans represent just a marginal fraction of the assets of firms in this industry.

The "Federación de Aseguradores Colombianos" (FASECOLDA) is the federation that groups different participants of this sector and promotes its development.

Securities Intermediaries:

This sector has assets equivalent to $8.3 billion. Over the period 2006-2013, assets had a compound annual growth rate of 8.8 percent. Stock Exchange Brokerage firms ($1.8 billion) and the collective investments funds they manage ($5.9 billion) are the main actors in this category. Commodities brokerage firms and investment management companies (Sociedades Administradoras de Inversiones - SAI) complement this category.

The aggregate return on equity for the brokerage firms is 9 percent while return on assets is 2.1 percent. Currently, there are 23 brokerage firms operating in the Colombian Stock Exchange.

The "Asociación de Comisionistas de Bolsa de Colombia" (ASOBOLSA) is the association that groups and represents the brokerage firms working on the Colombian Stock Exchange.

Infrastructure Providers:

While the participants of this sector are fundamental to the development of the financial system, their assets are relatively small, reaching $700 million. During the period 2006-2013, such assets had a CAGR of 3.3 percent annually. The main actors in this category are described below.

Colombian Stock Exchange (Bolsa de Valores de Colombia): This is a private business listed on the stock market that manages trading platforms for equities, fixed income, and standard derivatives securities. In a joint venture with other companies, it also operates the Energy Commodities and Currencies.[40] As of December 2014, average daily volumes for all trading venues rose to $2.4 billion.[41] Trade volumes are heav-

ily concentrated in fixed income securities (91 percent). Derivatives negotiations represent 6 percent, and equity trading just 3 percent. The market capitalization of the companies listed reached $153 billion.[42] The average daily volume of equity negotiations was equivalent to $69.5 million.

Colombian Mercantile Exchange (Bolsa Mercantil de Colombia): This is a mixed-capital company governed by private law. It offers agro and agro-industrial producers alternate tools to access liquidity to promote their production activities.[43]

Central Counterparty Risk Clearing House (Cámara de Riesgo Central de Contraparte): This institution provides clearing and settlement services for standardized derivatives, energy commodities, and U.S. dollar/Colombian peso/non-deliverable forwards (USD/COP NDFs).

Credit rating agencies: There are currently three of these agencies established in Colombia: Fitch Ratings, Value and Risk Rating, and BRC Investor Services.

Central Securities Depository (Deceval): This institution is responsible for the custody, administration, clearing, and settlement of securities registered in the National Registry of Securities and Issuers (Registro Nacional de Valores y Emisores – RNVE).

Securities' Market Self-Regulator (Autorregulador del Mercado de Valores - AMV): This is a national private non-profit corporation. It is in charge of rulemaking (establishing rules of conduct for capital markets), oversight (compliance of regulation), disciplinary actions (to sanction those who don't comply with the rules), and certification of market participants.[44]

Price vendors: Currently there are two vendors established in Colombia: Infovalmer and PIP.

Special Official Institutions:

These organizations are state-owned institutions that channel resources to specific sectors of the economy. There are 11 institutions in this category that manage $23.4 billion and have an aggregate ROA of .9 percent and a ROE of 6.3 percent. Their assets had a compound annual growth rate of 9 percent. According to their level of assets, the most relevant ones are described below.

Bancoldex:

Its assets amount to $2.8 billion. As a development bank, it drives Colombian entrepreneurial activity through innovation, modernization, and internationalization. It offers instruments for all entrepreneurial development stages.[45] Since 2009, Bancoldex has supported the promotion and development of the venture capital and private equity industry in Colombia. Through the "Bancoldex Capital" program, important investments in venture capital and private equity funds have been made with the objective of offering companies better access to new sources of capital, contributing to the development of general partners in the country, and attracting potential investors who are interested in these financing mechanisms. To date, Bancoldex has investments in seven funds, with commitments that exceed $45 million, mobilizing $437 million in private equity and venture capital funds, which is 9.5 times the investment made by the institution. Bancoldex also has a special program known as iNNpulsa, created in 2012 to support and promote business growth led by innovation.[46]

Findeter:

Its assets amount to $3.8 billion. It is a national mixed economy corporation organized as a credit establishment linked to the Ministry of Finance and is subject to oversight of the Financial Superintendence of Colombia. Its mission is to support the sustainable development of the country, generating welfare

for the regions. Among the services it provides, it is important to note the following one: "We rediscount credits to public entities of the Nation, to private entities with autonomous assets, provided that those resources are used for the activities defined in the item 2 of the article 268 of the Organic Statute of the Financial System (construction and upgrade of water projects, roads, schools, ports, hospitals, and waste treatment facilities, among others) and on projects related with the environment."[47]

FINAGRO:

The mission of this institute is to contribute to the integral and sustainable development of the rural and agricultural sector, facilitating access to financing and other support tools. [48] It manages assets of $3.9 billion.

FOGAFIN:

This is a guarantee fund for financial institutions. The general objective of FOGAFIN is to preserve the trust of depositors and creditors in registered financial institutions, maintaining an economic balance and equity, and preventing unjustified economic or other benefits from accruing to shareholders or managers who cause damage to financial institutions.[49] FOGAFIN manages a sound system of deposit insurance. The current coverage limit is COP 20,000,000 ($9,860) which represents 126 percent of 2013 per capita income[50]) per depositor per institution. The system covers all deposit-taking financial institutions that must participate in the system, and covers 98 percent of the depositors in full, but only 20 percent of the total value of deposits, with no coinsurance. Deposit insurance is funded by annual premiums collected from member institutions and investment income.[51] Its assets amount to $5 billion.

Fondo Nacional de Ahorro (FNA):

The National Savings Fund was created in 1968 to manage public employees' and officials' redundancy payments. According to Law 432 of 1998, it was transformed into an industrial and commercial state-owned company of a financial nature, operating on a national level, which allowed it to expand its market to the private sector. Its purpose is directly related to state policy goals, especially the right of all Colombians to have proper housing and access to education. [52] It manages assets of $3.1 billion.

Financiera de Desarrollo Nacional (FDN):

Created in 2011, its goal is to promote and incentivize the financing and structuring of infrastructure projects. Among its objectives are its aim to solve market failures through the development of new financial products; catalyze resources from local, multilateral, and international players; and improve the standards of "Project Finance" in Colombia. Its capital reaches $315 million.[53]

Out of the $23.4 billion the institutions in this category have in assets, $11 billion account for loans, while $9.7 billion account for investments. Bancoldex, Findeter, FINAGRO, and FNA have on average 79 percent of their assets as loans, and FOGAFIN has 88 percent of its assets as investments.

Supervision and Regulatory Agencies:

Financial Superintendence of Colombia (SFC):

This agency is result of the 2006 merger of the Banking Supervisory Agency with the Securities Supervisory Agency. The SFC aims to monitor the Colombian financial system in order to preserve its stability, security, and trust, as well as promoting, organizing, and developing the Colombian securities market, and protect investors, depositors, and policyholders. The SFC supervises all financial institutions, and its broad authority offers several key benefits, including the ability to develop a common supervisory framework for the financial sector, secure information of financial groups and public market issuers, and

contain regulatory arbitrage.[54] Strategic goals of this institution also include contributing to development of mechanisms for financial inclusion and financial education.

Ministry of Finance and Public Credit (MHCP):

This agency is in charge of defining, developing, and implementing the economic policy of the country. Its mission is to set the conditions for sustainable economic growth and stability of the economy and the financial system. It is responsible for the preparation of laws and decrees related to regulation that include fiscal, tax, customs, public credit, financial, foreign exchange, and monetary and credit issues, without prejudice to the powers conferred to the Central Bank.[55] The government recently created the Financial Regulation Unit (Unidad de Regulación Financiera - URF) to promote more fluid coordination between the SFC and the MHCP.

Banco de la República (Central Bank):

The Central Bank is responsible for adopting monetary, credit, and exchange measures to regulate monetary circulation and, in general, the liquidity of the financial market. The Constitution and the Law grant autonomy to the Colombian Central Bank. This means that it does not form part of the branches of Public Power (Executive, Legislative and Judicial), of the regulatory and auditing agencies, or of electoral power, but is a state-owned entity of a unique nature. In technical terms, the bank's autonomy consists of its ability to freely analyze monetary phenomena, and to design and apply policy without being subject to other political pressures. Nevertheless, it is important to note that autonomy does not mean isolation. It is clear that monetary, credit, and exchange policies must be articulated with the government's general economic policy. In order to facilitate this coordination, the Minister of Finance is the presiding member of the Bank's Board of Directors. While the essential responsibility of the Banco de la República is to safeguard the purchasing power of the national currency, broader functions include the promotion of scientific, social, and cultural development.[56]

The SFC, the MHCP, and the Central Bank, along with FOGAFIN, form the Financial Stability Monitoring Committee (CCSSF). Created in the aftermath of the 1999 financial crisis, it seeks to ensure close coordination among the supervision and regulatory agencies. It allows for discussion of proposed regulations and macro-prudential policies. While respecting the autonomy and mandates of each institution, the CCSSF has fostered an exchange of information and stimulated the discussion about certain policy actions in support of financial stability, particularly in recent years.

Other participants:

Private Equity and Venture Capital Industry

The Private Equity and Venture Capital Industry has become an important player in the financial system over the last decade. It was created in 2005 when the first regulatory framework for the industry came into force and the first two private equity funds were created. Since 2006, various stakeholders have supported the development of the industry, including general partners, administrator companies, investors, the Colombian Stock exchange - BVC, Bancoldex, FOMIN at IADB, government agencies such as the Ministry of Finance, the Ministry of Commerce, Industry and Tourism, and the Superintendence of Finance.[57] Funds have reached capital commitments with a total value of $4.34 billion.[58] These commitments were concentrated primarily in private equity funds with 40 percent, followed by real estate funds with 30 percent, infrastructure with 20 percent, natural resources (8.6 percent) and venture capital (1.7 percent).

According to data from the Latin American Private Equity & Venture Capital Association (LAVCA)[59], investments made in Colombia by private equity funds increased by 155 percent in 2013 compared to 2012, increasing from $413 million in 2012 to $1.05 billion in 2013.

The Colombian Association of Private Equity Funds (ColCapital), created in 2012, brings together several industry participants pursuing the common goal to achieve the development of the Private Equity and Venture Capital industry in Colombia. As of August 2014, ColCapital had 71 members, 35 general partners of private equity/venture capital funds, and 36 affiliates (professional services firms).

Foreign Direct Investment (FDI)[60]

In 2013, FDI reached a total of $16.2 billion, growing 7.7 percent from the 2012 levels and marking a new record for the country. The oil sector and the mining sector remained the main recipients of FDI, receiving $5.1 billion and $2.9 billion, which represented 31.6 percent and 18.4 percent of total FDI. On the other hand, agriculture, hunting, fishing, and forestry was the sector which received the least amount of resources, with only 1.8 percent of the total. While flows of FDI have increased significantly over the last years, the proportion of investments in each sector has remained relatively stable.

TABLE 9. FOREIGN DIRECT INVESTMENT BY SECTORS ($MILLIONS)

Sector	FDI 2013	FDI 2008	% (2013)	% (2008)
Oil Sector	5.111	3.349	31,6%	31,7%
Agriculture, Hunting, Fishing and Forestry	296	36	1,8%	0,3%
Mining (Including Coal)	2.977	1.790	18,4%	16,9%
Manufacturing	2.590	1.696	16,0%	16,1%
Electricity, Gas and Water	395	156	2,4%	1,5%
Construction	378	387	2,3%	3,7%
Commerce, Restaurants and Hotels	1.136	1.018	7,0%	9,6%
Transport, Storage and Communications	1.386	978	8,6%	9,3%
Financial and Business Services	1.606	1.083	9,9%	10,3%
Communal Services	324	71	2,0%	0,7%
TOTAL	**16.199**	**10.565**	**100%**	**100%**

Source: Banco de la República.

While Decree 2080 of 2000, which regulates foreign capital investments, does not include any explicit environmental or social criteria, it has a direct prohibition for foreigners to invest in the non-locally produced toxic wastes sector of the economy.

Foreign Capital Portfolio Investment Funds[61]

This category has shown impressive growth over the last decade, reaching $10.7 billion in September 2014. In September 2004, it accounted for only $460 million; in September 2009, the figure was $3.6 billion. Fixed income investments represent 24 percent with $2.5 billion. Depositary receipts are 28 percent with $3 billion, and local equity accounts for 48 percent with $5.1 billion. Investments from international participants represent 6.2 percent[62] of the Colombian Stock Exchange market capitalization.

In 2011, credit rating agencies (Standard & Poor's, Moody's, and Fitch) upgraded Colombia's rating to an "investment grade" category, favoring international inflows into its capital markets. Colombia recovered its investment-grade rating 11 years after it was cut to junk when insurgent violence and a banking crisis contributed to triggering six straight quarters of economic contraction between 1998 and 1999.[63]

After an International Monetary Fund (IMF) mission conducted in March 2015 in the annual Article IV consultation, part of the IMF's regular surveillance of its member countries, the following statement was issued: "Colombia's impressive growth record over the recent past and progress in social indicators were underpinned by skillful implementation of a strong policy framework that ensured macroeconomic stability and strengthened external resilience. The recent decline in oil prices poses new challenges and is already affecting the near term outlook for fiscal revenues and growth. However, policy space is ample to safely navigate through the shock and the authorities' commitment to sound macroeconomic management is firm. With medium-term prospects set to improve, the structural reform agenda will continue to support competitiveness and improvement in social outcomes."[64]

The main message stemming when analyzing the Colombian financial system, where a widespread variety of participants interact, is that it has reached a relevant size within the economy while enjoying a healthy position, characterized by controlled non-performing loan rates properly provisioned, solvency ratios above minimum requirements, and solid profitability measures.

The next chapters present the experience of the Colombian financial system in green finance and several key initiatives from financial sectors, especially in commercial and development banks, that are demonstrating good practices for the entire financial system and providing an opportunity to find potential paths in the transition toward a greener, more inclusive economy.

4 EXPERIENCE IN GREEN FINANCE IN COLOMBIA

This chapter describes some of the main initiatives that the Colombian financial sector has undertaken to integrate environmental, social, and governance (ESG) criteria into its decision-making process and actively look for investment opportunities (real sector projects, financial assets, and portfolios) with positive social outcomes, mainly environmental.

General Initiatives

Sustainability Disclosure:

Colombia is part of "The Group of Friends of Paragraph 47." This group was born in June 2012 following acknowledgement of the importance of corporate sustainability reporting in Paragraph 47 of the Outcome Document of the 2012 United Nations Conference on Sustainable Development (Rio+20). According to UNEP, it aims to promote transparency and accountability as key elements of a well-functioning market economy that substantially enhances the private sector's contribution to sustainable development, and recognizes the primary role that governments play in this agenda.

Specifically in the financial sector, the Article 2.36.8.1.1 of Decree 2555 of 2010 requires financial institutions to inform the general public about the social programs that have been implemented and explicitly include programs with positive environmental impact. This regulation also allows the entities to adopt their corresponding association social balance report.

Within the financial sector, banks have taken the leadership regarding reporting practices. The majority is already producing sustainability reports or including comprehensive chapters of sustainability as part of broader annual reports.

Around half of the banks operating in Colombia have adopted the Global Reporting Initiative (GRI) standard, a reporting framework that enables organizations to measure, understand, and communicate information in four key areas: economic, environmental, social, and governance. While most of the institutions are using GRI's G3 and G3.1 versions, some leading banks have already upgraded to the latest version G4, which implies a more robust sustainability strategy and management approach.

Most of the banks' sustainability reports elaborate deeply on their internal practices, such as using human capital development practices, reducing the carbon footprint, and implementing environmental efficiency projects (water, energy, and waste) within their operations and their suppliers. However, around half of the reports manifest that the banks are incorporating or starting to incorporate ESG factors into their credit allowance process, and only a few of them are reporting specific efforts in terms of assessing social and environmental risks, even detailing the number of cases and amounts going through these evaluations.

On the other hand, trusts and insurance companies are lagging behind in terms of sustainability reporting, as the majority of them currently do not present individual sustainability reports. Just a few of them, including those who belong to a financial conglomerate producing consolidated reports, are providing basic information around their internal sustainability practices.

Finally, pension funds are currently reporting their sustainability efforts, one of them following GRI guidelines. However, they are mostly focused on discussing their social investment initiatives and their internal environmental efficiency projects. Only one of them is already including ESG factors in the investment decision-making process; no information is provided for the others regarding the integration of ESG factors into their core business activities.

Commercial Banks

Green Protocol:

The Colombian Government and the representative association of Colombian banks - ASOBANCARIA (adhered to the Financial Initiative of the UNEP) - in 2012 signed the voluntary framework and guidelines (Green Protocol (Protocolo Verde) "to incorporate and implement precursors, multipliers, demonstrative and exemplary policies and practices in terms of environmental responsibility in line with Sustainable Development".[65] The Protocol facilitates Colombian Rio+20 objectives to be accomplished.

Among the signatories of the Protocol are Bancolombia, Bancóldex, Bancamía, BBVA Colombia, Banco Colpatria, Citibank Colombia, Davivienda, Findeter, Finamérica, CorpBanca, and Procrédito among others, which in aggregate represent more than 50 percent of the national financial market. Although exercising the Protocol is voluntary, signatories have agreed to make their greatest efforts to implement three strategies (see Table 10) that are currently under revision in order to ensure its continuous improvement.

TABLE 10. GREEN PROTOCOL STRATEGIES

Strategy	Definition
Strategy 1	Generate guidelines and tools to promote financing of development with sustainability through credit facilities and/or investment, and programs that promote the sustainable use of renewable natural resources, environmental protection, and the competitiveness of productive sectors of the country, helping to improve the quality of life of the population.
Strategy 2	Promote, in its internal processes, sustainable consumption of renewable natural resources or goods and services derived from them.
Strategy 3	Consider, in the analysis of credit risk and investments, impacts and environmental and social costs that are generated in the activities and projects to be funded, based on compliance with environmental regulations of Colombia.

Source: Asobancaria, "Protocolo Verde," Cartagena, 2012.

Currently, Green Protocol is in the process of integrating and aligning efforts with the Financial Committee at SISCLIMA as way of coordinating activities with the public sector in Colombia.

The Asobancaria assessment for commercial banks had a special chapter for Green Protocol signatories (57 percent of Asobancaria members). In this assessment, 54.5 percent reported training their main stakeholders on the Green Protocol strategies, and 45 percent reported training, especially on strategy number one, related to the products and services offer with environmental benefits. As a communication mechanism, 81.8 percent of these banks reported to have informed the Protocol's results within the organization. There is limited public information about the specific advances in the three Green Protocol strategies.

ESG Factors in the Bank Decision Making

The integration of environmental, social, and governance policies into the decision-making process of the financial sector plays a fundamental role in the concept of green finance.

Currently, one bank is a member of the Equator Principles, seven banks are adhered to the UNEP-FI, one is a signatory of Principles for Responsible Investment (PRI), one is a signatory of The Natural Capital Declaration, eight banks are signatories of the United Nations Global Compact, and four of them were invited to the Dow Jones Sustainability Index.[66]

The Equator Principles:

The Equator Principles is a voluntary international credit risk management framework for the financial industry to assess social and environmental risk in project finance activities. The Principles serve as guidelines to ensure that projects financed by signatories follow minimum standards and meet specific social and environmental requirements.

Currently, out of 80 institutions worldwide, Bancolombia is the only Colombian member of the Principles, but more institutions are in the process of becoming one. Bancolombia adopted the principles in 2008, and has developed a methodology to assess environmental and social risks in the financing process. According to this methodology, it approves financing only to projects that are environmentally and socially responsible. Such methodology is applied on projects whose size surpasses certain minimum amounts. The bank has also developed a policy for financing small and medium companies in specific sectors of the economy that have a negative impact on the environment. During 2013, all the business lines of Bancolombia assessed 115 projects using the social and environment risk assessment methodology.

UNEP Finance Initiative (UNEP FI):

UNEP FI is a global partnership between the United Nations Environment Program (UNEP) and the financial sector, which recognizes sustainability as part of a collective responsibility and supports approaches to anticipate and prevent potential negative impacts on the environment and society.

Seven commercial and development banks report adherence to this initiative in Colombia: Banco CorpBanca, Bancamia, Bancoldex, Bancolombia, Financiera America, Findeter, and Fundación Social.

Natural Capital Declaration:

The Natural Capital Declaration is a global statement demonstrating the commitment of the financial sector to work toward integrating natural capital criteria into financial products and services. Among the signatories and observers of this initiative is Fundación Social, the Colombian financial institution, as an observer.

United Nations Global Compact:

The UN Global Compact is a strategic policy initiative for businesses that are committed to aligning their operations and strategies with 10 universally accepted principles in the areas of human rights, labor, environment, and anti-corruption. Currently, eight banks are signatories of these principles and actively present their annual Communication on Progress (CoP) reports.

Dow Jones Sustainability Index (DJSI):

Eight Colombian institutions have been included in the 2014 Dow Jones Sustainability Index annual assessment. In order to enter the index, banks were assessed in economic (codes of conduct/compliance/corruption and bribery, corporate governance, customer relationship management, and financial stability and systemic risk), environmental (business risks and opportunities, and climate strategy), and social dimensions (financial inclusion, human capital development, and talent attraction and retention). The only Colombian credit institution able to enter the DJSI in 2015 was Bancolombia.

Environmental and Social Risk Management System:

Following the efforts of development banks, which will be presented in the next section, the commercial banking sector, using the facilities developed by Green Protocol along with internal efforts, advanced in terms of creating a risk management system for environmental and social issues; some institutions are already including these issues in the decision-making process. There is currently no quantitative evidence about the number of institutions that have formally adopted and implemented this kind of system.

Green Banking Products

Along with the integration of environmental, social, and governance (ESG) criteria into the decision-making process, channeling resources to green financial products is also a relevant part of the green finance concept.

In 2012, Asobancaria performed a general assessment for 17 out of its 23 members about their sustainability performance. It found that six of the members have established between one and four products under a "green" denomination, mainly credit lines directed to environmental activities.

In 2013, this assessment covered 21 members of Asobancaria, and again the same six members reported having green products, and four reported to be in process of establishing them. All of the interviewees with green products also mentioned the existence of trained workers who communicate these products to their customers.

The green financial products had a general emphasis on the following elements:

- Credit lines channeled to business modernization in search of environmental protection and innovation.
- Credit lines destined to business projects focused on eco-efficiency within the organizations. Mainly, it was concerned with efficient energy use or conversion to renewable energies, which would be evidenced in the reduction of GHG emissions.
- Credit lines destined to construction, reconstruction, and improvement of dwellings affected by natural phenomena or those at risk of being affected.
- Service of assessment on environmental performance to identify eco-efficiency opportunities conducted by expert firms.

The Asobancaria assessment mentions that green credit lines participate in between 0.1 percent and 2.43 percent (an estimated of $164 million) of the total portfolio. The funds for those credit lines can be sourced from their own assets or from development banks. In fact, the total deployment from development banks to commercial banks through green credit lines during 2012 was $50 million, about a third of total green credit lines portfolio.[67]

A study conducted by UNEP and the Latin American Banking Federation (Felaban)[68] in 2012 analyzed the sustainability practices of 85 banks from 19 countries (including Colombia). It showed that Latin American banks have progressed in their sustainability management, developing sustainability policies that are connected to their business strategy. According to this study, such institutions show significant interest in developing new sustainable products and services as a way to grow their portfolio and develop new market niches. Some of the main findings are:

- 89 percent of the institutions have developed policies regarding sustainability. Most of these developments have occurred recently (within the last six years).
- 69 percent have in their portfolios products or services that include sustainability issues.
- 53 percent offered financing services for renewable energy projects, with this category being the most popular among the financial institutions. Credit lines for companies seeking environmental products and transformations were also popular.
- 78 percent of the participant banks provide training in sustainability issues to their employees.
- 70 percent consider environmental factors in their risks analyses. Checking the compliance of legal environmental requisites was the most used tool, followed by direct visits/interviews.
- 74 percent produce a sustainability report periodically.

Public Financial Institutions

Environmental and Social Risk Management System:

In line with the work conducted by the Inter-American Development Bank (IADB), the bank sector, whether commercial or development banks, has been in the process of implementing an Environmental and Social Risk Management System (SARAS for its acronym in Spanish - Sistema de Administración de Riesgos Ambientales y Sociales).

A study of IADB (2014)[69] indicates that out of 17 national development banks in Latin America that participated in the survey, 41 percent have implemented a SARAS, but 88 percent have integrated social and environmental risks in their due diligence process. Findeter, Bancóldex, and Banco Agrario are the Colombian institutions that participated in this survey.

One specific case is FINAGRO, which requires that credit institutions perform investment controls to a sample of at least 10 percent of transactions that are backed by them. Specifically in section 7.1.3 of this institution's Service Manual, it is stated that one of the objectives of investment control is to verify the environmental feasibility of the project. The extent of such and environmental feasibility study is not established in the Service Manual:

> *"(…) 7.1.3. Credit approval process is adequate as far as the requirement to submit the established documents for access to credit by the beneficiaries according to SARLAFT manuals approved by the Superintendencia Financiera and the appropriate technical, financial and environmental feasibility evaluation of the financed projects has been conducted."*[70]

Another example is Bancoldex's environmental and social risks management model.[71] It requires that intermediaries fill out the Environmental and Social Information Form.[72] In section E of the form, a qualitative assessment methodology is used to establish the type of environmental impact that the financed project is expected to produce and how it expects to manage this impact. The methodology does not include the evaluation of possible positive impacts.

Green Financial Products

Bancóldex:

Bancóldex, as a development bank, has implemented two specific green credit lines: one related to sustainable development and the second mainly focused on energy efficiency.

The Sustainable Development Line is intended for any business undergoing mitigation and prevention of environmental impacts activities and will aid financing the design, construction, installation, or operation of the project. It also applies to sustainable construction and necessary activities to obtain sustainable certifications. The document that regulates the sustainable development credit line (Circular 023/2014) states a general definition about eligible investments:

> *"The resources channeled through this special credit quota must be directed to projects that aim to prevent or mitigate the negative effects from productive activity on the environment.*
>
> *"It is possible to finance the design, construction, installment and operation of productive processes control and monitoring systems, such as: projects that reduce the use of non-renewable resources, reduction or use of liquid waste, solid waste, or atmospheric emissions and the improvement of their quality, among others. It is also possible to finance projects that comply with sustainable construction systems and the necessary activities for obtaining quality certifications in a sustainability framework (ISO 14001, Colombian Environmental Seal, Touristic Quality Certification, among others."*

In October 2014, with a total capital allocation of around $19 million, this credit line was created to finance up to $830,000 per company for micro, small, medium, or large businesses of any economic sector.

The financing will be awarded through commercial banks, financial corporations, commercial financing companies, and financing cooperatives, applying an interest rate of DTF (Fixed Term Deposit rate) + 1.00 percent with a tenor of up to six years.

On the other hand, the Renewable Energy and Energy Efficiency Line is intended for any energy consumption optimization project to increase productivity, energy generation projects through renewable sources, and necessary activities to obtain ISO 50001 certification (energy management systems). Circular 024/2004 regulates the energy efficiency and renewable energy credit line and defines the eligible investments as:

> *"The resources channeled through this special credit quota must be directed to projects that optimize electric or thermal energy consumption, to improve processes or increase productivity. It is possible to finance diagnoses and implementation of projects for energy efficiency, such as: illumination, high-efficiency engines, refrigeration, air conditioning, heat generation, energy measuring and control systems, combustion processes optimization, residual heat recovery and co-generation. It is also possible to finance projects that aim to generate electric or thermal energy based on renewable energy sources such as biomass, solar energy, and wind energy, among others. It is possible to finance the necessary activities to obtain ISO 5001 certification or related certifications."*

In October 2014, with a total capital allocation of around $19 million, this credit line was created to finance up to $623,000 per micro, small, medium or large business of any economic sector. The financing will be awarded through banks, financial corporations, commercial financing companies, and financing

cooperatives, applying an interest rate of DTF + 1.00 percent with a tenor of up to six years, and a rate of DTF +1.15 percent with a tenor from six to 10 years.

Findeter:

Findeter, as a development financing institution, allocated $989 million to sustainable projects in 2013.[73] Two of its credit lines aim specifically at sustainable development.

The first one is the Energy Efficiency and Climate Change Mitigation line. It is intended for any project that reduces energy consumption, research on potential renewable energy sources, wastewater treatment, emission reduction, and CDM projects. It has a capital allocation of $62.3 million for public, private, or special entities.[74]

The second one is the Sustainable Infrastructure credit line. It is intended to finance private, public, or special entities for the construction or reconstruction of infrastructure projects for prevention of disasters. The current total capital allocation is around $412 million, applying an interest rate of DTF+1.0 percent.

FINAGRO:

FINAGRO, as a rural development bank, offers credit lines through financial institutions to finance agricultural projects. It also offers special incentives for rural development.

FINAGRO [75] referred to its Service Manual and the explicit text about technical and environmental viability. Regarding that point, article 1.3.1 of FINAGRO's Service Manual mentions:

> *"The financed projects must be technically and environmentally viable in the following terms:*
>
> *Technical viability: verification in the feasibility of the production, costs, incomes, and expenses, used to forecast the cash flow of agricultural and rural projects that are requesting the resources.*
>
> *Environmental viability: consists in verifying the existence of environmental licenses or permits, in the event that the project, according to the regulatory framework, requires either of them."*

On the other hand, the Forest Incentive Certificate (CIF by its acronym in Spanish) is administered by FINAGRO and regulated through Law 139 of 1994. The CIF will subsidize up to 75 percent of the total costs of establishing the plantation (in the case of native plants), 50 percent of the maintenance costs from the second to fifth year after planting, and 75 percent of the costs of maintenance during the first five years of establishing the management plan of the natural forest. In addition to Law 139, Decree 900 of 1997 regulates those economic incentives for the conservation projects of forest that have had no human intervention. In 2013, 297 projects were accepted for the Certificate, adding a total of 24,000 hectares and a capital allocation of $17 million.[76]

Moreover, Reforestation Programs have been developed since 2004 in FINAGRO, which has two management modes: direct management and through an intermediary. The first mode has investments of over $13 million and received Certificates of Emission Reduction (CERs) for $2.6 million. The second mode is managed by LAEFM (Latin America Enterprise Fund Managers Colombia Ltda), which has investments of over $26 million[77], presenting another way in which reforestation is possible through an intermediary.

FINAGRO also offers an Agricultural Insurance Subsidy (ISA by its acronym in Spanish) to cover farmers from natural risk-related disasters. Covering up to 80 percent of the premium of each insured farmer, the ISA safeguards farmers to continue their activity after crops have been damaged by natural disaster.

iNNpulsa:

As a government institution managed by Bancóldex, iNNpulsa was founded in 2012 to promote high-impact entrepreneurship initiatives that are able to grow fast and be sustained in the long term. "Capital semilla para Bioempresas CEE005" is an invitation for bio-commerce businesses to receive a non-refundable grant for up to $500,000 per business.

According to iNNpulsa, the projects came from the following sectors: agro-industrial, bio-informatics, bio-nanotechnology, cosmetics, and health. In the 2014 invitation, from 18 received applications only seven were considered viable, with a total capital allocation of $1 million from a total budget of $3 million.

Capital Markets: Securities Exchange and Bonds

The Colombian Stock Exchange (BVC) has been a relevant actor promoting environmental, social, and governance principles. In 2007, it started to identify best practices, projects, and initiatives to promote responsible investment practices.

In 2011, the BVC adhered to the United Nations Global Compact and defined a sustainability strategy that covers five lines of work: entrepreneurship promotion and business development, capital markets profoundness, sustainable development promotion, culture of sustainable development, and implementation of a sustainability strategy.

More recently, in July 2014 the BVC announced the partnership with the United Nations Sustainable Stock Exchanges (SSE).[78] This initiative aims to explore how stock exchanges, in collaboration with investors, regulators, and companies, can enhance corporate transparency – and ultimately performance - on ESG issues, and encourage sustainable investment.[79]

As a part of the initiative, the Colombian Securities Exchange is committed to raising awareness of responsible investment in the Colombian market, disseminating its "Guides to Responsible Investment," and supporting the development of the Colombian chapter of the Latin Forum of Sustainable & Responsible Investment (Latin SIF).[80] As part of this commitment, it has already published a guide[81] in sustainable and responsible investment in 2014, with the objective of creating awareness and capabilities among investors to include ESG factors in the investment decision-making process.

In October 2014, the CEO of the Colombian Stock Exchange was elected Chairman of the Board of Directors for 2015 of the World Federation of Exchanges (WFE).[82] One of the important issues studied by the WFE is sustainable investment, including corporate governance, responsible investing, non-financial disclosure, corporate social responsibility (CSR), and environmental, social, and governance (ESG) issues.[83]

Finally, as mentioned in a previous section, eight Colombian institutions have been included in the 2014 Dow Jones Sustainability Index annual assessment, based on their market capitalization. The only Colombian financial institution that entered the DJSI ranking this year (2015) was Bancolombia, a stock that also trades in the Colombian Stock Exchange.

Institutional Investors

Corporate Governance Practices:

One of the first formal steps in the process of implementing corporate governance practices in Colombia was the Securities Superintendence's (now Financial Superintendence) Resolution 275 of 2001, which promoted self-regulation and established that pension funds could invest only in securities issued by companies that formally adopted corporate governance practices. Such practices had to include at least mechanisms

to protect minority stakeholders, criteria for the selection of managers and legal representatives, and mechanisms for information disclosure and conflicts of interest resolution, among others.

While such a regulation incentivized companies to adopt corporate governance practices in order to become eligible for pension fund investments, it implied certain difficulties for investors when analyzing the different practices adopted by each company as there were not defined standards.[84]

International movements influenced a second major step in the development of corporate governance. As a reaction to major corporate and accounting scandals in the United States, the "Sarbanes-Oxley" (SOX) Act or "Public Company Accounting Reform and Investor Protection" Act[85] was enacted in 2001. The Act inspired changes in the norms of securities markets around the globe, including Colombia.[86] This led to the creation of the chapter for Investor Protection in the Law 964 of the Securities Public Market, enacted by the Congress of Colombia in 2005. This chapter defined mandatory and specific corporate governance practices for issuers of securities.

A third step was taken by the end of 2005, when a committee was formed to define a National Corporate Governance Code in line with the political, economic, and regulatory framework of Colombia. Different private associations, the Colombian Stock Exchange (BVC), and the Financial Superintendence participated in this committee. The result of this effort was published in 2007 and is known as "Código País," a set of corporate governance best practices, divided into four chapters: i) shareholders assembly, ii) board of directors, iii) financial and non-financial information disclosure, and iv) controversy resolution. It also included 41 specific recommendations to strengthen corporate governance.

Finally, a policy of "comply or explain" was adopted with "Código País." This means that while the implementation of such practices is voluntary for companies, disclosing the adoption of the recommendations is mandatory. Every issuer has to report to the Financial Superintendence by answering the Código País survey on a yearly basis.

The 2014 Doing Business[87] report from the World Bank Group positioned Colombia in the 10th place among 189 countries in the category "Protecting Minority Investors," a topic that measures the strength of minority shareholder protections against misuse of corporate assets by directors for their personal gain as well as shareholder rights, governance safeguards, and corporate transparency requirements that reduce the risk of abuse.

Principles for Responsible Investment (PRI):

The United Nations-supported Principles for Responsible Investment (PRI) Initiative is an international network of investors working together to put the six Principles for Responsible Investment into practice. Its goal is to understand the implications of sustainability for investors and support signatories to incorporate these issues into their investment decision-making and ownership practices.

Currently, only two financial institutions appear as signatories on the Principles for Responsible Investment; one of them is Bancolombia, in its investment management role, and the other is Pacific Agri Capital.

Pension Funds:

Currently, all four private pension funds operating in Colombia include the assessment of issuers' corporate governance explicitly in their investment policy.

Regarding corporate governance, in 2010 the Decree 2955 introduced norms concerning the exercise of political rights of pension funds over the companies and securities they invest in. The Board of Directors (which includes representatives of the affiliates) is responsible for establishing the policies in this regard. Exercise of political rights includes participating in the election of issuers' Board Members and Auditors.

From the environmental and social perspective, pension funds are not participating actively in sustainability initiatives or reporting adherence to relevant standards or working groups. Only one pension fund reports having explicit considerations for social and environmental aspects in its investment policy.

In general, pension funds are starting to analyze the integration of environmental, social, and governance elements into their decision-making process, and are starting to identify investment opportunities in green investments, although there are important challenges in terms of the size of the market, the availability of green investments, and the minimum ticket size, as will be discussed in further chapters.

Insurance Companies:

As an exercise of self-regulation, in 2007 the Colombian insurance industry –through Fasecolda- developed its own Code of Corporate Governance. The Code is structured as a guide with minimum standards for managing relations with different stakeholders, providing recommendations regarding participation of independent members in the Board, internal control, remuneration policies, and conflict resolution mechanisms, as well as follow-up and reporting of Corporate Governance practices. Adoption of such guidelines is voluntary. According to Fasecolda's Social Balance of 2013[88], 89 percent of its affiliates have already adopted a Corporate Governance Code (75 percent developed their own code, 25 percent adopted Fasecolda's code, and 7 percent are in the process of adopting one.

Fasecolda also produces its sustainability report based on the Global Reporting Initiative (GRI) framework and is currently working on integrating UNEP Principles for Sustainable Insurance (PSI).

In 2013, the association conducted a general assessment of its affiliates' sustainability practices. The report on this assessment recognizes improvements in terms of eco-efficiency but stresses the need for integrating environmental goals with the core business strategy. As an example of this, it mentions the possibility of including the analysis of environmental risks in investment decision-making or developing green products such as ecological insurance.

Some institutions report having responsible investment policies that include banning economic sectors, evaluating social and political variables, and screening the issuers' community engagement practices, environmental impact, and corporate governance practices, among others.

However, from the interviews conducted for this project and the public information research, evidence shows that the insurance industry has not fully integrated sustainability risks in its core business activities and has not yet started to shift its business to include environmental or social risks into its premiums.

Private Equity

While the private equity industry in Colombia began only in 2005, general partners have begun to engage and explore the potential of environmental, social, and governance (ESG) factor integration into their decision-making process, and its influence on their investments.

There are two main approaches for ESG factor integration into the private equity industry. The first is mitigating social and environmental risks and promoting best practices within investment portfolios, and the second is developing specific private equity funds or portfolios dedicated to impact investing.

In the first approach, as in the other subsectors, environmental and social compliance are mandatory in the investment decision process. Once the investment has occurred, some private equity funds actively promote different initiatives ranging from eco-efficiency projects, social investment practices, and strengthening corporate governance.

In the second approach, there are already some private equity funds orientated or with specific investment portfolios dedicated to impact investing: creating positive social and environmental impact while offering attractive financial returns. The funds contacted for this project are Fondo Inversor and the Colombian Investment in Forestry Fund (CIFF).

Along with 13 companies in 2010, the Colombian Stock Exchange (BVC) created Fondo Inversor. This fund was created as an initiative to contribute to the development and growth of small and medium enterprises in Colombia, and to promote private equity fund industry development with a focus on impact investing. Fondo Inversor is a financial vehicle to leverage growth plans in various sectors of the economy, seeking to maximize returns for its investors while generating a significant and sustainable social and environmental impact.[89]

The CIFF[90] has commitments of $26 million to invest in commercial forestry plantation projects in association with specialized operators and landowners. The projects to be developed must: (i) have proven technological packages; (ii) be located in regions suitable for forestry production; and (iii) have close proximity to already established forestry nuclei, major roads, and markets.

Finally, Colcapital, the private equity association, has promoted a Corporate Social Responsibility (CSR) award in the private equity industry. This award seeks to recognize the work of private equity funds that create positive and measurable social and environmental impact, such as employment, environment protection, social inclusion, social contribution, and social investment vehicles creation, among others, in the projects or firms that are financed through their funds.

Intermediaries: Market Analysts and Credit-Rating Agencies

Market analysts have also started to incorporate sustainability matters when evaluating companies. Similar to the development of sustainability-related regulation within the financial system, the first steps have come from the Corporate Governance side. Implementations of best practices as well as the consistency of operational and financial guidelines and reports are taken into consideration when assessing the value of a company. Such examinations are often conducted for the broad set of companies that market analysts cover.

The market analysts consulted explained that environmental aspects are weighed in their recommendations only when they can directly impact the businesses of the firms being analyzed. Because of this, analysis of companies in the oil and gas sector as well as the utilities sector are the ones that –depending on their specific projects - take into account environmental aspects. However, these are not systematic as analysts state that they don’t count with consistent methodologies to assess environmental risks.

On the other hand, rating agencies in Colombia have developed their own methodologies in order to assess the impact of corporate governance, social, and environmental factors on credit rating. However, such factors are analyzed mainly when they can affect the capacity for payment of financial liabilities. Since their teams do not count with comprehensive expertise in environmental issues, when technical environmental analysis is needed as part of the rating process, external assistance is sought.

This chapter was based on a secondary information research and is key to understanding the general landscape of green finance in Colombia. The next chapter presents the results of the interview process conducted for this study and helps validate the previous findings using key financial practitioners’ knowledge and perceptions.

5 CHALLENGES AND POTENTIAL SOLUTIONS

Based on the Colombian green finance experience, this chapter outlines the main challenges and potential solutions that were raised from the interviewees' perceptions and opinions, when questioned about the current state of green finance and main features in their institutions. This process is intended to contribute to an applied, down-to-earth approach to understand the green finance landscape in Colombia and identify practical recommendations.

The project team conducted more than 38 interviews with the heads of relevant institutions in the financial sector, based on a semi-structure questionnaire - specifically, private pension funds, private equity funds, insurance companies, commercial banks, development banks, asset managers, financial associations, government and regulatory agencies, and private standard setters.

Based on the analytical framework proposed by Kaminker, C. et al. (2013), "Institutional Investors and Green Infrastructure Investments: Selected Case Studies," the challenges and potential solutions identified during the interview process will be framed in three main categories:

Challenges or solutions	Definition
General	These are challenges or potential solutions that relate to the general Colombian investment and financial ecosystem, and that have effects on investing in any kind of company, project, or financial instrument, or applying any kind of evaluation methodology.
Specific to green finance	These are challenges or potential solutions that relate specifically to the green finance ecosystem in the country, and that have a direct effect on green investments, whether projects, companies, or financial instruments.
Related to environmental, social and governance (ESG) methodologies	These are challenges or potential solutions that relate specifically to the green finance ecosystem in the country, and that have a direct effect on integrating environmental, social, and governance (ESG) criteria into the investment or financing decision.

Source: Based on Kaminker, C. et al. (2013). Own definitions.

The next sections present the detailed challenges and opportunities identified during the interview process.

Challenges

The following sections present the main challenges for the development of green finance in Colombia, identified as a result of the conducted research and interview process.

Related to investments in general:

- Short-term prevalence in the decision-making process.
- Low market capitalization.
- Debate around regulatory framework.

Related to green investments:

- Lack of standard definitions around green finance.
- Low materiality perception around environmental impacts (positive or negative).
- Lack of a robust green investments pipeline (demand for resources).
- Gaps in innovative initiatives and financial vehicles.

Related to ESG methodologies:

- Lack of standardized methodologies.
- Lack of specific capabilities for assessing ESG factors.

Related to investments in general:

i. Short-term prevalence in the decision-making process

When analyzing green investments, the interviewees identified two kinds: environmental initiatives led by companies, and specific green projects, assets or portfolios.

In the first group, they classified investments carried out by private sector firms in every sector of the economy to improve their internal processes to cleaner, more efficient technologies, mainly in energy, water, and waste management. In the second group, they classified projects, companies, assets, or portfolios exclusively devoted to create positive environmental impact. The latter are less common, but are the ones that had a perception of a stronger link to green finance from the interviewees' perspective.

When asked about the main challenges they face in order to include environmental concerns in their asset allocation process, the interviewees mentioned the importance of profitability and short-term performance of their investments. There is a general agreement about the importance for any asset to have an adequate profitability or risk-adjusted returns, independent of the sector, vehicle used, or nature of the investment.

In addition, interviewees mentioned that green investments must compensate the risk taken by the investor or lending company, because there is a general perception of bearing greater risk than other projects due to higher initial investments, longer payback periods, or the implementation of new technologies with unproven results.

In more specific description, interviewees mentioned several attractive features for investments in general, such as financial performance and environmental performance, limited reputational risk, proper scale in order to impact the overall portfolio, well recognized developers, shared risks with other investors (either public or private), and in the case of real sector projects, a skilled entrepreneur who is able to develop and implement.

Some of the particular challenges that were mentioned during the interviews were:

- Even when the "green" features of the projects or assets are solid, critical business criteria are in many cases inadequately developed, such as logistics, distribution channels, and capital structure.
- In some cases, the way green investments are presented to potential investors or credit institutions places a lot of emphasis on the environmental benefits and not on the financial performance of the product. This can mislead potential investors to believe that investments in these projects are philanthropic and not based on strong financial performance.
- In the interviewees' perception, green projects or assets require higher initial investments or higher operating costs. If these costs cannot be incorporated into cash flows, they will translate into less attractive conclusions.
- Most green investments are outside the public capital markets, and because of the minimum management and operational requirements of institutional investors, there is a tendency for them to be less cost-efficient.

ii. Low market capitalization

When inquired about the challenges faced when trying to deploy capital to green assets, interviewees frequently mentioned the small size of the Colombian financial market.

Participants in the interviews mentioned the difficulty in finding relevant investment opportunities that meet their expectations in terms of size and profitability. This concern is not particular for green investments, but for investments in general in Colombia.

Specifically around green investments, institutional investors mentioned they did not receive many green investment opportunities. They mentioned the relatively low level of development of this asset class and the small pipeline of green projects, assets, and portfolios. This fact, from their perspective, increases the perception of higher relative risk of investing in this field.

Investors, in general, replied positively to their interest in deploying more capital to green investments. However, the scale of their portfolios and the fixed cost of their investment management infrastructure require an adequate ticket size for their transactions, which green investments are not delivering, due to the low level of development in this asset class.

Investors also mentioned that the decision of allocating some portion of their portfolios to green projects should create a positive effect on total portfolio return. Nonetheless, the typical green investment is not delivering this feature because of its relative small size.

From the asset managers' perspective, there is also difficulty in diversifying from certain investments in Colombia, such as oil and gas, due to limited alternatives to reallocate portfolios and the smaller relative size of other portfolio alternatives.

Regarding oil and gas investments, the debate gravitates around three main topics: i) if there will be higher regulatory barriers for extracting conventional oil and gas reserves, ii) if Colombia should promote extraction of non-conventional oil and gas (e.g., fracking), and iii) if Colombia will allow greater reliance on coal-fired power plants, as opposed to gas-fired plants or renewable sources, given the substantial amount of high energy-value coal reserves in the country. However, they see these debates as long-term concerns.

iii. Debate around regulatory framework

One of the sections in the interviews was dedicated to the regulatory framework and its effect on the development of green finance.

In general, interviewees believe that financial regulation for green finance is framed in the general financial regulation, and thus they do not identify any specific policy guidelines. Furthermore, investors do not recognize any public policy, regulation, or procedure that could be preventing the flow of financial resources to a greener economy. Specifically, they did not identify regulatory barriers that prevent financial flows to be invested in green investments, whether assets, portfolio, or projects.

On the other hand, interviewees were unable to mention regulations or policies that specifically promote green investments. They were not aware of any financial policy mechanisms to promote green investments, as well as policies, regulations, or guidelines that facilitate transferring the potentially higher risk or costs from this kind of investments.

However, interviewees posed an important debate about the type of regulatory intervention that the country needs, and they presented three different approaches.

First, some of the interviewees were reluctant to propose intervention in the financial market with incentives, deductions, or new regulation, for this could distort the price signals of the market. They believe subsidies of any kind are not considered positive when evaluating an investment because they can disappear due to incontrollable factors (i.e., political risk), might generate unpredictable externalities, and are prone to a possible lack of transparency in the granting process.

Second, other stakeholders indicated the need for general signals from the regulators and supervisors in the market to create awareness about green investments. Some preliminary ideas presented by the interviewees include mandatory disclosure about environmental performance of investments or creation of standardized definitions about green finance in the regulatory framework.

Finally, other stakeholders indicated the need for subsidies or incentives, such as interest rate incentives to outweigh the possible lack of competitiveness green investments may have. Some stakeholders stated that tax deductions might be easier to implement than direct subsidies from a fiscal point of view, and some mentioned the potential establishment of a minimum mandatory percentage of green investments in the investors' portfolios.

Another issue mentioned in the regulatory section was related to the institutional capabilities of the public agencies involved in environmental regulation. Specifically, they mentioned the complexity of the Colombian legal framework, the complexity in achieving environmental licenses, the process of preliminary consultation with minority social groups, and the lack of institutional capabilities of the environmental authorities, mainly local authorities; these all represent a concern from the interviewees' perspective.

Related to green investments:

i. Lack of standard definitions about green finance

The interviewees were asked about their understanding of the term "green finance," if they knew any legal or standard definitions about green finance, and if their institution had a standardized definition for green finance.

In general, the interviewees associated green finance with channeling resources to investments that generated positive impacts in the environment or that did not deplete natural resources. Another frequent definition was related to the integration of sustainability or ESG criteria into the investment or lending decision-making process.

They also mentioned the proliferation of different concepts regarding similar related topics, such as "sustainable finance," "climate finance," "responsible investment," "sustainable investment," and "impact investing," among others.

When asked about legal or standard definitions about green finance, the majority of interviewees indicated they were not aware about the existence of a particular definition for green finance in the broad sense. In fact, the most frequent association was with definitions around real sector green projects in the Colombian Tax Code and National Green Business Plan.

ii. Low materiality perception around environmental impacts (positive or negative).

Participants were asked to describe the link they found between financial and environmental performance of their investments, the materiality of sustainability issues for their asset allocation process, and if they considered that environmental risks could pose a systemic risk to the financial system and long-term economic growth.

In general, there is a low level of awareness about country-level environmental challenges, national green growth strategies, and government policies. All of the interviewees from the private sector were not informed about the green growth crosscutting strategy in the National Development Plan or the Green Business Plan, among other policy initiatives.

There is a general consensus on the negative impact on society when financial institutions invest in or promote companies, projects, or assets that have negative environmental impacts, and about the positive outcomes of adequate environmental management policies.

However, this research evidenced more diverse opinions on the impact of environmental concerns over economic growth in the long term. While some interviewees mentioned not being aware of a general impact on the economy, others considered that correlation must exist in the long term, although it is difficult to quantify since, in general, environmental impacts cannot be translated into monetary terms, as their externalities are not adequately priced. Furthermore, the relationship between environmental risks, financial system stability, and the impact on investments' performance is less direct for interviewees.

There is also a general perception that financing activities with negative environmental impacts can represent a risk, but there is still a lack of clarity on how to quantify and assess those risks, which are not associated with a potential systematic risk for the stability of the financial sector. Moreover, interviewees have not embraced risks associated with sustainable development such as the concept of stranded assets.

When specifically addressing the perception of materiality of environmental, social, and governance (ESG) issues and their relationship with assets' financial performance, the interviewees showed a diverse understanding among institutions. One of the reasons for this, which arose not only from the interviews, but also from green finance literature, is the importance of recognizing "institutional investors" as a set of heterogeneous stakeholders with unique characteristics, and in some cases, opposing opinions over the same topic.[91]

Banks are gaining awareness about the importance of understanding the direct impacts of environmental issues on the performance of an asset. Since their main business is providing loans, banks have direct relationships with funded companies and, in some cases, have experienced negative impacts due to environmental risks (e.g., floods have negatively impacted farmers with loan obligations). Banks also hold both the investor and the issuer role. Having strong sustainability policies and in some cases being part of international indexes such as the Dow Jones Sustainability Index (DJSI) facilitates their access to new financial markets and improves their brand reputation.

In the case of pension funds and trusts, grouped into the asset manager category, there is a limited understanding of the impact of sustainability risks on the financial system. Asset managers in general terms do not have direct exposure to green assets, and in the case that they do, it is through third-party vehicles such as private equity or mutual funds.

Insurance companies in Colombia are legally authorized to manage not only their own resources, but also third-party portfolios (e.g., voluntary pension funds, private and public endowments) and have a similar breakdown of investments as the pension funds. Even though they have access to the same asset classes, insurance companies have a natural exposure to environmental risks, and are trying to develop methodologies in order to assess these risks. They are aware of the direct link between environmental and financial performance, and also have a clear understanding of the positive or negative implications of environmental risks for long-term economic growth.

iii. Absence of a robust green investment pipeline

A constant topic in the interviews was a general perception about the absence of a robust green investment pipeline, whether companies, projects, or financial instruments.

Interviewees mentioned the importance of having a more active role from the real sector, since the financial sector tends to respond to the signals of the real sector. In fact, there is a perception of a certain level of disconnection between financial sector and real sector. The interviewees recognized that the financial system was not providing enough resources to green investments, but they mentioned the lack of a robust pipeline coming from the real sector.

There was a general consensus among interviewees that the financial sector responds to the growth signals and demand from the real sector. In general, interviewees expressed confidence that financial institutions will continue to develop adequate products and services to satisfy demand for environmental challenges.

However, the contacted stakeholders propose that the government develop a strong stimulus plan for green investments, aiming to make them more competitive and reach an adequate scale to be comparable to traditional projects. Once this objective is achieved, their hypothesis is that the financial sector will respond with more resources and will start perceiving green investments as an attractive growth driver.

iv. Gaps in innovative initiatives and financial vehicles

Interviewees mentioned that the advances in Colombia in terms of financial innovation are still limited to fragmented initiatives by credit institutions, insurance companies, and some asset managers.

However, they indicate that one step for green finance development in Colombia is working in the enabling environment to support existing and more basic vehicles. They state that there must be a robust ecosystem that fosters the future development of sophisticated green financial assets.

Some interviewees mentioned some attempts to develop green bonds as financing instruments, but mentioned these initiatives failed due to a weak ecosystem around green finance and the lack of investors' appetite for these kinds of products.

On the other hand, the UNEP Inquiry has an increasing interest in the Central Bank role in the green finance field and potential monetary policy innovations. As stated by UNEP: "Central banks have become more prominent worldwide in the wake of the financial crisis. Alongside this, a growing number of central banks are also taking diverse measures to address sustainability across their differing mandates."

However, according to the interviewees, the challenges in developing countries are still related to more basic social needs, and there is still a strong debate about the role that Central Banks must have to address these basic social concerns. According to the interviewees, the Central Bank is currently participating in policy debates about the role that international reserves could play on financing basic social programs, the infrastructure deficit, or the sustainability of the pension system. Thus, green finance is still perceived as an advanced topic for monetary policy debates and is not currently on the agenda of the Central Bank initiatives.

Nonetheless, the Central Bank understands the impact that environmental issues have on the financial system. In particular, it was mentioned how extreme weather events pose challenges for the Central Bank mandate to keep low and stable inflation rates, because it has created an increasing volatility over the consumer price index, coming mainly because of the weight of the agricultural sector (nearly 30 percent) in the overall result. The exposure of the country to extreme weather events and natural disasters has led in the past to shortages of agricultural products, with an important impact on the price level in the whole economy. Due to the short-term and cyclical development of this phenomenon, there is an increasing level of awareness of this challenge for the economy.

Related to ESG methodologies

i. Lack of standardized methodologies

Interviewees were specific about the lack of standardized methodologies to assess environmental and social issues. However, despite the lack of standard methodologies, there is a consensus about the need to assess sustainability risks in their portfolio holdings, and a generalized interest in obtaining the tools to correctly evaluate these risks.

Investors and credit institutions normally conduct due diligence processes to assess the risks involved in the financial transaction and put in place control mechanisms. These processes typically include diligence on accounting issues, cash flow generation, and legal aspects such as corporate governance, labor relations, taxes, and environmental compliance.[92] In Colombia, capital disbursement by any regulated financial entity must also comply with the Money Laundering and Terrorism Financing Risk Management System (SARLAFT).[93]

Some institutions have developed a policy to conduct surveys related to environmental impact when investments are related to certain sectors (e.g., infrastructure, forestry, agriculture, waste management, oil and gas). Furthermore, there are some institutions, mostly credit institutions, which have already created some specific methodologies under the general umbrella of SARAS (Sistema de Administración de Riesgos Ambientales) in order to assess certain transactions in a systematic way.

Finally, there is a case-by-case study of some particular investments that have a direct impact on the environment. In all the methodologies applied, there is a tendency to use the legal requirements as the standard to comply.

These assessments become enabling requirements, but they do not lead to increasing or decreasing the exposure to an investment. If the assessment results in a negative outcome, then investors will decide not to have any kind of exposure. Nevertheless, if the assessments are positive, they will not lead to increasing the exposure either.

Interviewees also mentioned that the main approach to assessing green investments is related to negative impacts, but there is a generalized need to also focus on the opportunities that green investments could deliver.

ii. Lack of specific capabilities for assessing ESG factors

In general, interviewees established their teams' limited experience in evaluating green projects and financial instruments and the lack of specific knowledge about social and environmental issues. All of the interviewees mentioned that none of their investment teams were partially or fully dedicated to analyze investment opportunities related to green assets.

Finally, interviewees mentioned that even though there is an increasing awareness about sustainability risks, there is still an opportunity for education and communication about their importance, their nature, and the financial institution's commitment to assess them.

Proposed Solutions

This chapter presents the proposed solutions related to the above-mentioned challenges for the development of green finance in Colombia. These were identified as a result of the interviews and are proposed under the same framework.

Related to investments in general:

- Strengthen corporate structure and governance.
- Promote transformational leadership.

Related to green investments:

- Establish basic standard definitions for green finance.
- Develop incentives for financial institutions that promote green finance.
- Have government be a sponsor of green investments, specifically projects.
- Articulate information sources and entities around green finance.
- Design and promote attractive market signals (certifications, seals, etc.)
- Strengthen financial institutions' disclosure of their green finance performance.
- Focus capital market innovation on collective investment funds, private equity, ETFs, and green bonds.

Related to ESG methodologies:

- Provide permanent education and communication for practitioners.
- Implement standardized methodologies and tools for risk assessment.
- Create specialized teams, with specific ESG capabilities.

Related to investments in general:

i. Strengthen corporate structure and governance

Interviewees mentioned that investors and financial institutions, at their highest level, must continue to deepen their understanding of the impact of environmental challenges in their businesses and the potential systemic risk for the financial sector. Also, it is important to continue developing a long-term vision for investments.

From the corporate governance point of view, a three-step approach was identified in order to address this within investors and financial institutions:

1. To establish a clear vision of their institution's role in addressing climate change, at the CEO or Board of Directors level.
2. To define the mechanisms by which the institution would support environmental goals. Some interviewees suggested that this support should be included in investment managers' fiduciary duty.
3. To establish a progressive rollout plan, starting at a small scale with milestone targets. A general suggestion was that if the transition to green finance is to be sustainable, a radical switch was not advisable.

ii. Promote transformational leadership

The interviewees mentioned the importance of having leaders who inspire action toward green finance. There are leading entities and senior executives that are promoting green finance, not only within their own companies but also among industry-level agreements and public (national and international) forums.

There was a general agreement that the country needs these kinds of benchmarks to create transformation about an emerging subject. That benchmark can come from green entrepreneurs: business leaders who are generating wealth, but at the same time are creating positive impact for the environment. The benchmark can also come from the financial sector: financial entities or their senior executives that are promoting green finance and are creating competitive advantages by doing so.

Related to green investments:

i. Establish basic standard definitions for green finance

Interviewees mentioned the need for basic definitions that create awareness about green finance and a general effort to promote them at the country level. When consulted about the kind of definitions they expected, they mentioned:

- A robust declaration about green finance as a national bet to support the country's green growth strategy.
- The need for a common and locally accepted concept to characterize green finance, its importance, its benefits, and its challenges.
- A conceptual framework on green projects that clearly defines its features, benefits, and simple methodologies to understand what is and what is not.

This view is aligned with the government institutions' perception. They mentioned that the country has achieved a robust financial regulation, but emphasized that this regulation does not address any particular sectors or topics. Furthermore, they mentioned that the government must be extra careful in financial regulation initiatives, because it could create distortions and negative incentives for market players. However, they are open to the possibility of defining and explaining green finance as a general topic, which is important for long-term economic development.

Finally, some stakeholders mentioned the government should become stricter regarding the issuance of and compliance with environmental licenses. This action would imply that the country raises the bar for real economy projects, and the baseline in those projects would have stronger environmental and social foundations. In this same sense, some interviewees mentioned that there should be stronger sanctions for financial institutions that are not overseeing basic environmental compliance issues.

ii. Develop incentives for financial institutions that promote green finance

Other mechanisms that were raised in the interviews are fiscal incentives or public guarantee mechanisms. Some stakeholders mentioned that private institutions could be compensated for an increased risk exposure when deploying capital to green finance assets.

"When the government backs a social program, it helps mobilize resources and gives an additional assurance for its execution. Therefore, government should reward financial institutions that bet on green investments," mentioned one of the interviewees. Among the examples given by the interviewees are interest rate subsidies, a guarantee fund supported by public resources, and lower capital requirements for financial institutions.

However, some interviewees mentioned that the solutions should be market-based and that demand should create the supply. They indicated that everything that depends on subsidies becomes unsustainable and that the institutional framework in Colombia is not efficient at creating, implementing, and monitoring subsidies.

iii. Have government be a sponsor of green investments

There is a generalized view that has been previously discussed about the lack of a robust green project/assets pipeline. Therefore, in some interviewees' perspective, the government should lead the development of green projects, by taking the initial risk and incentivizing the real economy to develop green projects. They mentioned that government agencies should take part, accompany, invest, and articulate initiatives and stakeholders, to promote more and better green projects.

For example, iNNpulsa proposed an interesting approach for government support. It indicated the possibility to create a new tender for "bio" projects, specifically directed to green projects. This tender would channel resources for projects in their early development stage and that need funds to accelerate and reach an adequate scale. In iNNpulsa's view, this would be an ideal way of identifying green projects at the right stages of development, and starting to create a robust pipeline.

Finally, some interviewees mentioned the importance of using leading real sector firms to develop green projects, as corporate entrepreneurship initiatives or as part of their supply chain development strategies. They mentioned the existence of similar public and multilateral initiatives to promote these kinds of projects in other topics. For example, the "Alianzas Productivas" (productive alliances) project, led by the Ministry of Agriculture with the sponsorship of the World Bank and other institutions, promotes the development of inclusive business in the rural sector with an emphasis on social impact variables.

In these kinds of initiatives, the Ministry of Environment mentioned having some funds available and its willingness to structure the partnership, based on a robust private participation to guarantee the initiatives' sustainability.

Even though the interviewees did not mention multilateral development banks as a specific source of projects, they can be an alternative for taking that initial step, along with the government or the private sector, into increasing the number of projects or assets with green features.

iv. Articulate information sources and entities around green finance

One of the main barriers mentioned in the interviews was the lack of unified information about green projects, assets, and portfolios, and their development in Colombia.

The Green Business Office (GBO) at the Ministry of Environment mentioned it is working on a new platform called the "Green Business Portal" to unify the information about green projects according to the National Green Business Plan definitions. According to the GBO, this database is an adaptation from the Investment Gateway (IG) developed by the United Nations Conference on Trade and Development (UNCTAD) and aims at having a robust platform where all the information about green projects, from the institutional framework to their implementation and monitoring, will be available.

Another subject that was raised in the interviews is the importance of articulating and taking advantage of different information sources about green projects. For example, Chambers of Commerce in Colombia have detailed registries about the creation, development, and liquidation of businesses. There could be an opportunity to obtain additional information about the environmental features of those businesses and articulate that information with existing information. Furthermore, DANE, the public statistics department, has a specific source of private environmental investments that could also be articulated with other information sources.

Finally, some interviewees mentioned the importance of having reliable track record information on environmental performance of projects, and its relation to financial performance. Some financial institutions mentioned the difficulty of creating this kind of track record inside their institutions, due to the lack of environmental expertise, but still found this a valuable task.

Regarding the institutions involved in the green finance ecosystem, as mentioned in the previous chapter, the Climate Change Policy Document (CONPES 3700) established SISCLIMA as a coordinating vehicle to promote dialogue and joint initiatives among government and private institutions.

Furthermore, as was also mentioned before, commercial banks have established "Protocolo Verde," an industry-level agreement to promote sustainable finance, which includes green finance promotion.

Industry-level agreements contribute to best practice sharing, the creation of a common language on green finance, and articulated positions toward other relevant stakeholders such as consumers and government. Some interviewees mentioned the importance of creating these kinds of agreements in other subsectors of the financial sector, such as pensions, fiduciaries, and private equity, among others. As evidenced in the interviews, the associations of those subsectors have enough credibility, institutional capability, and convening proficiency to lead these sorts of agreements.

Another example mentioned by the Colombian Stock Exchange (BVC) is the Latin Sustainable Investment Forum (Latin SIF), where financial sector institutions discuss the key elements on developing responsible investments.

v. Design and promote attractive market signals

A general finding from the interviews was the importance of market signals such as certifications or seals to identify green investments and incentivize them. This potential solution comes in two ways. The first refers to certifications for green projects that simplify the decision-making process for potential investors. The second refers to certifications or awards to financial institutions that promote green finance, with a reputational value.

In the first case, if a project receives a certification for its environmental performance and that certification comes from a reliable source, it would reduce the information asymmetry and investor uncertainty. An example mentioned in the interviews is ISO 14001 certification. This certification promotes the adoption of environmental management systems for internal processes. This kind of market signal could be an important feature to reduce investors' uncertainty when faced with green investments.

Another example is a voluntary certificate named "Sello de Sostenibilidad" issued by Icontec, which evaluates companies in the environmental, social, and governance dimensions. Yet another example is a green certificate named "Sello Colombiano Ambiental" issued by the Ministry of Environment. This initiative applies initially to specific products or services that demonstrate compliance with environmental regulation and best environmental practices in their supply chain. This voluntary certificate is already being used in the government centralized procurement processes at the "Colombia Compra Eficiente" agency to identify green features of potential products and services, and could work as another market signal for potential investors.

Also, the case of corporate governance disclosure was mentioned in various interviews as a good starting point. It started with the "Código País" survey, which allowed investors to identify corporate governance features of potential investments. Adopting the governance practices incorporated in this code is voluntary, but demands that companies adopt a "comply or explain" approach.

In the second case, a public recognition system for financial institutions committed to green finance, which has a reputational value in the market, could incentivize current shareholders, potential investors, and consumers to prefer those kinds of institutions. This would also create competition among financial institutions to receive that kind of public recognition. Furthermore, some interviewees suggested creating a brand for financial products linked to green features that acts as a market signal for shareholders, consumers, and society as a whole.

vi. Strengthen financial institutions' disclosure of their green finance performance

Almost every relevant stakeholder who participated in the interviews was aware of an article in Decree 2555 of 2010, which promotes financial institutions' social reporting. However, they mentioned that since this requirement is mainly focused on the social dimension of their sustainability activities, the common interpretation relates to their internal processes.

Some interviewees proposed strengthening this regulation to ensure a more profound disclosure of environmental, social, and governance (ESG) initiatives in financial institutions, related not only to their internal processes, but also to their commitment to green finance and integrating ESG factors to their decision-making processes.

As mentioned, project and risk visibility is a challenge that must be addressed. From the finance practitioner's point of view, this also means having access to the right information if ESG factors and green projects are to be assessed fairly. In many of the interviews, it was mentioned that increasing the

standards of social and environmental disclosure by companies might generate a greater flow to green assets.

One approach that was suggested is for regulation to establish environmental and social information disclosure requirements on par with existing standards in order to avoid adding to the confusion of investors.

For example, current regulation requests some institutional investors to include the analysis of corporate governance practices. Some interviewees mentioned that this analysis could be extended to include environmental and social information analysis as part of the investment process. Adding questions regarding environmental and social issues in the "Código País" Survey, the benchmark for corporate governance practices, was suggested as a first step in that direction.

A different approach that was suggested is for portfolio and credit managers to demand that companies comply with international green protocols that in some cases are more demanding than local environmental regulation. It was stated that currently only some multilateral and international organizations demand this.

It was suggested that voluntary "comply or explain" reporting plans may be adopted. To initiate this practice, government agencies should be the first to adopt it, followed by major NGOs. Industry groups would be next, setting standards within their segment and generating "peer pressure" on their members to follow suit.

vii. Focus capital market innovation on collective investment funds, private equity, ETFs, and green bonds

When asked about possible alternatives that would lead to increasing flows into green projects, one theme that was mentioned by several interviewees was the importance of promoting the creation of collective investment vehicles specializing in projects that have positive impacts on the environment.

Such vehicles are known in Colombia as "Fondos de Inversión Colectiva" and are managed in accordance to the Decree 1242 of 2013[94]. Their main characteristics are enunciated:

- Defined as mechanisms or vehicles to raise or manage money or other assets, formed by the contribution of a plural number of identified participants that are managed to obtain collective economic results.
- Can be provided by Trusts, Securities Intermediaries, and Investment Management Companies (Sociedades Administradoras de Inversiones - SAI).
- Can be open-end (participants can exit any time) and closed-end (exit windows are pre-established).
- A fund must have minimum assets of 2,600 monthly legal minimum wage salaries (equivalent to approximately $790,000).This requisite is effective after six months of operations.
- Funds must have a pre-defined and clear investment policy.
- Investors can have a maximum 10 percent participation in open-end funds and 60 percent in closed-end funds.

The reasons to promote such funds as green investment vehicles are various. One that came up several times was that while institutional investors (especially private pension funds) would require/prefer the

availability of a large pipeline of green projects to participate, collective investment vehicles may be the most efficient vehicle to start with a smaller scale of projects. Considering the current nascent status of green projects in Colombia, the promotion of this vehicle seems appropriate to help jump-start green finance.

During the process of the interviews, it was also mentioned that some years ago there was an attempt to create a collective investment fund focused on green assets. However, due to the lack of a critical mass, the initiative was not successful and was abandoned. Considering the increased momentum that sustainable development issues is gaining, there could be a better chance at this time of a successful of a green collective investment fund. The "New Alternatives Fund"[95] (Ticker NALFX), incorporated in the United States and currently managing around $200 million, is just one example of comparable international practices.

Green Indexes and ETFs

Different stakeholders of the capital markets mentioned that creating an equity index composed of securities with exposure to environmentally responsible, sustainable companies and its correspondent investable vehicle, such as an Exchange-Traded Fund (ETF) that replicates its behavior, would be convenient in order to mobilize flows toward green investments. While indexes are just theoretical creations, ETFs are investable securities created to resemble the movements of the theoretical index.

While some participants manifested their concerns over this idea based on the assumption that the small market capitalization would lead to a green index that is very similar to the existing broad market indexes, others proposed that the index could be created as a MILA index (Latin American Integrated Market) rather than a purely Colombian one. The Colombian Stock Exchange may be the most suitable institution to lead the process, and according to our dialogues, it seems that this task is already on its agenda. Defining a methodology that rates the environmental impacts of different companies would be fundamental in order to develop such an index.

The Dow Jones Sustainability Index (DJSI), created by S&P Dow Jones Indices and RobecoSam in 1999, is a referent in terms of sustainability indexes. The DJSI tracks the performance of the world's leading companies in terms of ESG criteria, providing investors with objective benchmarks for managing their sustainability investment portfolios. Only the most sustainable companies, in industries that meet certain minimum sustainability requirements, are selected for index membership. Therefore, companies must continually intensify their sustainability initiatives to be included or to remain in the indices.[96]

Another international example of such an index is the MSCI ACWI Low Carbon Target Index, and its ETF the iShares MSCI ACWI Low Carbon Target,[97] which seeks to track the investment results of the index composed of large and mid-capitalization developed and emerging market equities with a lower carbon exposure than that of the broad market. The ETF was launched in late 2014 and has reached net assets that account for approximately $141 million.

In Brazil, there was an initiative to create an equity index (the Carbon Efficient Index) and its correspondent ETF (iShares Carbon Efficient Index Brazil Index Fund[98]), taking into account the companies' emissions of greenhouse gases (GHG) in the weighting of participating stocks. Companies in this index are committed to reporting data to its annual inventory of GHG emissions, according to the scope and deadline defined by the Brazilian Stock Exchange (BM&FBOVESPA). BM&FBOVESPA, working in collaboration with the Brazilian Development Bank and Blackrock, led the initiative. Currently it has assets of around $36 million.

Interviews with some ETF providers in the Colombian market showed that if there were demand for such a product from institutional investors, they would be willing to engage actively in its creation.

Private equity funds

Some interviewees mentioned that, most likely, commercial banks are not the most adequate vehicle for green investments in Colombia. Their focus is probably more oriented to the short-term, and they have stricter risk exposure criteria than other institutions. Long-term asset managers could also face difficulties financing green projects, because of their limited risk exposure and some additional regulatory framework such as the supervision of fiscal control agencies.

Therefore, private equity investors would be another appropriate vehicle, given their relatively lower risk aversion and their interest in exploring new sectors in the real economy. As mentioned before, the Colombian private equity industry was born a decade ago and has been developing with the participation of different players.

For example, Bancoldex has worked since 2009 on a particular initiative to promote private equity funds and venture capital funds named "Bancoldex Capital." The main objective is to allow "businesses to access alternative financing though private equity funds, the development of a private equity industry, and promote an increased participation of new and more national and international investors in private equity funds that invest in Colombia."

Green bonds

While several stakeholders did not have a profound knowledge of or experience with green bonds, many interviewees from different subsectors of the financial system proposed the creation of this instrument as a way to drive flows toward green investments.

The leader in the development of these instruments is the World Bank, which raises funds from fixed income investors to support its lending for eligible projects that seek to mitigate or adapt to climate change. The product was designed in partnership with Skandinaviska Enskilda Banken (SEB) to respond to specific investor demand for a triple-A rated fixed income product that supports projects that address the climate challenge.[99]

Some financial institutions expressed that they are already working on the development of similar structures to fund their green lending initiatives. Other participants manifested real economy firms could issue similar bonds exclusively to finance projects with positive environmental impact.

Nevertheless, when considering these alternatives, different concerns arise and would have to be addressed while developing such a product. The first one is related to the lack of clear and standard definitions. The second one is related to warranties. Given the importance institutional investors assign to the rating of a bond and the intrinsic and perceived risk of green projects, warranties are a key element that has to be considered. The idea of having government or multilateral warranties backing green issuances was mentioned repeatedly. The third and final concern mentioned by the financial system stakeholders is related to the liquidity of these instruments and their negotiability in the secondary markets. Figuring out alternatives to alleviate these concerns becomes relevant to smooth the future progress of green bonds in Colombia.

Climate Related Instruments Market

Some interviewees brought up the notion of companies with negative environmental impacts financing ventures with a positive one. An initiative backed by the IADB in collaboration with Fundación Natura, the Commodities Exchange (Bolsa Mercantil de Colombia), the Ministry of Environment, and the Chamber of Commerce of Bogotá to promote the creation of a market for Voluntary Emission Reduction Certificates (VERs) has been underway and is aligned with the idea just mentioned above. The initiative focuses

on forestry projects generating the certificates and companies willing to compensate for their carbon dioxide emissions by voluntarily buying such certificates.[100] This structure enhances the appeal of forestry projects and allows companies to improve their reputations and compensate their environmental impacts.

Some participants mentioned that such an initiative needs support from the regulatory side. Since measuring and disclosing carbon footprints, and compensating remain voluntary initiatives, the demand and awareness of such products remains low as just some firms participate.

The Colombian Stock Exchange also manifested the possibility of developing in the medium term derivatives on GHG emissions, through Derivex, the energy commodities derivative market. Also, the development of a market for VERs, or other similar certificates like Certified Emission Reductions (CERs) and GHG derivatives, could act favorably against some barriers identified by improving the financial attractiveness of green projects, increasing awareness of climate change impacts, and increasing options in an constrained market.

Environmental Development Bonds and Environmental Capitalization Incentives

FINAGRO, the special official institution in charge of supporting the development of the agricultural sector, issues Agricultural Development Bonds (TDAs for its acronym in Spanish) to fund its endeavors. The Colombian Central Bank defines the characteristics of such bonds.[101] Their main differences compared to other bonds are that they pay a below market interest rate (DTF minus 4 percent or DTF minus 2 percent) and are categorized as mandatory investments for credit institutions, which can deduct from their quotas part of the loans they disburse directly to agricultural projects.

Developing similar structures (Environment Protection/Development Bonds) to fund a greener economy was an idea mentioned by some of the market participants interviewed. However, in the process of the interviews, many other participants were skeptical of such initiatives, as they believed that mandatory investments would not be very well appreciated by the financial market and could eventually hinder green flows in the future. They rather proposed the analysis of mechanisms like special interest rates that would incentivize credit institutions to voluntarily channel resources toward green investments.

Another possible solution suggested to mobilize resources toward initiatives with positive environmental impacts based on FINAGRO's portfolio was the idea of creating an "Environmental Capitalization Incentive." Currently, FINAGRO offers a "Rural Capitalization Incentive," an economic benefit of up to 40 percent of investments that seek the modernization, competitiveness, and sustainability of the agricultural production.

Among the reasons to support such initiative, it was mentioned that this could significantly increase the financial attractiveness of green projects. Improved financial numbers could on the one hand drive interest from the real sector and entrepreneurs to develop green projects, which would favor the reduction of the identified barrier of lack of a proper pipeline of projects. On the other hand, financially sounder green projects would be more appealing to potential capital providers, since they prefer "good" projects above all.

Related to ESG methodologies:

i. Provide permanent education and communication for practitioners

Almost every relevant stakeholder emphasized on the importance of education and communication to induce cultural change toward green finance, specifically to raise awareness about green finance, its

benefits, and the gaps that still remain to increase green financial flows. They mention three sources of cultural change: financial institutions, financial consumers, and green project developers.

An important source of cultural change must come from the financial institutions. Practitioners must develop a common language to understand green finance and its basic features. They must understand the connection between environment and risks in the real and financial sectors. And they must understand the benefits of working in green finance as a way to foster innovation in financial entities.

Another important source of cultural change must come from the financial consumer. The interviewees mentioned that customers do not identify or value positive environmental features in their financial products. Therefore, financial institutions lack a strong demand signal that incentivizes them to develop green financial products.

Finally, they mentioned that entrepreneurs and green project developers must also change the way they sell and market their products. Some decision makers in the financial sector perceived that those projects are being marketed as philanthropic investments or "nice to have" projects, instead of robust, innovative, and viable projects.

ii. Implement standardized methodologies and tools for risk assessment

A generalized finding during the interviews is the lack of standardized methodologies to assess ESG criteria and risks in the financing or investment decision-making process.

Some participants suggested that the country should adopt a unique international standard, such as the Equator Principles, GIIRS (Global Impact Investing Rating System), and PRI (Principles for Responsible Investment) as methodologies they were implementing in current assessments. Others added that industry groups could suggest particular methodologies that their respective subsector could adopt.

These methodologies should include the assessment of environmental risks such as stranded assets, water stress, extreme weather events, and greenhouse gas (GHG) emissions.

iii. Create specialized teams, with specific ESG capabilities

A generalized finding during the interviews is the lack of experience, by practitioners, in correctly evaluating ESG criteria and green investments. More specifically, they lack knowledge on the proper assessment methodologies. A way to address this, proposed by several interviewees, is for financial institutions to create specialized divisions, as part of the risk, credit or commercial areas, completely dedicated to assessing environmental, social and governance (ESG) risks and opportunities. This could allow adequate coverage of projects with "green" criteria and would facilitate the integration of sustainability issues into the decision making process at the right stages.

6 RECOMMENDATIONS AND NEXT STEPS

Colombia has a historic opportunity to change its economic growth path toward a greener, more inclusive economy and create a competitive advantage based on a green growth strategy. The financial sector will play a fundamental role in this transition.

In general, the evidence shows that there is a robust policy framework that can foster green growth and stimulate the participation of the private sector, including the financial private sector. In the latter, evidence shows general awareness of and interest in the country's sustainable development challenges. The most relevant players in the financial system understand the implications of these challenges and envision an active role of the institutions.

However, there is still a gap between the magnitude of these challenges and a relatively low level of implementation of decisive measures from the private financial sector that aim toward a transition to a greener, more inclusive economy. This situation can stem from the fact that there has not been any relevant social or environmental issue that causes a negative impact, either reputational or operational, thus creating a sense of urgency and forcing the financial system to autonomously take more decisive measures.

Main levers for change

Evidence in other countries has shown some levers that can lead to a significant transformation in the financial system toward green finance. In Colombia, there are four main levers that can lead to sound transformations in the financial system:

- Exemplary leadership: individual institutions such as Grupo Sura, Grupo Bancolombia, or Davivienda, the Colombian Stock Exchange, or responsible investment funds such as Fondo Inversor, can show the benefits of green finance and the competitive advantage it creates, and can transfer best practices to other market players.
- Real sector crisis: crises are always a powerful driver for change. Major natural disasters or major industrial disasters, originated in environmental or social issues, can focus the attention of investors and civil society, and can lead to a general awareness of green finance. The La Niña phenomenon in 2010-2011 is an example of this.
- Policy innovation: there are interesting experiences such as "Código País" related to governance criteria integration, the micro-finance industry development in Colombia, the financial committee at SISCLIMA, and the active participation of government institutions in the Green Protocol. Replicating these practices to other financial subsectors and articulating them into a generalized, country-level green finance strategy can become a significant lever for change.
- Multilateral institutions requirements: great-scale infrastructure projects will become part of the Colombian economy landscape in forthcoming years. Those projects demand significant

resources, most of them provided by multilateral institutions. These institutions demand rigorous approaches to social and environmental risks that can spill over to the financial institutions and, finally over to real sector.

Role of regulation

As a support mechanism for the overall market framework, a wide range of policies, financial regulations, and incentives have been proposed by different entities in order to promote green finance.

They can work either as mechanisms that increase the viability of projects or investments with positive environmental impact, as well as restrictions for projects or activities that have a negative impact on the environment. According to the OECD Working Paper on Finance, Insurance and Private Equity No. 35, these regulation mechanisms should attempt to:

- "Ensure a stable and integrated policy environment, developed in co-ordination with asset allocators, which provides investors with clear and long-term visibility and incentives. (...)
- "Address market failures, which create risk-return investment profiles that favor polluting or environmentally damaging infrastructure projects over green infrastructure investments. (...)
- "Provide a national infrastructure road map. (...)
- "Facilitate the development of appropriate green financing vehicles. (...)
- "Promote public-private dialogue on green investments. (...)
- "Promote market transparency and improve data on infrastructure investment. (...)"

Although there is a general agreement that some of these mechanisms should be implemented in order to align capital allocation and economic signals to sustainable development, there is also a wide range of opinions about the specific mechanisms and how they should be implemented.

Colombian institutions must open the debate and define in what part of this spectrum they want to play. These will be the main guidelines for the development and implementation of a green finance strategy and pull the right levers of change according to the national context.

Suggested next steps

There are several key initiatives from financial sectors, especially in commercial and development banks, that are showing good practices for the entire financial system and evidence an opportunity to find potential paths toward this complex, but necessary transformation.

In particular, this opportunity reflects the potential to better manage long-term sustainability risks, mobilizing capital at the necessary scale, and strengthening the market infrastructure.

Regarding the management of long-term sustainability risks, this includes the increased exposure to oil and gas financial assets, the stranded assets risk, and the exposure to physical impacts of extreme weather events that could increase the potential for non-performing loans, and increase exposure for the insurance sector.

From the scale perspective, the large infrastructure investment plans, mainly the fourth generation (4G) infrastructure plans, create an opportunity to mobilize capital at the necessary scale, and suggest the

clear need to ensure that these investments are not exposed to the long-term risks highlighted above, and can contribute to adapt or mitigate the economic system to sustainable development challenges.

From the market infrastructure perspective, the country has a unique opportunity of implementing standards and methodologies for risk assessment, disclosure, and transparency, among others, which help shift the transition toward green finance without necessitating a regulatory intervention.

Colombia has great economic potential in a greener economy, and the financial sector must set a clear landscape about its contribution. There is an opportunity to consolidate a broad national green finance vision, which covers all financial subsectors and integrates a common vision, with specific and measurable goals. Moreover, aligning these long-term goals with the country's sustainable development challenges would incentivize the civil society to support government and private initiatives, thus moving change forward at a quicker pace. Then, big and small accomplishments, on the path to sustainable finance, should be recorded, evaluated, published, and correlated to the strategic vision. Particularly, initiatives that enhance corporate reputation and give visibility to the responsible actions of both the real and financial sectors build confidence in the path toward the strategic vision. Finally, connecting the success of green finance leaders with their transformational behavior and using the credibility gained to leverage change at a faster pace would be key in this process.

The results of this project, its consultations, and its analysis are intended to provide a platform for holding a convening with relevant stakeholders, and to initiate a cross-sector conversation in the financial system around barriers and opportunities to strengthen green finance in Colombia from a regulatory and operational perspective.

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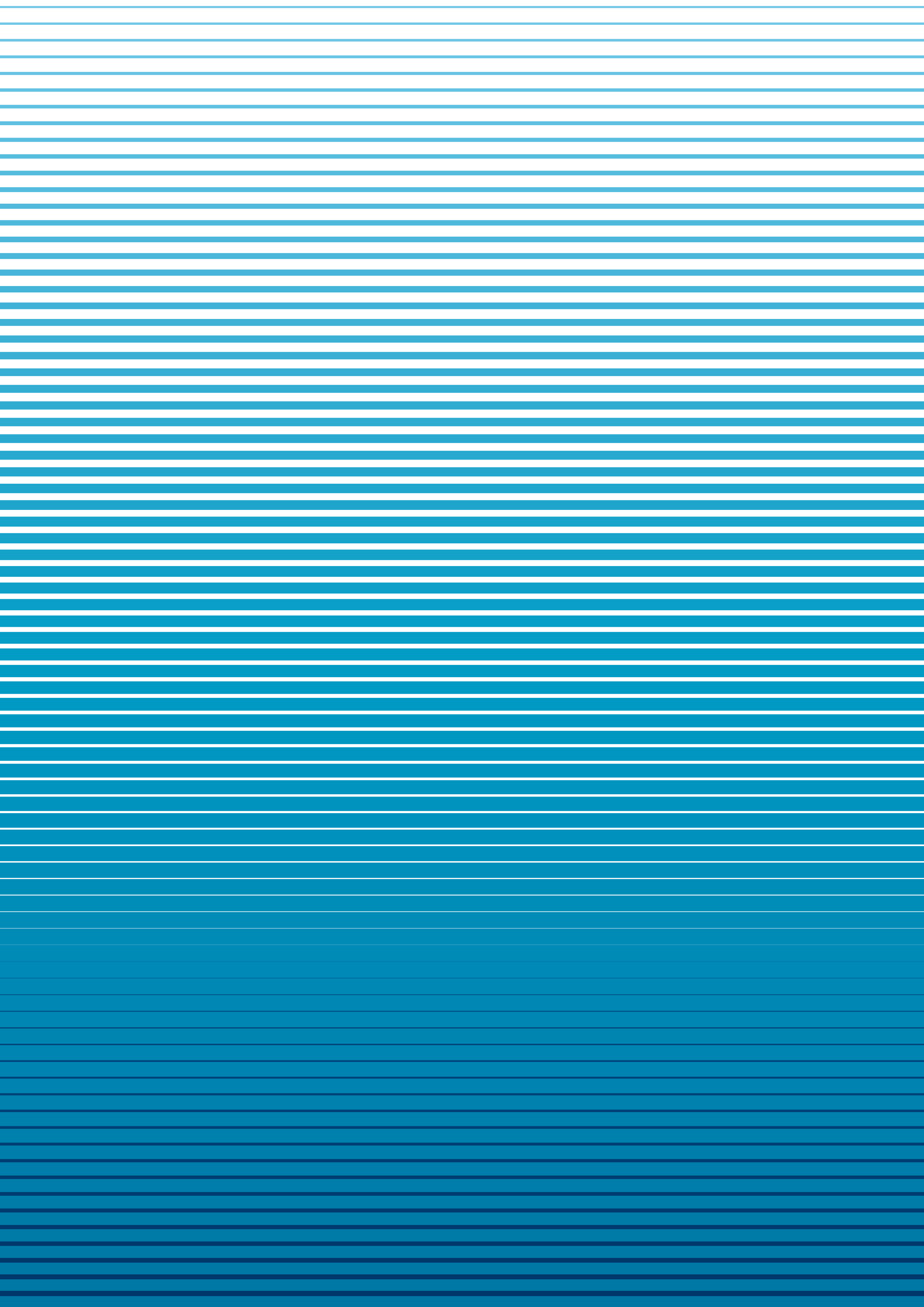

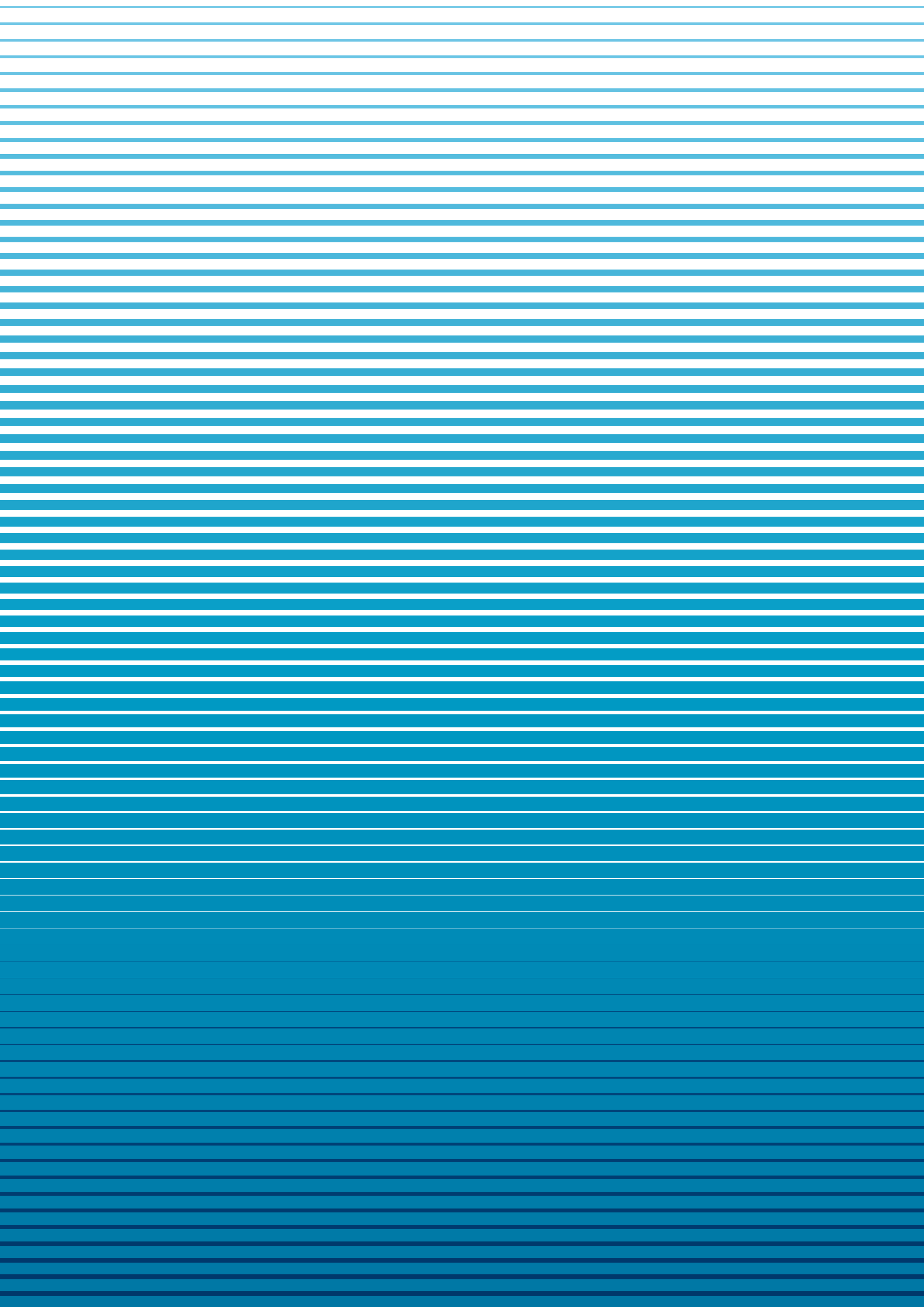

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