Chile: Financial Strategy on Climate Change

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Financial Strategy on Climate Change

Ministerio de Hacienda
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Preface

Chile is aware of the need for a transition to a low carbon economy, which is resilient to the impacts of climate change, as part of Government's efforts to achieve sustainable development with greater efficiency, competitiveness, equity and economic growth.

A failure of take quick and effective action shall have significant economic and financial impacts, and will leave our society exposed to different risks. Nevertheless, new opportunities will, at the same time, arise with the transformation and transition towards a low carbon economy accompanied by an efficient use of resources, the adoption of clean energy sources, the development of innovative products and services, the growth of environmentally friendly markets and entities' adaptation to climate change.

The Government of President Sebastián Piñera is taking on the responsibility of this challenge, and it is encouraging several policies for the benefit and care of the environment and society, in addition to encouraging contribution by all sectors of the economy. The announcement of the goal to reach net emission neutrality as soon as possible is a clear reflection of the commitment as regards climate action.

This year, Chile is playing a particularly significant role as regards this phenomenon, leading the most important worldwide initiative on this matter: our country has been honored with the presidency of the 25th Conference of the Parties (COP), which offers the opportunity to speed up the progress concerning the reduction of greenhouse gas emissions by participating countries.

In addition, the Chilean Ministry of Finance is co-chairing, together with Finland, the Coalition of Finance Ministers for Climate Action, an unprecedented initiative where we are working together with over 50 countries to encourage best practices and experiences to mitigate and adapt our economies to the challenges posed by climate change.

All of the above requires us to continue strengthening the institutions that drive investment, innovation and the development of technologies towards sectors which will help us to meet Chile's goals on climate. To this end, the Ministry of Finance, as the entity responsible for governmental policies and public finance, plays a key role by generating the conditions allowing the channeling of public and private capital flows towards sustainable, equitable and fair development for individuals and the environment.

In this sense, this first Financial Strategy on Climate Change, one of Chile's commitments after the Paris Agreement, defines the axes and measures that shall lead the efforts as regards climate financing to achieve the transition towards a low carbon economy, resilient to the effects of climate change.

Ignacio Briones Rojas
Minister of Finance

Like all the Parties which have subscribed to the Paris Agreement, Chile must implement the necessary actions to fulfill the commitments made in its National Determined Contribution (NDC) to move towards inclusive and sustainable development.

In 2019 the COP25 will be held, the first COP before the implementation of the Paris Agreement which will be in force as of 2020. The current moment is critical for encouraging all countries to reduce emissions in greenhouse gases, in order to facilitate the decrease in the emission's gap required to limit the planet's temperature increase to under 1.5 degrees Celsius, as science demands.

The challenges of climate change offer a great opportunity to move towards a low emission and resilient to climate economy, mobilizing public investments for sustainable development which take into account environmental, social and economic variables in a balanced manner. This is the important call that Chile, in its role presiding over the COP, will strongly drive.

Our country has reflected its commitment to climate action through a proposal to update our NDC increasing the ambition of all of its components, particularly mitigation, adaptation and the synergies among them. Consequently, it is fundamental to have a Financial Strategy on Climate Change which orientates and aligns public and, in particular, private actions through clear guidelines for the financial sector, in line with the country's objectives and commitments on climate change.

Chile is one of the most vulnerable countries to climate change. We meet 7 of the 9 vulnerability criteria as established by the United Nations, a complex scenario when considering that the effects of climate change deepen existing inequality and injustices, and may create social and environmental crises which aretwo sides of the same coin.

It is time for action. We face important challenges and, in turn, we have great opportunities where the conscious participation of all players, public, private, civil society, academia, science and citizens as a whole is essential in order to make good decisions and implement our commitments.

The actions we start today, jointly and under justice and social-environmental equality criteria, will define the type of society that we will build during the following decades and that will allow our transition towards sustainable development.

Carolina Schmidt Zaldívar
Minister of Environment

I. Executive Summary

The Financial Strategy on Climate Change is a part of the international efforts to stop global warming within the context of the worldwide commitment made at the 2015 Paris Agreement to limit the increase of global average temperature to under 2°C, and making efforts so that the increase does not exceed 1.5°C compared to the pre-industrial era. This translates into reaching zero net emissions of greenhouse gases (GHG) between 2050 and 2070, according to the special report of the Inter-Governmental Panel on Climate Change (IPCC).

Within the framework of this Agreement, each member assumed different commitments to face climate change, which have been expressed in the National Determined Contribution (NDC) of each country. In the case of Chile, goals were set for the term 2020 to 2030 based on five pillars: mitigation, adaptation, construction and strengthening of capacities, development and transfer of technologies, and financing. Regarding the latter pillar, the country undertook to prepare a Financial Strategy on Climate Change that will incorporate a periodic analysis of public expense on climate change, the creation of institutions allowing for the coordination of Chile's relationship with the Green Climate Fund, as well as the design of financial instruments enabling the flow towards a low emission and climate resilient economy.

The Strategy herein introduced defines an action framework through three actions pillars in order to contribute to the implementation of climate and sustainable development objectives as defined by the Paris Agreement through Chile's NDC, with a view to carbon neutrality. Specifically, it intends to align actions in order to accelerate the flow of resources towards a resilient, low carbon economy.

The first axis is focused on information, data generation and analysis to mobilize capital flows within the framework of policies and measures coherent with the country's climate purposes, economic growth priorities, governmental responsibility and sustainable growth with a long-term view. The above will help to generate robust evidence to report on decision making, as well as to periodically assess and improve the instruments that are a part of the climate financing institutions. Among the progress mande is the establishment of Green Climate Fund institutions, as well as those aimed at building a methodology to facilitate measurement of public and private expense on climate change.

The second axis intends to promote the design and implementation of green financial instruments and market development to contribute to the development of climate resilient and low carbon emission economic sectors. Through inter-sector collaboration and together with private players, this action axis intends to promote the development of new green financial instruments in a technically feasible manner, as well as improving pre-existing ones. Also, actions will be promoted to mobilize different financing sources, including multilateral ones, for the development of the training and knowledge required to catalyze and drive green finance through different instruments, policies and measures. The main progress achieved under this axis is the creation and implementation of the green tax under Law N° 20,780, and issuance of the two first green sovereign bonds for a total USD 2,377 million.

The objective of the third axis is to strengthen understanding, capacities and action of the local financial sector regarding risks and opportunities derived from climate change. One of its achievements is the creation of the public-private Green Finance Table, intended to define a joint work agenda among the Government, regulators and entities of the financial market to incorporate the risks and opportunities of climate change.

The action plan set out in this Strategy shall be the responsibility of the Ministry of Finance, supported by the Ministry of Environment, sector ministries and financial regulators, among others. The Strategy will be updated in 2021, taking into account the multiple policies and initiatives under development. From then on, it will be updated every 5 years as of 2025, after the new NDC, and it will include the assessment of the measures therein identified.

This Strategy is the first step to advancing inter-sector coordination on climate change challenges, mobilizing and accelerating the financial flow towards a sustainable economy and reporting on decision making in essential areas of the Chilean economy.

II. Objectives and guidelines of the Financial Strategy on Climate Change (FSCC)

II.1. General Objective

This strategy addresses NDC regarding the financing pillar undertaken by Chile in 2015 under the Paris Agreement.

Considering the challenges that climate change implies for Chile's development, the Strategy defines a working framework through three action axes enabling implementation of climate objectives and sustainable development in the long run, as defined under NDC and the goal of carbon neutrality by 2050.

II.2 Specific Objectives

Aligning policies that enable a transition to a resilient low-carbon economy interacting with the best international practices in climate finance. Promoting conditions to mobilize and diversify climate financing, by incorporating climate variables in the finance risk management process. Leveraging additional resources within an environment that catalyzes changes towards a fair and responsible, low emission transition, strengthening adaptation in the zones where climate change impact tends to have a greater effect, and among the most vulnerable parts of the population.

Supporting the design and implementation of the National Determined Contribution in line with the goal of reaching carbon neutrality, as well as resilience to the impacts of climate change, with a view to building a long-term perspective which takes into account the country's institutions and climate management. The above in order to allow implementation of climate goals, plans and strategies, enabling compliance with the mitigation and adaptation objectives under the Chilean climate regime.

Enabling public-private cooperation and coordination, in order to accelerate mobilization of different capital sources for investment in sectors supporting the implementation of mitigation and climate adaptation actions.

Driving and promoting the design and development of financial instruments and solutions, allowing the productive, industrial and services sectors of the Chilean economy, together with citizens as a whole, to capture investment opportunities arising from a competitive and sustainable transition.

Conguillio National Park / Andeshandbook

III. FSCC Context

This Strategy is framed by a context of international and national climate action which aims to separate economic growth from greenhouse gas emissions (GHG), in addition to generating new sustainable growth opportunities which will enable a fair transition towards a thriving, carbon neutral economy, resilient to the impacts of climate change.

III.1 International Context

Within the context of the global response to climate change, the beginning of international coordination facing challenges related to this phenomenon go back to 1992, when the United Nations Framework Convention on Climate Change (UNFCCC) was adopted. Chile ratified this Convention in 1994, and afterwards adhered to the Kyoto Protocol, in 2002. The Protocol introduced legally binding commitments on emission reduction taken on by developed countries, but these covered only 14% of global emissions (Ministry of Environment, 2019).

For this reason, the international community sought greater participation by the economies of the world in climate action, which finally led to the adoption, in 2015, of the Paris Agreement which was enacted in 2016. Chile is a part of the Paris Agreement and it has developed an institutional structure to coordinate compliance with the international commitments regarding climate change.

Through the Paris Agreement, the 197 parties that signed the UNFCCC undertook, in a collective and binding manner to limit the increase of global average temperature to below 2°C as compared to the preindustrial era, and to make efforts so that temperature increase does not exceed 1.5°C. This translates into achieving zero net greenhouse gas emissions (GHG) between 2050 and 2070; according to the special report of the Inter-Governmental Panel on Climate Change (IPCC). The Agreement is also designed to increase adaptation capacity and to align financial flows to such commitments.

In order to comply with these objectives, each of the parties establishes its NDC according to its capacities. In this way, emission reduction commitments as well as climate resilience are defined, in order to progressively reach the Paris Agreement objectives. The Agreement (Article 4) requires that each party prepares, discloses and maintains its NDC successively every 5 years, reflecting an increasing progression over time. Alongside this, the Agreement invites its members to communicate in 2020 their long-term GHG low emission development strategies. The purpose of the long-term strategies (LTS) is to guide the countries' economy transformation, necessary to achieve the zero net emissions between 2050 and 2070; to identify the immediate policy changes required to start such transformation and to anticipate the transition costs in order to remediate them (Vogt-Schilb & Hallegatte, 2017; Fay, et al., 2015; Pathak, 2017).

As of November 2019, 184 parties have disclosed their first NDC and 11 countries have communicated their LTS (UNFCCC, 2019). Nevertheless, altogether the current commitments are insufficient to limit the increase of global temperature to a 1.5°C or even to 2°C (UNEP, 2019).

The IPCC's Special Report confirms it is essential to significantly strengthen mitigation efforts (IPCC, 2019). According to said document, it is likely that global temperature will reach 1.5°C between 2030 and 2052 if it continues increasing at the current pace, having an impact on people's health, nutrition safety, water supply, biodiversity, human safety and economic growth, among others. As the same report states, it is necessary and possible to reach emission neutrality at a global level in 2050, thus preventing temperature increase over 1.5°C and avoiding the worst impacts of climate change.

The above becomes urgent when considering the effects associated with the new climate scenarios caused by temperature increase which are already apparent, and will increase if this trend continues. During 7 of the last 10 years, the worldwide financial costs of natural disasters have exceeded the average of the last 30 years of USD 140 billion a year. Since the eighties the number of extreme climate events has more than tripled (NGFS, 2019).

Estimates suggest that, if no measures are taken to reduce emissions, the physical impact of climate change could result in the reduction of up to a quarter of worldwide average income by the end of the century. Feedback between the financial system and macro-economy could intensify such impacts and risks even further (NGFS, 2019).

III.2 National Context

It is necessary to have a general view of GHG emissions for the challenge of separating Chilean emissions from its economic growth, with the purpose of reaching carbon neutrality in 2050, as well as to strengthen resilience to extreme climate phenomena. To this end, it is essential to identify economic sectors which make the greatest contributions to such emissions, as well as the elements of the country most vulnerable to potential climate change impacts, and to comply with Chile's main commitments regarding climate action.

III.2.1 Emissions

According to the National Inventory of Greenhouse Gas (INGEI) submitted by Chile to the UNFCCC in 2018 through the Third Biennial Update Report (IBA3), in 2016 Chile's GHG balance (GHG emitting sectors less absorption from the "Use of Land, Change in the Use of Land and Forestry" sector (UTCUTS) [acronym in Spanish]) accounted for 46,185 kt CO_2 eq[1], while the total GHG emissions of the country accounted for 111,677 kt CO_2 eq. The latter increased 114% since 1990, and 7% since 2013. The main sources of this trend are the Energy and UTCUTS sectors.

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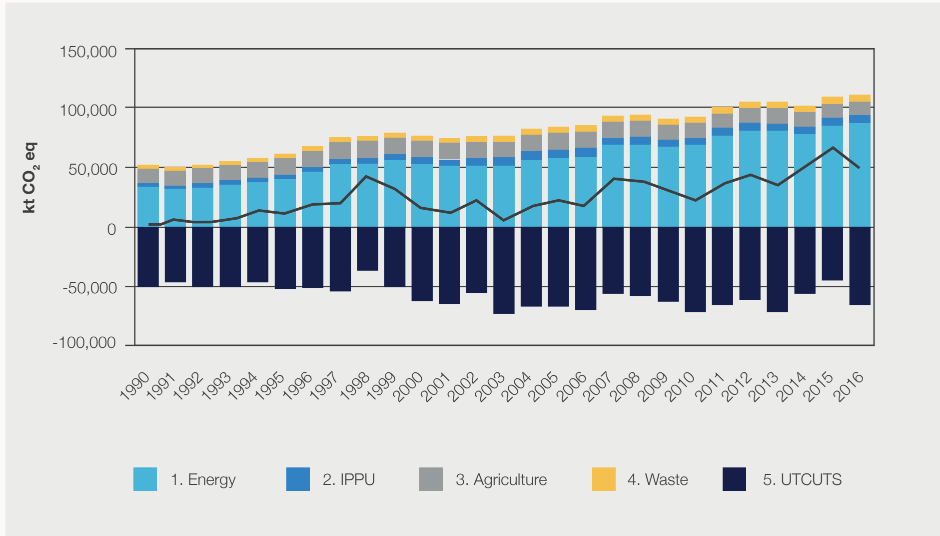
Figure 1. Chile's INGEI: balance of GHG (kt CO2 eq) per sector, series 1990-2016

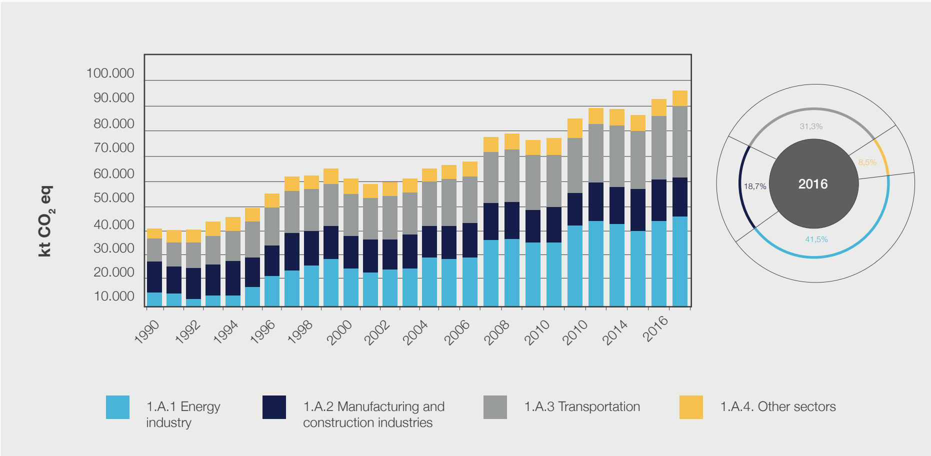


Source: Ministry of Environment (MMA) Coordinating Technical Team

At the sectors level, Energy, which includes the energy, manufacturing, construction and transportation industries, is the main national GHG contributor, with 78% of total emissions in 2016. This sector has also shown the greatest emissions increase level: 138% since 1990 and 17% since 2013, which mainly represents the increased energy consumption of the country.

1. *CO2 eq is a measurement in tons of gases emitted by their equivalence in carbon dioxide.*

Figure 2. Emissions evolution of the Energy sector



Source: IBA, 2018

In 2016, the Agriculture sector represented 11% of total GHG emissions. The Industrial Processes and Use of Products (IPPU) sector represented 6%, and the Waste sector 5% of GHG total emissions that year.

Regarding GHG absorptions, as noted in Figure 1 the UTCUTS sector, which includes the emissions and absorptions related to forestry activities and change in the use of land, is the only one that consistently absorbs CO_2 in the country, thus being a significant sector given its capture potential and, consequently, for this element's decrease in the emissions balance. In 2016, the GHG balance of the sector accounted for -65.492 kt CO_2 eq, increasing its sink condition by 31% since 1990, and decreasing it by 9% since 2013, the latter due to the effect of the emissions caused by forest fires.

As regards the total worldwide emissions, Chile's GHG emission participation amounted to approximately 0.25% as of 2015 (Ministry of Environment, 2018). The worldwide average CO_2 emission per person the same year amounted to 4.4 tons and, according to the calculation of the Greenhouse Gas National Inventory (Ministry of Environment, 2017), Chile exceeds that amount by very little, with 4.7 tCO_2/pp.

The country is also well below the average of the OECD countries, which amounts to 9.2 tCO_2/pp (Ministry of Environment, 2018). Nevertheless, according to the latest IPCC report, such levels must be progressively reduced to achieve the goal of carbon neutrality, thus contributing to limiting the increase of global temperature to 1.5ºC.

III.2.2 Vulnerability

Chile shows a high vulnerability to climate change, meeting seven of the nine vulnerability criteria pronounced by the UNFCCC, which are: low height coastal areas; arid and semi-arid zones; forest zones; territory prone to natural disasters; areas prone to drought and desertification; urban zones with atmospheric pollution issues and hilly ecosystems.

According to the 2019 Global Climate Risk Index (Eckstein, Hutfils, & Winges, 2018) which measures the impact of extreme meteorological phenomena based on the number of deaths and financial loss, Chile is among the riskier countries, ranking 16th among 181 countries.

Currently, we can see the effects associated with new climate scenarios. These are mainly related to a rise in average temperatures and decreased rainfall, which will intensify the water shortage conditions and, consequently, the drought that has increasingly affected our country during the last decade.

Also, an increase in the frequency and intensity of extreme hydro-meteorological events has been noted, such as floods, forest fires, drought, rising sea levels, among others. Concrete examples of these events were the 2017 floods in the Atacama Region, which injured thousands of people, and the 2019 rains in the same zone, which caused the lockout of several mining sites with a direct impact on the reduction of financial activity at a national level.

III.2.3 National Determined Contribution Chile 2015

After the Paris Agreement, on September 29, 2015, Chile submitted its National Determined Contribution to the UNFCCC Secretariat (Chilean Government, 2015) in response to 1/CP20 decision of Lima's COP 20 to submit contributions in advance of the twenty-first Conference of the Parties or COP21, where the Paris Agreement was adopted (UNFCCC, 2014, page 2, par. 13).

Chile's NDC established commitments between 2020 and 2030 based on five pillars:

i) Mitigation
ii) Adaptation
iii) Building and strengthening capacity
iv) Development and transfer of technology
v) Financing

Chile undertook to reduce its CO_2 emissions per GDP unit by 30% in 2030, compared with 2007 levels. This takes into account future economic growth, which will allow for the implementation of adequate measures to fulfill such a commitment.

In addition, and subject to obtaining international money contributions, the country undertook a greater reduction of 35-45% of CO_2 emissions per GDP unit by 2030, based on 2007 levels.

Regarding the finance pillar, the country undertook to prepare a Financial Strategy on Climate Change which incorporates:

- Periodic analysis of both direct and indirect public expenditure aimed at fighting and preventing climate change, to be updated every year starting in 2020.
- The creation of an internal governance, allowing to optimally manage and coordinate the communication with the Green Climate Fund. From a multi-sectorial perspective, such institutions will be in charge of preparing and assessing a portfolio of projects to finance, among other tasks.
- Design of financial instruments that may be used for purposes such as adaptation and the transfer of technology to facilitate the fight against climate change.

Taking into account the current climate scenario and progress made in international negotiation, in 2019 the Chilean Government encouraged the review and updating of the commitments undertaken in its NDC, improving them in form and substance to align them with the objectives towards 2050 goals, and to comply with the obligations undertaken when subscribing to the Agreement.

These aspirations to greater goals in 2030 pave the way for achieving neutral emissions in 2050, as announced by the Government, in response to demands by science not to exceed 1.5ºC by half way through the century. For this challenge, the financing pillar of Chile's NDC will require a long-term, strategic view that accompanies this transition and the adjustment of all productive sectors to the new demands of the global economy.

Financial Strategy on Climate Change

IV. Financial Strategy on Climate Change

Climate change represents a great challenge given its planet scale, the complexity of its elements and its increasing impact through time. Mitigation of its effects in the future will strongly depend on the decisions and actions adopted at present.

The financial sector plays a key role in this area, by assigning the necessary resources to allow society to move in a planned, and orderly manner towards a sustainable economy. The role of Finance Ministries, Central Banks and Comptrollers in this matter is fundamental to promote -within their corresponding periods- knowledge and management of the risks related to climate change which could affect the stability of the financial system, as well as generating the legal and regulatory conditions for the development and strengthening of a financial market that channels resources towards economic development based on low carbon emissions.

The role of the Finance Ministries also includes creating macro-economic and governmental policies for the management of public finances supplemented by regulatory implementation and other measures, allowing for alignment of growth and the sustainable management of resources, in order to enable the required transformation of different economic sectors, such as energy, transportation, agriculture and forestry, among other.

Coalition of Finance Ministers for Climate Action

Finance Ministries have been actively involved in climate finance over the past few years. A fundamental milestone was the launching, on April 13, 2018 of the Coalition of Finance Ministers for Climate Action, led by the Chilean Ministry of Finance acting together with its Finnish counterpart.

This initiative to bring together national and global action to fight climate change is supported by over 50 Finance Ministers, the European Commission and international organizations such as the World Bank.

Specifically, the Coalition is a platform that intends sharing experiences and good practices regarding the challenges related to climate change in macro-economic policies, governmental and budgetary planning and public investments management. Its purpose is to identify concrete actions of a voluntary nature in order to drive action on this matter, thus accelerating implementation of the Paris Agreement.

The Finance Ministries which are members of this platform abide by six guiding principles: the Helsinki Principles (The Coalition of Finance Ministers for Climate Action, 2018). These principles represent the acknowledgment of an urgent and global collective action for humanity's wellbeing. In addition, they allow Finance Ministries to share experiences in order to enable the adoption of better practices and policies, thus achieving a low carbon, climate resilient growth. These principles are:

1. Aligning policies and practices with the Paris Agreement commitments.
2. Sharing experiences among Finance Ministries in order to offer mutual support and promote the collective understanding of policies and practices for climate action.
3. Working towards measures resulting in an effective setting of carbon prices.
4. Taking climate change into account for macro-economic policies, governmental planning, budget, public investment, management and procurement practice.
5. Mobilizing private sources of climate financing to enable investments to flow to a sustainable economy, promoting the development of the financial system in support of mitigation and adaptation to climate change.
6. Being actively involved in the domestic preparation and implementation of NDCs submitted by reason of the Paris Agreement.

The first meeting of the Coalition at a technical level took place on June 4 and 5, 2019 in Santiago, Chile. The purpose of the meeting was to initiate the development of the Santiago Action Plan for the Coalition, which was approved on October 19, 2019.

The country has moved forward regarding policies and actions encouraging climate financing, but an action framework is required allowing for a coherent integration, if possible, of the different actions and public policies on this matter.

This Strategy approaches the 2015 NDC commitments and acknowledges the new goals on climate issues, with the purpose of moving towards a carbon neutral, climate resilient economy by 2050. Three axes have been identified that will guide the actions regarding climate financing and will enable the necessary synergies with other public policy instruments oriented towards the achievement of Chile's goals on this issue.

Action Axes of the Financial Strategy on Climate Change

This section describes the three action axes under which the Strategy will be implemented over the following years. These axes intend to contribute to and promote a responsible use of resources, encouraging economic growth through the opportunities offered by the transition towards a greener and more sustainable economy.

The first axis is focused on information and data generation and analysis, to mobilize capital flows under a framework of policies and measures coherent with the climate objectives of the country, growth priorities, governmental responsibility and sustainable development with a long-term view.

The second axis intends to promote the design and implementation of green financial and economic instruments and, in general, of market development in order to contribute to the current and new climate resilient, low carbon emitting sectors of the economy.

The third axis attempts to strengthen understanding, capacities and action by the financial sector regarding risks and opportunities derived from climate change, taking into account international evidence and best practices.

Figure 3. Action Axes of the Financial Strategy on Climate Change

AXIS 1	**AXIS 2**	**AXIS 3**
Information, data generation, and analysis under a coherent framework	Promotion of economic and financial instruments and market development	Strengthening Green Finance in the Financial Sector

Axis 1: Information, data generation and analysis, to mobilize capital flows towards a competitive, low emission and climate resilient economy, within a coherent framework.

Chile's vulnerabilities facing climate change fall into different categories: geographic, social, productive and financial, among others. Such vulnerabilities imply risks and opportunities that require information to be adequately analyzed.

Information is fundamental for citizens, financial entities and the economy as a whole are able to manage the risks created by climate change, and to identify the opportunities offered by it and by a transition to a sustainable economy. Consequently, it is particularly important to begin to coordinate work among public and private entities of all economic sectors for the generation, management, analysis and disclosure of information on this matter with the contribution, if possible, of each actor's knowledge.

On the other hand, this axis intends to respond to the current policies framework, to the need to provide coherence to the actions to be laid out for achieving climate objectives, and to generate confidence in the markets. It is essential to have robust evidence to inform decision-making, as well as periodically assessing and improving the instruments that are a part of the climate financing institutions.

Progress to date

Local governance with the Green Climate Fund Institutions

The Green Climate Fund (GCF) was designed as the operational entity of the United Nations Framework Convention on Climate Change's (UNFCCC) financial mechanism, as established in 2010 within the framework of the 16th Conference of the Parties (COP). Between 2010 and 2014, the Convention representatives worked on the definition of the procedural rules for the operation and leveraging of said funds. As of 2015, the Green Fund is operational and it has approved 124 projects to date.

The Fund finances mitigation and/or adaptation projects and programs regarding climate change activities, both at a public and private level in priority sectors for each country, and they must contribute to the compliance with the commitments agreed after the Paris Agreement.

As a part of Chile's 2015 NDC, the country undertook the creation of internal institutions allowing for optimal management and coordination of the relationship with the GCF, taking into consideration the various institutional instruments linked to climate issues.

Thus, in 2016 the Council of Ministers for Sustainability (CMS) made a pronouncement on institution arrangements regarding the implementation of the Green Climate Fund in Chile and agreed as follows:

i) The National Designated Authority (NDA) will be represented by theUndersecretary of Finance at the Ministry of Finance, who will be in charge of the communication and coordination between the country and the Fund. Its mission consists of guaranteeing that the activities funded and supported by the Fund are consistent with national objectives and priorities, thus enabling the progress of adaptation and mitigation actions.

ii) The NDA will be supported by a Technical Secretariat for which the Ministry of Environment will be responsible. Said Secretariat will be formed by a representative from the Ministry of Finance, the Ministry of Environment and the Ministry of Foreign Affairs.

It was also established that the GCF's Technical Secretariat shall submit to the Council of Ministers for Sustainability (CMS) a proposal of proceedings and criteria to assess and prioritize the projects to be submitted to the Fund by the National Designated Authority. This proposal was prepared and submitted in 2017.

Public expenditure on climate change

The national Budget is one of the main instruments through which the Government assigns resources to implement public policies and operationalize its development agenda.

In this sense, considering the growing aspirations of Chile's international commitments on issues related to climate change, it is significant to have a reference on how much countries invest to face this phenomenon, thus making budgetary assignment based on empirical evidence. As of 2019, efforts have been made in Chile to measure this situation through the implementation of pilot projects to measure public expense on climate. Such projects have delivered significant learning, particularly regarding the importance of actively incorporating the entities in charge of public and fiscal finance into the measurement proceedings.

In August 2019, the Ministry of Finance publicly announced that, with the support of multilateral technical assistance, it is working on the objective of Chile having a methodology to identify public and private expense on this issue.

This way it will be easier to have sufficient and, if possible, standardized and comparable information to support decision making on significant public finance to fund Climate Action.

2. Project funded within the framework of the Low Emission Capacity Building (LECB) Program. Technical document "Progress in the identification of public expense on climate in Chile". It received support from the UNDP, the European Commission, German Government and Australian Government.

Short-term actions

The priorities for 2020 and 2021 under Axis 1 are defined as follows:

Axis 1. Information and data generation, indicators and analysis
Identifying the climate objectives' investment needs and establishing a road map which contributes to the implementation of climate objectives and sustainable development in the long term, as defined under the NDC and carbon neutral view.
Developing sector indicators in order to accompany and monitor the progress of the measures contemplated in Chile's NDC and in this Strategy. The above, with the purpose of permanently or periodically updating this Strategy, so as to effectively contribute to the country's NDC long-term objectives, allowing for effective decision making through time.
Developing a strong and technically feasible portfolio of projects which contributes to the objectives as defined in the NDC and which is of interest for the long-term investors' community, who will play an essential role in closing the current financing gaps.
Promoting joint efforts to generate sectors information through the analysis of the public investment portfolio of projects funding climate change mitigation actions through the National Investments System, among others.
Assessing the feasibility of identifying public expenditure on climate action.
Promoting the synergies between economic and financial information and environmental information in order to adequately assess implementation of public policies, and prioritization of public expenditure on issues related to a transition towards a low carbon economy, resilient to climate change.
Reviewing and updating institutions before the Green Climate Fund and the National Designated Authority, taking into account the current priorities of the country, with the aim of enabling compliance with the NDC and carbon neutral objectives.

Axis 2: Promotion of economic and financial green instruments and market development

Among the fundamental elements of this Strategy, undertaken at the 2015 NDC, are the financial and economic instruments catalyzing capital flows to low emission and climate resilient sectors. In a coordinate action among all players of the economy, the country has witnessed a positive evolution: at present, several instruments have been developed which help to identify innovation opportunities to devote the necessary capital flows to new economic sectors, such as renewable energy, energy efficiency, sustainable housing, among others.

Nevertheless, and considering the greater demands on climate action, the country must continue generating enabling environments for the development of new instruments and to enhance those already in existance. This Axis will seek for inter-sector collaboration with private players in order to promote the development of new green and innovative financial instruments in a technically feasible manner. Also, it shall seek to increase the already existing ones.

Also, this Axis will enable the mobilization of different financing sources, including multilateral sources, enable to on promote the development of the training and knowledge required to catalyze and drive the mobilization and leverage of green finances through different instruments, policies and measures.

Progress to date

Green Taxes

In order to support and supplement efforts to decrease greenhouse gas emission in a cost-effective manner, as well as the local atmospheric pollution, since 2014 and as stipulated by Law N°20.780 Chile has three emissions taxes:

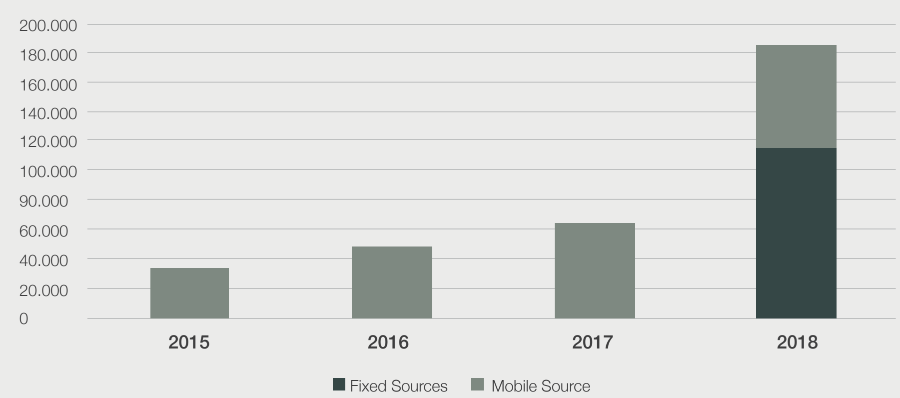
i) On the first sale of light vehicles (mobile sources), according to their urban performance and nitrogen oxide (NOx) emission.

ii) On fixed sources and emission to the atmosphere of NOx local polluters, particulate material (PM) and sulfur dioxide (SO_2), which directly affect the communities close to their place of emission.

iii) Direct tax on carbon dioxide (CO_2) emission applied to the fixed sources above. Currently, it is equivalent to USD 5 per CO_2 ton.

The mobile sources tax was enacted in 2015, and the tax on fixed sources in 2017. Collection between 2015 and 2018 for mobile sources amounted to CLP 218,195 million, while in 2018 for fixed sources it amounted to CLP 115,299 million.

Figure 4. Annual collection of Green Tax on fixed and mobile sources



Source: by the author, based on the basis of Public Account by the General Comptroller of the Republic.

In August 2018, the Government of President Sebastián Piñera submitted a series of amendments to the fixed sources tax contained in the Tax Modernization Project. Among the main proposals are: a new criterion to determine the levied sources, exclusively based on the quantity of contaminants issued; incorporation of tax compensation mechanisms for the implementation of emission reduction projects, both in local and global contaminants and the review every 10 years of the social cost of local contaminants, among others. The Project is under discussion at the National Congress.

Sovereign Green Bonds

In 2019 the Ministry of Finance issued its first sovereign Green bonds, one in USD and another in euros, for a total of USD 2,377 million.

The bond in USD with maturity in 2050 was issued in the amount of USD 1,418 million with a historically low interest rate (3.53%). Thus, Chile showed its leadership in climate action by being the first country in the continent to issue this type of bond. The operation had a demand 12.8 times greater than the amount offered, and it was the first time that the allotment rate in a foreign currency issuance is lower than the estimated rate according to information from the secondary market; that is, a 5 base points negative rate concession. This issuance reflects the confidence of international markets in our country, as well as the high interest that currently exists on this type of investment.

The second sovereign green bond issued by the Ministry of Finance, this time in euros, had the lowest interest rate historically obtained by the country in such currency (0.83%), with a significant demand from investors specialized in green bonds. The placement of this euro's bond, with maturity in 2031, amounted to €861 million. The bond had an initial demand of €4,015 million, 4.7 times the amount offered.

Use of Funds

The bonds revenue will be exclusively used to finance and re-finance, partly or totally, public projects corresponding to six eligible categories in the Green Sectors: Clean Transportation, Energy Efficiency, Renewable Energies, Live Natural Resources, Use of Land and Protected Marine Areas, Water Management and Green Buildings.

Projects, in turn, seek to contribute to four environmental objectives: climate change mitigation, improving air quality, preservation and sustainable use of terrestrial and marine ecosystems, and the protection and sustainable use of hydro resources.

The Chilean Government has undertaken the Green Bond Framework, a document which defines guidelines and the national policy framework, so that issuing Sovereign Green Bonds in the country is supported by the highest review standards. To this end, it has obtained the Climate Bonds Initiative certification, and verification performed by the specialized agency *Vigeo Eiris.*

Santiago / Transport Ministry

Green Financial Instruments by Chile State Bank (BancoEstado)

BancoEstado, the Chilean Government's only commercial bank,has encouraged sustainability as a business strategy, recently developing a series of green financial instruments. In 2016, it started granting the first mortgage loans for ecological housing. These consider a discount in the interest rate for adquiringproperties certified as energy efficient. To date, 1,205 housing units have been financed, 77% of them having Governmental subsidy, making a significant impact not only on the social environment but also on emissions reduction and energy savings.

This Governmental Company also has specialized financing for unconventional renewable energy projects (ERNC) [acronym in Spanish] and energy efficiency for small and medium size companies (Pymes) [acronym in Spanish], having funded 45 projects to date. In October this year they launched the green financing line for individuals' segment. On the other hand, the entity issued the first social bond in 2018, for the amount of CLP 50,000 million. Also, it is developing the Energy Saving Insurance Program, an initiative with the Support of the Inter-American Development Bank (BID), which will introduce an energy savings insurance to minimize the current uncertainties faced by small and medium-sized entrepreneurs when investing in energy efficiency projects for their companies.

Finally, it is worth mentioning that in November 2019 BancoEstado approved its Climate Change and Environment Management Policy, which establishes a commitment by the Bank and its subsidiaries through the implementation of concrete actions towards the reduction and mitigation of environmental and climate change impacts.

Green Financial Instruments by Corporación de Fomento de la Producción (CORFO) [Production Encouragement Corporation]

Currently, CORFO is carrying out its sustainability strategy through the development of new products/programs directly related to climate change, through the financial instruments at its avail.

These are mainly subsidies, loans and guarantees intended to: decrease the project risks investment; defer the initial costs of the adoption of new technologies/ infrastructure; leverage greater investment flows from private entities to increase the efficiency of the public budget and contribute to fomenting productivity in micro, small and medium companies, as well as leveraging greater investment flows in low carbon infrastructure and technologies.

Among the main programs supporting the development of projects related to climate change are Green Loan, which allocates financing (funding) to Financial Intermediaries so that they may grant loans to companies in order to finance storage, ERNC or energy efficiency projects. They also have a Forestry Investment Fund launched in 2018, which grants long-term loans (up to 30 years) to support the incorporation of investment funds by leveraging private entities' contribution at a 2:1 or 3:1 ratio. The purpose of the last program is to finance reforesting projects, productive recovery of left-behind areas, sustainable management of native forests and the development of wood-based plantations.

CORFO expects to launch the Self-Consumption Guarantee program in 2020, whose purpose is to encourage the incorporation of generation systems based on ERNC for self-supply, creating adequate financial and technical conditions in the early development stages of this emerging industry.

Partnership for Market Readiness (PMR) Project

Between 2015 and 2019, the Ministry of Energy carried out the PMR-Chile Project through a donation of a USD 5 million by the World Bank.

The main purpose of the Project was to create technical capacities and institutions to assess and develop carbon pricing in the country. The Project has been focused on the strengthening of regulatory and institutional capacities for the implementation of green taxes as part of the 2014 tax reform, including the improvement of the measurement, reporting and verification (MRV) system. On the other hand, it has contributed to the assessment of alternatives for carbon price instruments, together with the preparation of a proposals options map to build an integrated system for these type of instruments.

Renewable Energies for Self-Consumption (NAMA)

The Ministry of Energy leads the NAMA on Renewable Energies for Self-Consumption which purpose is to promote the incorporation of generation systems on the basis of renewable energies for self-consumption, in order to create the appropriate financial and technical conditions for the early stages of development of this industry. The NAMA has two components, one technical and once financial. The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) is in charge of carrying out the technical component, whose activities started in August 2017 and shall finish in June 2020.

Moreover, the Ministry of Energy is in charge of the financial component and it is designing pre-investment and investment financial instruments focused on co-financing renewable energies self-consumption projects in the productive sector, which will be carried out in 2020.

Global Environment Facility (GEF)

In December 2018 the Ministry of Energy was awarded the “Accelerating investment in efficient and renewable district energy systems in Chile” project by the GEF, whose purpose is to accelerate the implementation of district energy in Chile, generating a new enabling framework which will result in co-funding of projects with this technology. During 2019 the Ministry has been working on the Project’s Document. The Ministry of Energy will carry out this project, together with the Energy Sustainability Agency and the Ministry of Environment, with UNEP as the implementing agency.

Antofagasta Region, Chile / EDF Group

Green Climate Fund Projects (GCF)

To date, the GCF has approved four Projects for Chile, one public and three private, one of them at a regional level.
The projects' total investment for Chile alone amounts to USD 1.4 billion and contains a reduction potential of 51.1 tons of CO_2 equivalent.

Table 1: Projects approved by the Green Climate Fund for Chile

Name	Sector	Type of project	Proponent	Reduced Emissions (Tons of CO^2 e)	Amount GCF USD MM	Total Amount USD MM	Investors
Atacama Solar	Energy	Private	Sonnedix	3,7	49	265	CAF, Sonnedix, GCF, Local Banks
Espejo de Tarapacá	Energy	Private	Valhalla	35	60	1.112	MUFG, Valhalla, GCF, Local Banks
Geeref Next	Energy	Private	Geeref Next	265[3]	265	765	European Bank, Geeref Next, GCF, Banks
REDD+	Forestry	Public	CONAF	12,4	63	63	FAO, CONAF, FVC

Source: by the authors, on the basis of Green Climate Fund.

Private Sector

The private sector in Chile has also shown significant progress during the last few years as regards the development of green financial policies and instruments.

In terms of reporting, the Dow Jones Sustainability Index Chile (DJSI Chile) stands out. Launched in 2015, the DJSI Chile is the first sustainability index, which assesses the corporate performance of eligible companies in economic, environmental and governance (ASG) [acronym in Spanish]. These companies all have shares included in the IGPA index prepared by the Santiago Stock Exchange, with a market capitalization adjusted to a floating capital higher than USD 100 million. To date, 31 companies are included in the index.

In 2017, the first green bond was issued by a Chilean company from the forestry sector. This instrument was placed on the New York Stock Exchange in March that year for USD 500 million.

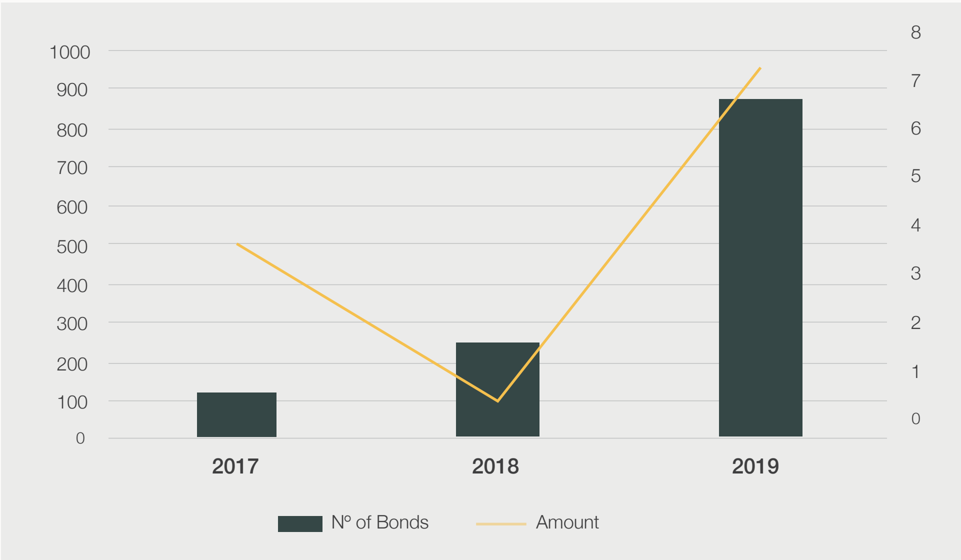
In 2018, two green bonds were issued in forestry and sanitary services for a total of USD 97.7 million.

In 2019, eight bonds of this type were issued by the private sector for a total of USD 892 million in the following sectors[4]:

- Forestry, for the amount of USD 100 million
- Banks, for USD 50 million and USD 48 million
- Sanitary Services, for USD 83 million and USD 61 million.
- Industrial, for USD 100 million
- Energy, for USD 508.1 million

3. Among 29 countries.
4. Two companies issued green and social bonds hence the collective amount is not entirely devoted to green projects.

Figure 5. Number of green bonds issued by Chilean companies or subsidiaries



Source: by the authors, on the basis of Santiago Stock Exchange, CMPC and AES Gener.

Short-term actions

For 2020 and 2021, the priorities and concrete actions under Axis 2 are as follows:

Axis 2. Promotion of design and issuance of economic and financial instruments and market development.
Encouraging the design and issuance of different types of green financial instruments such as green bonds, risk reduction insurance, carbon markets, among other.
Assessing and eventually making new sovereign green bonds issuances.
Assessing the amendment to the investment guidelines of the Pensions Reserve Fund and the Economic and Social Stabilization Fund to incorporate ASG criteria.
Standing for the second phase of the Partnership for Market Implementation initiative, which would start operations at the beginning of 2021.
Reviewing and updating the Projects Assessment and Prioritization Methodology to be submitted to the Green Climate Fund, in order to promote greater access to climate financing.
Standardize the summons for public and private projects to be submitted to the Green Climate Fund, with the purpose of identifying a project' portfolio compatible with the carbon neutral and NDC goals.
Implementing the GEF project "Accelerating investment in efficient and renewable district energy systems in Chile", and preparing the document for the GEF project "Accelerating the adoption of electric mobility in Chile", led by the Ministry of Energy.
Assessing and considering options to speed-up the proliferation of clean technologies with the "Development and Technological Transfer Strategy for Climate Change".
Initiating an identification process of the multi-lateral sources for funding and the sector initiatives in progress, in order to efficiently manage the resources according to the investment needs identified under Axis 1.

Axis 3: Strengthening green finance in the financial sector

Considering the amount of resources required for the transitions towards a low emission economy, consensus exists that the public sector cannot act in an isolated manner. For this reason, it must encourage collaboration with the financial sector, including market regulators and players, with the purpose of assigning capital flows to investments in the real economy under sustainability criteria, in response to the objectives defined under the Paris Agreement.

One of the greatest barriers to mobilizing the necessary capital flows is the lack of crosswise knowledge, understanding and training of the economic and the financial sector related to the risks and opportunities of the climate and sustainable development phenomenon.

At an international level, several standards have been developed to identify and integrate the risks related to climate change and the opportunities arising from the transition to a sustainable economy and to make them a part of companie's business decisions, particularly for financial entities. Some examples of these are the Network for Greening the Financial System (NGFS), the Task Force on Climate-Related Financial Disclosures (TCFD) and the Coalition of Finance Ministers for Climate Action which, although at an early stage, have become global benchmarks and have delivered useful tools adopted by a great number of countries.

This Axis is intended to promote and generate technical knowledge in a coordinated, tranversal way, in the public and private financial sector, about the risks of climate change in terms of physical impacts and the transition to carbon neutrality, as well as opportunities. All of the above in line withinternational standards and best practices on this matter.

Progress to date

Green Finance Public – Private Roundtable

On July 3, 2019 the Ministry of Finance announced the creation of the Green Finance Public – private Roundtable, whose purpose is to define a dialogue and joint agenda among the Government, regulators and entities of the financial market to incorporate the risks and opportunities of climate change into decision making.

The dimensions considered by this initiative are:

1. Risk Management: how the Chilean financial sector identifies, assesses, manages and discloses the risks derived from climate change for its businesses.

2. Policies and Green Financial Instruments: how the Government, regulators and the financial market may detect, promote and take advantage of the market opportunities through different instruments and vehicles which permit the transition towards a low carbon economy, considering Chile's commitment with to Paris Agreement and neutral emissions in 2050.

The initiative is chaired by the Ministry of Finance and is made up of the regulators' representatives, as well as all the entities of the financial sector: banks, the insurance sector, the General Fund Administrators, the Pension Fund Administrators and securities intermediaries.

The main result of 2019 was the Green Agreement, long-term voluntary commitment is sought with this Table among the financial sector, the Government and regulators which defines the management framework with regards to the risks and opportunities associated with climate change. The above, with the purpose of adopting certain principles and starting concrete voluntary actions by the signatories to accelerate risk mitigation and climate effect adaptation actions, in order to contribute to financial stability and market development.

The four areas of action of the Green Agreement are:

i) Governance
ii) Strategy and opportunities
iii) Risk management
iv) Goals and metrics

These elements are based on the pillars around which the TCFD made recommendations on financial disclosure related to climate and markets development, which are supported by NGFS and several governments at a worldwide level, such as England, France, Japan and Canada, among others.

The 2019 work materialized into:

i) The "Financial Authorities Statement" which conveys the relevance such entities grant to risk management related to climate change (specifically physical and transition risks) and the opportunities derived from the transformation to a low carbon economy.

ii) The "Green Agreement" voluntary, through which general principles are jointly defined regarding risk management and opportunities related to climate change for decision making by the signatories, which undertakes concrete actions in this area, in line with the recommendations by TCFD, NGFS and international best practices.

This initiative intends to become a long-term platform of dialogue among the financial sector actors, in order to implement actions, taking into account the view, needs and challenges of this sector as a whole. In this way, it is expected that the financial sector will generate recommendations based on the best possible information, helping to overcome the current gaps as regards climate financing.

A committee will be created in 2020 allowing for implementation of the Agreement through a "2020+ Green Finance Road Map".

Climate change and risks to financial stability

Climate change is one of the greatest risks at a global level (WEF, 2019) and a financial risk source (NGFS, 2019) which may significantly affect financial and macro-economic stability and, in turn, economic growth.

With the work of the TCFD and NGFS, two risk categories have been identified related to climate change: physical risks and transition risks.

a) Physical Risks:
Risks derived from frequent and severe, extreme climate events which have an impact on society and on the economy. These may be circumstantial or the result of a long-term deviation in climate behavior patterns. These type of risks may have financial consequences for entities, such as in the case of water shortage, extreme temperatures, forest fires, increased sea level, among other unusual events related to climate change.

b) Transition Risks:
Risks related to the process of adjustment towards a zero net emission economy. They may result in great political, legal and technological changes, as well as in the markets, depending on the nature, speed and focus of such transformations.

Although urgent action is desirable, taking very abrupt steps could also have an impact on financial stability and on the economy in general. The potential risks of the transition for the financial system are greater in those scenarios where capital reassignment and public policy measures occur in an unexpected and disorderly manner (NGFS, 2019).

Examples for transition risks are: standards and regulations that should be issued by governments to achieve their commitments, changes in the demand by society and reputational risks.

Local regulators: Progress to date

Climate change and the risks arising from this phenomenon (physical and transition) are a source of financial risk that may jeopardize financial and macroeconomic stability and world growth. In this sense, the role of financial regulators and overseers is fundamental to creating awareness among those under their control about these type of risks, and to promote their inclusion in the risk management frameworks in order to mitigate them on time.

Worldwide interaction by this type of entity in this area started in 2017 during the planet summit where the Central Bank of France, together with eight other banks from across the world, created the Network of Central Banks and Supervisors for Greening the Financial System (NGFS). The NGFS is a working group currently formed of 46 Central Banks and financial overseers, and 9 multilateral entities, whose purposes are, on the one hand, to contribute to the analysis and management of risks related to climate and the environment in the financial sector and, on the other, to mobilize the resources of said sector towards a greener economy. The above, through the definition and promotion of best practices and the development of analytical models on green finance.

In the case of Chile, the three financial regulators, the Commission for the Financial Market, the Pensions Superintendence and the Central Bank of Chile have made progress on this matter. All of them are a part of the Public-Private Green Finance Roundtable in order to respond in a coordinated manner to the different results of the initiative and to implement the commitments therein defined.

The progress per entity is as follows:

The Commission for the Financial Market (hereinafter the “Commission”) oversees the banks, the securities market and the insurance sector, having in its regulatory area about 75% of the Chilean assets of the financial market. The Commission’s legal role is to control the correct operation, development and stability of the financial market which materializes in the overseeing of market behavior and market development for financial entities.

As regards market development, the Commission has announced an amendment to the General Standard 386, with the purpose of introducing a requirement to disclose environmental, social and securities market governance factors.

The Commission has considered it necessary to create a Task Force for Climate Change (FTCC) [acronym in Spanish], to take into account the risks posed by this phenomenon. The FTCC is formed by professionals for banks, securities and insurance in order to transversally face the challenges posed by climate change, thus adequately complying with the legal framework. The FTCC will be the counterpart of the Ministry of Finance at the Public-Private Green Finance Roundtable, and generate capacity and knowledge as regards monitoring and supervision of climate risk.

On the other hand, the Pensions Superintendence (hereinafter the “Superintendence”) announced during 2019 an amendment to the Risk Based Supervision Process (SBR) [acronym in Spanish] used to oversee the Pension Fund Administrators (hereinafter “Administrators”), which shall incorporate climate risk and ASG factors. Said amendment will be in force as of 2020.

The Superintendence has explained that it is in the process of studying additional alternatives to enact regulations forcing Administrators to disclose information to their members on how climate change and ASG are being taken into account in investment policies.

The Central Bank of Chile has also given its view on these issues. Thus, the Financial Stability Report of the second semester of 2019 declares that climate change could make profound changes to the human activity and the economic system supporting it (IEF, 2019), and that it is one of the regulators' roles, in view of this phenomenon, to incorporate climate change into the risk management frameworks of financial entities.

Short-Term actions

For 2020 and 2021 the priorities and concrete actions under Axis 3 are defined as

Axis 3. Strengthening green finance in the Financial Sector
To convene a Green Agreement with the financial sector and regulators to define an action framework on the management of physical and transition risks related to climate change, as well as the opportunities generated by them.
Promoting long-term public-private cooperation as regards understanding and management of the risks and opportunities related to climate change in the decision making of financial entities. Specifically, to promote the development of recommendations by the Financial Sector and eventually integrate them into the updated versions of this Financial Strategy on Climate Change.
To establish a "2020+ Green Finance Road Map" and define a governance to enable the implementation of the Green Agreement encouraging joint working whenever possible.
To share the progress of the 2020+ Green Finance Road Map work.

In the medium and long-term, this Strategy will include new guidelines according to the progress in this matter, in order to orientate the public and private sectors' contribution towards the consolidation of a low carbon emission and climate-resilient economy, taking into account the country's commitments in its NDC and carbon neutral goal, as well as financial, fiscal and macroeconomic stability.

Unplash

V. FSCC Governance and interaction with the existing climate governance

The Ministry of Finance will be in charge of:

1. Updating and assessing this Financial Strategy on Climate Change supported by the Ministry of the Environment in its role as national coordinator on climate change involvement, and by other corresponding sector organizations.

2. Defining and delineating responsibilities within the structure of the Ministry of Finance to perform such tasks.

The Ministry of Finance will be in charge of implementing this Strategy together with the Ministry of the Environment and other ministries and corresponding sector organizations.

For this purpose, the Ministry of Finance will have ongoing interaction with:

- The Office for Climate Change of the Ministry of the Environment, responsible for coordinating the NDC's update and other instruments guiding national climate action.
- Other sectoral ministries whose participation is required to supplement and strengthen the FSCC.
- Regulators and the financial sector.
- The private sector.

During the first stage, this Strategy's update, which will take into account the multiple policies and initiatives under development, will take place in 2021 and it will incorporate the progress of the measures therein contained.

Also, it may contain additional guidelines related to updates to the NDC and the Long-Term low Emission Strategy, an instrument currently under development which will guide the country's efforts in a crosswise manner to reach carbon nuetrality by 2050.

Afterwards, the Strategy will be updated after the new NDCs, that is, every 5 years starting in 2025 and it shall include the assessment of the measures identified.

Santiago, Chile

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Annex

Glossary on climate concepts and green finance

Adaptation to climate change: any action, measure or process to adjust to the current or projected climate, or to its effects on human or natural systems, with the purpose of lessening or avoiding damages, or taking advantage of beneficial opportunities.

Green Alignment: policies alignment to manage risks and mobilize capital for green, low carbon and resilient investments, within the widest context of environmentally sustainable development.

Value Chains: theoretical model which describes the performance of a business organization's activities generating value for the final product.

Climate change: it is understood as a climate change directly or indirectly assigned to human activity, which alters the composition of the world's atmosphere and adds to the natural weather variability as observed during comparable periods of time.

Carbon neutral[5]: achieving zero net carbon dioxide emissions, either through the balancing of carbon emissions with carbon elimination (through carbon compensation outlines, or biological or geological capture) or simply eliminating emissions entirely.

Green growth: encourages economic growth and development, guaranteeing that ecosystems continue delivering through time the services on which social wellbeing depends. This objective acts as catalyst for investment and innovation as the basis for a sustained growth by generating new economic opportunities[6].

Convention: United Nations Framework Convention on Climate Change, adopted in New York on May 9, 1992.

Marginal abatement costs curves[7]: graphic representation of abatement costs of a mitigation portfolio together with their mitigation potentials. The different options ordered in ascending order according to abatement unit cost may be observed therein.

Decarbonization[8]:
a) Global emissions level compatible with the Paris Agreement objective.
b) Emissions trajectories compatible with the necessary reduction level to fulfill the Paris Agreement.
c) Process to eliminate greenhouse gas emissions from a country's economy. Generally, this implies a greenhouse gas emission reduction in energy generation; the change of transportation, heating and industry fuels; a greater efficiency in all sectors and the preservation and increasing of carbon sinks.

Circular economy: cycle of continuous positive development which preserves and increases natural capital, optimizes resources yields and minimizes the system's risks, managing finite stocks and renewable flows.

Adverse effects of climate change: environmental alterations, caused directly or indirectly by climate change which have significant harmful consequences on the composition, recovery capacity or productivity of ecosystems, on health and human wellbeing, or on social economic systems.

Climate financing[9]: financing which intends to reduce emissions and improve greenhouse gas sinks, as well as reducing vulnerability, maintenance and increase in resistance of the human and ecological systems to the negative impacts of climate change[10].

5. Definition based on the Paris Agreement.
6. This definition of growth strategy was adopted by the Organization for Economic Co-operation and Development (OECD) in the Statement on Green Growth of June, 2009 with the signature of ministers from 30 member countries and four candidates, Chile among them. Vid national strategy for green development, Ministry of Finance, Chile 2014.
7. Development of a methodology to build abatement curves of GHG emissions de GEI incorporating the uncertainty associated to the main mitigation variables. Inter-American Development Bank, 2013.
8. IDDRI, 2015.
9. United Nations Framework Convention on Climate Change (UNFCCC).
10. Another operational definition of the UNFCC considers climate financing as the " local, national or transnational financing, which may come from public, private or alternative financing sources. Such financing is fundamental both to reduce emissions and to allow countries adapting to adverse effects, and reducing climate change impacts".

Adaptation financing[11]: financing of activities which tackle the current and expected effects of climate change, wherever such effects are important for the context of those activities.[12]

Mitigation financing[13]: financing that promotes efforts to reduce or limit greenhouse gas emissions, or to improve their sequestration.[14]

Carbon Finance[15]: finances related to mitigation and to market tools and instruments such as emissions trade and the greenhouse gas emissions markets.

Blended finance: strategic use of financing aimed at the mobilization of additional resources from different sources for the sustainable development of underdeveloped countries.

Green finance[16]: financing to achieve economic growth while reducing pollution and greenhouse gas emissions, minimizing waste and improving the efficiency in the use of natural resources.

Unbundled sources: the processes or activities that release a greenhouse gas, an aerosol or a precursor of a greenhouse gas to the atmosphere which are unbundled in multiple emission points.

Fixed sources: understood as any process or activity without movement that releases a greenhouse gas, an aerosol or a precursor of a greenhouse gas to the atmosphere.

Guarantee pledge: real guarantee established on a movable asset to ensure the fulfillment of an obligation by the debtor[17].

Greenhouse gases: gassy component of the atmosphere, natural or man-made which absorbs and issues radiation at certain wavelengths of the terrestrial radiation spectrum, issued by the Earth' Surface, by the atmosphere or the clouds considered by the Convention.

Economic instrument to manage climate change: mechanisms of fiscal, financial or market nature allowing internalization of environmental, social and economic costs related to the greenhouse gases emission, as well as the benefits of such emissions' reduction.

Mitigation: any action, measure or process oriented towards reducing greenhouse gas emission, or to restrict the use of such gases as cooling, isolating agents, in industrial processes, among others. Or the action aimed at increasing such gases' sinks in order to limit the adverse effects or climate change.

Neutrality of greenhouse gases emissions: balance status between man-made greenhouse gases emissions and absorptions in a given period of time.

Carbon budget:
a) the highest upper limit of carbon dioxide equivalent total emissions associated to a specific global average temperature threshold.
b) the upper limit of carbon dioxide equivalent possible emissions that a country or jurisdiction may emit during a period of time to fulfill its climate goal.

11. International Development Finance Club IDFC
12. See: http://pubdocs.worldbank.org/en/222771436376720470/010-gcc-mdb-idfc-adaptation-common-principles.pdf
13 International Development Finance Club IDFC.
14. See: http://www.worldbank.org/content/dam/Worldbank/document/Climate/common-principles-for-climate-mitigation-finance-tracking.pdf
15. Freestone & Streck, 2019.
16. See Green Finance and Investment, at: http://www.oecd-ilibrary.org/environment/green-finance-and-investment_24090344.
17. In case of non-compliance by the debtor, the creditor is entitled to divest the asset, thus recovering the funds that had been lent. Movable assets contributed as guarantee of a loan.

Systemic risk[18]: risk generated through the operation of an entity that does not manage all present risks, or does not operate properly to adequately collect them. It includes three essential elements:
i) it has a traumatic and sudden impact that may simultaneously affect a wide range of entities, or limited, but with a significant domino effect.
ii) it causes subsequent contagious effects through an interrelations network
iii) it is caused by internal unbalances accrued through time.

Climate resilience: a system or its components' capability to anticipate, absorb, adapt or recover from the adverse effects of climate change in a timely and efficient manner.

Low carbon resilient societies[19]: societies with emissions compatible to decarbonization that adapt to climate change.

Greenhouse gases sink: any process, activity or mechanism that absorbs a greenhouse gas from the atmosphere.

Fair transition: the need to ensure the quality of life of those who could be negatively affected by the transition to a low carbon economy.

18. Adrian & Brunnermeyer, 2010
19. Ninan et al, 2017

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