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Executive Summary **CHILE'S FIRST BIENNIAL UPDATE REPORT**

To the United Nations Framework
Convention on Climate Change



2014



CLIMATE CHANGE OFFICE

Executive Summary

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To the United Nations Framework Convention on Climate Change



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**CHILE'S FIRST BIENNIAL
UPDATE REPORT**

**To the United Nations Framework
Convention on Climate Change**

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PROLOGUE



The United Nations Framework Convention on Climate Change calls on countries to permanently share information on their progress in tackling climate change. Chile submitted its Second National Communication on Climate Change in 2011, compiling the actions performed in the country in the first decade of 21st century.

Although not much time has passed, the recent developments in institutionalizing climate change in the country has been unique: there is now a national greenhouse gas inventory system operating, with ownership by the ministries and services that manage the information that allows for preparing and updating the national inventory, facilitating the use of the results as a tool to support sectorial policies.

Additionally, nationally appropriate mitigation actions (NAMAs, defined by the Convention) have already become a reality in Chile, through their design, financing and progressive implementation. At the same time the Chilean National Congress has recently enacted new legislation that includes a carbon tax, which will be a cornerstone of mitigation action in the country.

Finally, for the first time, the government has carried out a systematic survey of public needs, financial resources, capacity building, technical assistance and technology transfer that the country has received to support the fight against climate change.

All these developments, results and related information are reflected in this document titled "Chile's First Biennial Update Report", whose origin and contents were agreed in 2011 by the Conference of the Parties to the United Nations Convention on Climate Change (UNFCCC).

Thus, this instrument adds to our efforts as a nation to improve our transparency of action. This document compiles actions and results that have occurred since the beginning of 2011 through the first half of 2014, updating much of the information contained in the Second National Communication.

The assessment of the country's achievement of the voluntary commitment announced in 2009 will be important to consider when designing and developing public policies in the country, and when preparing the national position at the UNFCCC negotiation of the 2015 agreement, which we expect will be completed successfully at COP 21 in Paris.

At the same time, Chile's vulnerability to the effects of climate change has generated a national imperative to carry out strong action in pursuit of the common objectives set by the UNFCCC to tackle climate change, which will only be achieved if all parties contribute ambitiously according to their respective capacities, and those countries in a position to do so provide international support to those that need to confront climate change.

The country's efforts to prepare its First Biennial Update Report (BUR) in a timely manner demonstrates Chile's will to work towards ambitious joint action.

The Climate Change Office of the Ministry of Environment has been able to submit Chile's First BUR at the COP20 in Lima, thanks to the financial support from international cooperation projects, including from the Global Environment Facility, the Low Emission Capacity Building-Chile and Information Matters projects, and a coordinated effort with sectorial and ministerial focal points on climate change. This Report was approved by the Council of Ministers for Sustainability and Climate Change in October, 2014 .

This report is a new effort that hopefully serves to demonstrate that Chile is taking proactively taking significant efforts to allow the country and the world to reduce the impacts of climate change. As stated by Chile's President Michelle Bachelet at the UN Climate Summit in September 2014, "future generations will measure us not only by economic growth achieved and its social implications, but also by our ability to meet the challenge of climate change".

Pablo Badenier Martínez

Ministry of Environment

Santiago, Chile. December 2014

EXECUTIVE SUMMARY

Chile's First Biennial Update Report on Climate Change is submitted as part of the country's reporting commitments under the United Nations Framework Convention on Climate Change. In accordance with the Convention's guidelines, this report updates the information of Chile's Second National Communication (2011), specifically in regard to National circumstances and institutional arrangements; National greenhouse gas inventory (NGHGI); Mitigation policies and actions; and Needs and support received in the area of climate change. In terms of needs and support received, this report considerably expands the coverage and analysis of related information with respect to the Second National Communication.

The Chilean Ministry of the Environment's Climate Change Office coordinated the process of collecting and gathering the information required for this report in collaboration with sectorial public institutions with environmental purview. This information was then validated by the ministerial focal points for climate change, and the Report approved by the Council of Ministers for Sustainability and Climate Change in October 2014.



1 NATIONAL CIRCUMSTANCES AND INSTITUTIONAL ARRANGEMENTS



1.1. Geography

Chile is a tri-continental country situated in southwestern South America and stretching from 17° 30' S latitude in the north to 56° 30' S latitude in the south. The territory encompasses Easter Island in Oceania and Antarctica in the far south. It extends more than 8000 kilometers and borders Peru to the north, Bolivia and Argentina to the east, the South Pole to the south and the Pacific Ocean to the west. Chile's many different climates are determined mainly by latitude and altitude, prevailing temperate characteristics.

The Chilean population grew rapidly in the 20th century but has begun contracting in the first decade of the 21st century. Progressive development has raised the quality of life of Chile's inhabitants, and the positive evolution of the country's Human Development Index (HDI) in recent years is undisputable proof of these transformations.

1.2. Economy

Chile's export-oriented economy is one of the most open in the world in terms of promoting free trade and trade agreements. Since 2010, Gross Domestic Product (GDP) has grown faster than the regional average and more rapidly than that of most developed countries. Its strong currency made Chile one of the most resilient countries during the 2007–2008 global economic and financial crisis. Today, however, the country faces a potential slowdown in growth.

Table 1 presents some key indicators for Chile that update the information provided in the Second National Communication of Chile to the United Nations Framework Convention on Climate Change (2011)¹.

Table 1. Chile - Key indicators.

Información		Fuentes
Geographic Indicators		
Total area (km ²)	2,006,096	Military Geographic Institute (IGM)
Population 2002	15,745,583	National Statistics Bureau (INE)
Estimated population 2010	17,094,275	INE
Estimated population 2013	17,556,815	INE
Estimated population 2050	20,204,779	INE
Rural population (% of total, 2012)	13.00	INE
Annual forested area (new forest tree plantations) (ha, 2013)	6,609	National Forestry Corporation (CONAF)
Annual planted area (new forest tree plantations and reforestation) (ha, 2013)	95,340	CONAF
Human Development		
Human Development Index 2014	0.81	United Nations Development Programme (UNDP)
Youth literacy rate in 2009 (% of persons 15–24 years old)	98.9	World Bank
Adult literacy rate in 2009 (% of persons 15 and above years old)	98.6	World Bank
Life expectancy at birth (in years, as of 2012)	79.6	World Bank
Deaths under 1 year of age and infant mortality in 2009 (per 1000 live births)	7.90	Ministry of Health (MINSAL)
Female infant mortality rate in 2012 (per 1000 live births)	7.10	World Bank
Male infant mortality rate in 2012 (per 1000 live births)	8.60	World Bank
Infant mortality rate in 2012 (< 1 year of age)	8.00	United Nations Children's Educational Fund (UNICEF)
Potable water coverage in 2013 (%)	99.9	Superintendence of Sanitary Services (SISS)
Sanitation system coverage in 2013 (%)	96.5	SISS
Wastewater treatment coverage for population served in 2013 (%)	99.9	SISS
Public expenditure on education as % of GDP (2012)	4.52	World Bank
Economic Activity		
Estimated GDP (ppp) for 2014 (millions of 2014 US\$)	352,224	International Monetary Fund (IMF)
Estimated GDP (ppp) per capita for 2014 (2014 US\$)	19,887	IMF
GDP growth (ppp) in 2012	0.38	IMF
GDP growth (ppp) in 2013	0.39	IMF
Estimated GDP growth (ppp) in 2014	0.39	IMF
Goods and services exported (% of GDP, 2013)	32.6	World Bank
Sector-specific Activity		
Renewable energy (% of energy matrix in 2012)	33.8	Ministry of Energy
Primary energy imports (% of energy used in 2012)	60.2	Ministry of Energy
Fossil fuels consumed as primary energy (% of total in 2012)	66.2	Ministry of Energy
Annual freshwater extraction for agricultural use in 2011 (% of freshwater extracted)	70.3	World Bank
Consumptive water extraction for agriculture and livestock use in 2011 (% of total)	73.0	Ministry of Public Works

¹ http://www.mma.gob.cl/1304/articles-50880_documentoCambioClimatico.pdf



1.3. Institutional arrangements for climate change

1.3.1. Environmental institutional framework

The consolidation of Chile's environmental institutional framework occurred primarily through the creation of the Ministry of the Environment (MMA) and the Ministry of Energy (MINENERGIA) in 2010 and the announcement of the creation of the Ministers Council for Sustainability and Climate Change in 2014.

1.3.2. Institutional framework and policies for climate change

Since Chile ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1994 and became a signatory to its Kyoto Protocol in 2002, the country has participated actively and met its commitments as a developing country. In 1996, the Government of Chile established a National Advisory Committee for Global Change, which played an important role in formulating initial national positions for international negotiations and in creating national policy instruments for climate change.

Climate Change Office

A major milestone occurred in 2010 with the official creation of the Climate Change Office (OCC) of the Ministry of the Environment. The OCC has been charged with participating in international negotiations on the implementation of the UNFCCC; coordinating the Committee of the Clean Development Mechanism's Designated National Authority; serving as focal point for the Intergovernmental Panel on Climate Change (IPCC) and as technical focal point

of the Adaptation Fund; technical leader for climate change for the Global Environment Facility (GEF) and technical secretary of the inter-ministerial committees on climate change.

National Climate Change Action Plan, 2008–2012

The first systematic climate policy effort in Chile was the 2008–2012 National Climate Change Action Plan (PANCC 2008-2012), which was approved and disseminated in Chile by President Michelle Bachelet in December 2008. The plan was structured around three areas defined in the National Climate Change Strategy of 2006—adaptation, mitigation, and capacity building. Today, the majority of the Plan’s proposed measures have been completely or partially implemented.

National Climate Change Action Plan, 2015–2020

President Bachelet’s Government Agenda for 2014–2018 called for the formulation of a second national climate change plan with a comprehensive, cross-sectorial approach to adaptation, mitigation and capacity building and including measures that will move the country toward a low carbon economy. Work on the plan began in September 2014 and will build upon current knowledge and concrete actions, with a special emphasis on financing and implementing measures.

1.3.3. Sector-specific institutional framework

Most ministries represented on the Ministers Council for Sustainability and Climate Change have defined some basic framework or nominated a person in charge on climate change within their institutions (climate change focal points). Despite evidence of increasing engagement by regional and municipal structures, especially in regard to adaptation, increasing interactions between the Central Government and subnational entities is a pending challenge.

2 CHILE'S NATIONAL GREENHOUSE GAS INVENTORY, 1990–2010 TIME SERIES



This national greenhouse gas inventory (NGHGI) is the third inventory submitted by Chile to the UNFCCC in fulfillment of Article 4, paragraph 1(a) and Article 12, paragraph 1(a) of the UNFCCC and decision 1/CP.16 of the 16th Conference of the Parties (Cancun, 2010).

Chile's NGHGI covers the entire national territory (continental, insular and Antarctica) and includes GHG emissions and removals in a complete time series spanning from 1990 to 2010.

2.1. Institutional arrangements and preparation of Chile's NGHGI

Since 2012, the Ministry of Environment's OCC has been designing, implementing and coordinating the National Greenhouse Gas Inventory System of Chile (SNICHILE), which sets out institutional, legal and procedural measures for the biennial updating of the NGHGI, thereby ensuring the sustainable preparation of GHG inventories in the country, the consistency of reported GHG flows and the quality of results. SNICHILE has five permanent working areas:

- NGHGI update
- Continuous improvement system
- Capacity building
- Institutionalization
- Dissemination

Preparation of this NGHGI began in the first half of 2013 and was completed in mid-2014. Chile's NGHGI represents the compilation of sectorial GHG inventories (SGHGI), all prepared in accordance with the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (2006GL) and using IPCC software. The Energy sector's SGHGI was prepared by the Energy Policy and Outlook Division of the Ministry of Energy (MINENERGIA). The SGHGI of the Industrial processes and other product use (IPPU)² sector was prepared by the OCC. The SGHGI for the Agriculture, forestry and other land use (AFOLU)³ sector was prepared by the Ministry of Agriculture (MINAGRI), with its Office of Agrarian Studies and Policies (ODEPA) coordinating work with the National Forestry Corporation (CONAF) on issues related to land use change; with the Forestry Institute (INFOR) on matters related to forested lands; and with the Agricultural Research Institute (INIA) on agriculture issues (crops and livestock). The Waste sector's SGHGI was prepared by the Ministry of Environment's Solid Waste Section. Each SGHGI was reviewed by international experts. Then the inventories were compiled by the OCC for use in Chile's NGHGI and its respective report, both of which also were subject to national and international review.

2 To ensure this report conforms to UNFCCC requirements for developing countries, the IPPU sector was divided into two separate sectors—Industrial processes and Solvent and other product use.

3 To ensure this report conforms to UNFCCC requirements for developing countries, the AFOLU sector was divided into two sectors—Agriculture and Land use, land use change and forestry.

4 The term "balance of GHG emissions and removals" or "GHG balance" refers to the sum of GHG emissions and removals, expressed as carbon dioxide equivalents (CO₂eq). This term includes the LULUCF sector.

5 The term "total GHG emissions" refers only to the sum of GHG emissions in Chile, expressed in carbon dioxide equivalents (CO₂eq) and excludes the LULUCF sector.

2.2. Trends in greenhouse gas emissions in Chile

In 2010, the balance of GHG emissions and removals⁴ in Chile amounted to 41,698.5 GgCO₂eq, while total GHG emissions⁵ in the country amounted to 91,575.9 GgCO₂eq, the latter representing an increase of 83.5% between 1990 and 2010 (Table 2 and Figure 1). The key drivers of this trend in the GHG balance were the Energy and Land use, land use change and forestry (LULUCF) sectors. The values in the balance that fall outside of the global trend are primarily the consequence of wildfires (accounted for in the LULUCF sector).

Table 2. Chile's NGHGI: GHG emissions and removals by sector (in GgCO₂eq), 1990–2010 series.

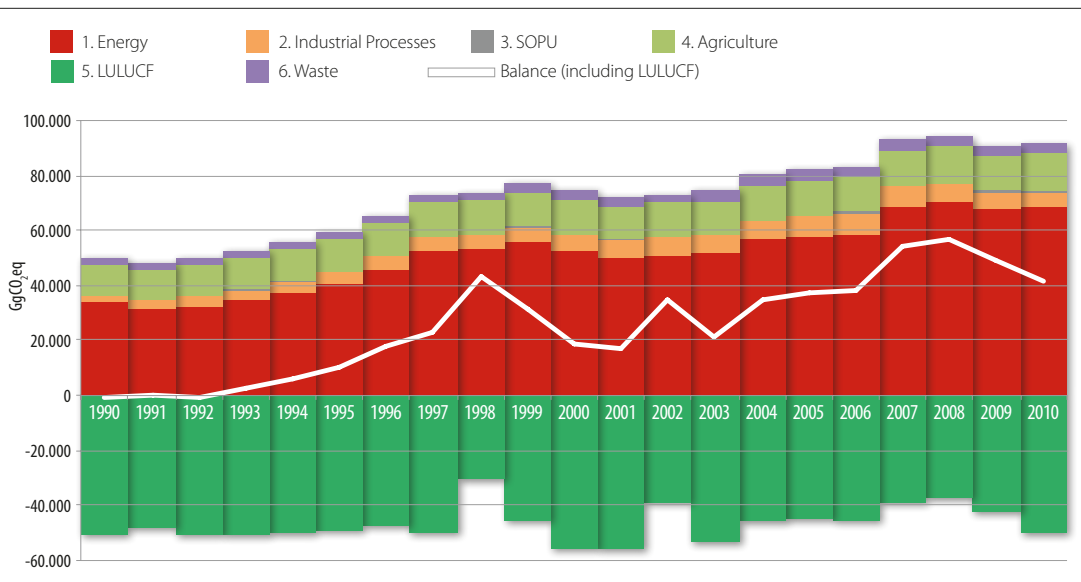
Sector	1990	1995	2000	2005	2010
1. Energy	33,530.4	40,370.6	52,346.8	57,936.8	68,410.0
2. Industrial processes	3,108.2	4,242.5	6,399.9	7,354.7	5,543.2
3. Solvent and other product use (SOPU)	82.3	94.8	118.0	110.7	243.0
4. Agriculture	10,710.2	11,892.6	12,493.2	12,736.9	13,825.6
5. Land use, land use change and forestry (LULUCF)	-50,821.6	-48,743.8	-55,404.6	-44,624.2	-49,877.4
6. Waste	2,465.5	2,685.8	3,130.0	3,866.2	3,554.1
Balance (including LULUCF)	-925.0	10,542.5	19,083.4	37,381.1	41,698.5
Total (excluding LULUCF)	49,896.6	59,286.3	74,487.9	82,005.2	91,575.9

Source: Prepared in-house by SNICHILE



In 2010, the main GHG emitted in Chile was CO₂, which accounted for 76.6% of total GHG emissions, followed by CH₄ with 12.5% and N₂O with 10.6%. HFCs and PFCs together accounted for 0.3% of total GHG emissions.

Figure 1. Chile's NGHGI: GHG emissions and removals trend by sector, 1990–2010 series





The Energy sector, that represents fossil fuel consumption, is the leading GHG emitter in Chile, accounting for 74.7% of total GHG emissions in 2010. That year, GHG emissions amounted to 68,410.0 GgCO₂eq, an increase of 104.0% from 1990. The key drivers of this increase were the increased coal and diesel consumption for electricity generation and the consumption of liquid fuels for road transportation (light gasoline-powered vehicles and heavy diesel-powered vehicles). Emissions in this sector have been decreasing since 2009, mainly due to the international economic crisis that began in 2008 and, to a lesser extent, to changes in fuel use in the country's energy matrix. At the subcategory level, the Energy industry (mainly electricity generation)

is the leading source of GHGs in Chile, accounting for 39.7% of the sector's emissions, followed by Transport (mainly road transportation) with 30.5% and Manufacturing industries and construction with 18.1%. The remaining 10.2% derives from other sectors (mainly Residential). Lastly, the Oil and natural gas subcategory accounted for 1.4% and Solid fuels for 0.1%.

LULUCF is the only sector that consistently removes CO₂ in the country. In 2010 the GHG balance of the sector reported removals for -49,877.4 GgCO₂eq. The GHG balance in this sector has tended toward removal over the entire time period, although removals dropped by 1.9% between 1990 and 2010. The key drivers in this category are an increase in biomass from forestry plantations and second-growth natural forests. GHG removals increase near the end of the period due to an increase in the area covered by forest tree plantations (increase in biomass) and a reduction in forest harvesting. At the subcategory level, in absolute terms⁶, 96.0% of the GHG balance corresponds to the Forest land category, followed by Grassland with 2.3% and Cropland with 1.2. The remaining 0.6% is accounted collectively by all other categories.

The Agriculture sector is the second emitter of GHGs in Chile, accounting for 15.1% of total GHG emissions in 2010. That year, GHG emissions amounted to 13,825.6 GgCO₂eq, an increase of 29.1% since 1990, the key driver being the steady increase in the use of synthetic nitrogen-based fertilizers. At the category level, 52.4% of GHG emissions come from Agricultural soils, followed by Enteric fermentation with 34.4%, and Manure management with 12.1%. The

⁶ To enable the direct interpretation of quantitative analyses, removals have been expressed as absolute values (2006GL).

remaining 1% derives from the categories Rice cultivation and Field burning of agricultural residues.

The Industrial Processes sector is the third source of GHG emissions in Chile, accounting for 6.1% of total GHG emissions in 2010. In 2010, this sector's GHG emissions amounted to 5,543.2 GgCO₂eq, an increase of 78.3% since 1990. The key driver of this increase is the steady growth in methanol production, the cement industry and the lime industry. Nevertheless, emissions have been falling sharply since 2006 owing to the reduction in natural gas imported from Argentina (the raw material used to produce methanol). At the subcategory level, Cement production was the main emitter in 2010, with 21.5% of the sector's GHG emissions, followed by Nitric acid production with 20.3%, Iron and steel production with 19.7%, and Lime production with 19.4%. Methanol accounted for 12.1% and Aerosols for 2.8% of the sector's total GHG emissions, and the remaining 4.1% corresponded to other subcategories such as Ethylene, Refrigeration and air conditioning and Ferroalloy production.

The Waste sector ranks fourth in Chile for GHG emissions, accounting for 3.9% of total national GHG emissions in 2010. That year, the sector emitted 3,554.1 GgCO₂eq, an increase of 44.2% since 1990. The key drivers of this increase were the increase in population and the amount of waste generated. At the subcategory level, 74.4% of GHG emissions from this sector come from Solid waste disposal, followed by Wastewater treatment and discharge with 23.7%, Biological treatment of solid waste with 1.9%, and lastly Waste incineration, with less than 1%.



Solvent and other product use sector is responsible for the lowest level of GHG emissions in Chile. Emissions from this sector amounted to 243.0 GgCO₂eq in 2010, or 0.3% of total GHG emissions, representing an increase of 195.1% since 1990.

In accordance with UNFCCC and 2006GL requirements, GHG emissions from international marine and aviation bunker fuels, as well as CO₂ emissions from biomass burned for energy purposes have been quantified and reported as Memo Items, but were not included in the country's Balance of GHG emissions and removals.

3 GREENHOUSE GAS MITIGATION POLICIES AND ACTIONS



The Government of Chile, through the Ministry of Environment's OCC, has coordinated a series of national initiatives to mitigate GHG emissions in order to move towards sustainable, resilient and low-carbon development. These initiatives are framed within the voluntary commitment that Chile made officially to the UNFCCC in 2010, which affirms: "Chile will take nationally appropriate mitigation actions to achieve a 20% deviation below the "Business as Usual" emissions growth trajectory by 2020, as projected from year 2007. To accomplish this objective Chile will need a relevant level of international support. Energy efficiency, renewable energy, and Land Use and Land Use Change and Forestry measures will be the main focus of Chile's nationally appropriate mitigation actions." In her Government Agenda, President Bachelet reaffirmed the country's willingness to fulfill this commitment.

3.1. Mitigation actions and policies in Chile

The information on GHG emissions and removals presented in Chile's GHG-NI contextualizes and underpins the importance of implementing sector-specific mitigation actions that can impact the country's overall GHG emission trend.

Multiple mitigation actions developed by government agencies are currently under implementation in different sectors in Chile. In the Energy sector, the Ministry of Energy has played a regulatory role by promoting institutional improvements, fostering the slow yet steady introduction of

non-conventional renewable energies (NCREs) to the electricity matrix, and advanced toward greater energy efficiency, among other measures. For the Transportation sector, the Ministry of Transportation and Telecommunications' Undersecretary of Transportation is responsible for generating policies, enabling conditions and drafting regulations for the development of efficient, safe and environmentally friendly transport systems. The Ministry of Agriculture promotes, guides and coordinates mitigation activities for the Land use, land use change and forestry sector (LULUCF), implementing actions to reduce the impact of GHGs that include economic incentives for forestation and forestry management, the Native Forest Law and the soil recovery program. The Ministry of Environment is responsible for designing and applying policies, plans and programs in the Waste sector, and to date has implemented sanitation regulations for waste management, a national solid waste program and regulations for managing sludge in wastewater treatment plants, among other actions.

In addition to these sector-specific actions, other GHG mitigation initiatives currently underway in Chile include cross-cutting measures such as Clean Production Agreements, Sustainable Construction Strategy, local initiatives and private sector actions.

3.2. Nationally Appropriate Mitigation Actions

A variety of sectors have begun to collect data and promote Nationally Appropriate Mitigation Actions (NAMAs) in Chile under the coordination of the OCC. At the national level, a total of nine sectorial NAMAs have been identified to date, with different levels of maturity and data availability (Table 3). Among these, five have been registered with the UNFCCC NAMA Registry, as shown in the table below.





Table 3. Chile’s Nationally Appropriate Mitigation Actions.

Name	Institution	Status	Reduction Goal
NAMAs Registered with the UNFCCC			
Expanding Self-Supply Renewable Energy Systems in Chile	MINENERGIA – CER	Under implementation	2 MtCO ₂ eq
National Program for Catalyzing Industrial and Commercial Organic Waste Management in Chile	MMA	Seeking support for implementation	12 MtCO ₂ eq
Design and Implementation of a National Forestry and Climate Change Strategy (ENCCRV)	CONAF	Seeking support for implementation	42 MtCO ₂ eq
Clean Production Agreements in Chile	CPL	Under implementation	18.4 MtCO ₂ eq
Santiago Transport Green Zone (ZVTS)	Municipality of Santiago	Seeking support for implementation	1.43 MtCO ₂ eq
NAMAs in preparation			
Carbon sequestration through the Sustainable Soil Management	INIA and SAG	Design stage	65 to 80 MtCO ₂ eq
Mitigation of GHG emissions from Industrial, Commercial and Institutional Boilers	MINENERGIA	Design stage	1.25 MtCO ₂ eq
National Sustainable Construction Strategy	MINVU	Design stage	ND
Assisted Phytostabilization of Mining Tailings in Chile	MMA	Design stage	ND

Source: Prepared in-house by the MMA’s OCC.

3.3. Cross-cutting actions to support progress towards a low-carbon economy

The Government of Chile is executing several internationally funded initiatives intended to create inputs for the design of a low carbon growth strategy. One of these initiatives is the project Mitigation Action Plans and Scenarios (MAPS-Chile), through a participatory multi-stakeholder process, seeks to support decision making by offering public policy options and private initiatives compatible with inclusive, competitive, low-carbon development. Another is the Low Emission Capacity Building (LECB-Chile) project, which has four com-

ponents—supporting the implementation of the National GHG Inventory System (SNICHILE), creating a Carbon Management Program (Programa Huel-laChile), supporting the creation of NAMA Measurement, Reporting and Verification (MRV) Systems, and designing a Low Emission National Development Strategy (LEDS) that incorporates the results of the first three components.

3.4. Market-based instruments for environmental externalities

Chile has supported and implemented projects under the Kyoto Protocol's Clean Development Mechanism (CDM) and is one of Latin America's leading actors in this field after Mexico and Brazil. This leadership has translated into 141 projects approved by the Designated National Authority as of July 2014, 101 of which, as of June 2014, have been officially registered with the CDM Executive Board. Most of the projects are focused on hydroelectric generation, methane capture and wind power. Since 2012, however, there has been a marked drop in new projects seeking approval.

In addition to the CDM market, Chile is also exploring potential emissions trading systems through the Partnership for Market Readiness project (PMR). Other economic instruments used for mitigating GHGs include a tax reform passed in 2014 that imposes the first direct tax on CO₂ emissions from stationary sources burning fossil fuels.

3.5. Measurement, reporting and verification of mitigation actions

In Chile, measurement, reporting and verification (MRV) seeks to foster transparency in GHG mitigation actions implemented in the country through mechanisms that enable adequate follow up on how well objectives are being met. In regard to MRV of NAMAs, the OCC is studying the design of institutional arrangements and a general framework for such systems in Chile. Under the authority of the Ministry of Environment, the OCC will coordinate the validation of MRV for each NAMA with the collaboration of sectorial experts. In the next few years Chile hopes to have a consolidated, integrated MRV system capable of following up on individual mitigation actions, on public policies designed to lower GHG emissions and on reduction commitments acquired in international climate change agreements.

4 NEEDS AND SUPPORT RECEIVED IN THE AREA OF CLIMATE CHANGE



Chile is extremely vulnerable to climate change and will potentially suffer significant economic, social and environmental losses if no action is taken. Furthermore, the country has been proactive in assuming voluntary commitments to mitigate GHGs, subject to international support.

4.1. Methodology and timeframe

To identify needs and support received, the OCC used the UNFCCC guidelines for the preparation Biennial Update Reports (BURs) for Non-Annex I parties to the Convention (Annex III, Decision 2/CP.17⁷) as a methodological framework. These are divided into different areas (financial resources, capacity building, technical assistance and technology transfer) and each area is further divided into five spheres (reporting, mitigation, adaptation, NGHGI, and international negotiations).

The information needed was collected in a three-stage process that included (I) identification of support initiatives for climate change implemented in the country; (II) cross-checking with donors, implementing agencies and coordinators of those initiatives; and (III) bilateral meetings with the parties involved. The information presented covers the period from January 1, 2011 to July 30, 2014, as defined by the team in charge of this report, and is intended to update the information presented in Chile's Second National Communication to the UNFCCC.

This effort considered only initiatives with public sector participation that

⁷ <http://unfccc.int/resource/docs/2011/cop17/spa/09a01s.pdf#page=>

were supported by International public and private agencies. While every effort was made to include all such initiatives, some may have been omitted where information was not available at the time this report was closed.

4.2. Needs

Chile's institutional structure and capacities have advanced substantially in recent years, as illustrated in the Second National Communication and in this report. Nevertheless, it is still possible to identify needs, gaps and barriers that hinder the development of climate action in Chile. One barrier is the public sector's inability to receive direct international funding as part of its current annual budget, as the Budget Law does not provide for such a mechanism. Another cross-sectorial barrier identified is the difficulty that some public services face in allocating funding to climate change-related matters within their current annual budgets, as climate change has not been explicitly identified as an area in their Organic Laws.

4.2.1. Reporting

The greatest challenge facing reporting activities in Chile is the need to establish permanent and binding reporting systems for the country's National Communications, Biennial Update Reports and intended nationally determined contributions, and this challenge will only be overcome through earmarking specific budget funds to finance reporting activity on an ongoing basis.

4.2.2. Mitigation

In the area of mitigation, Chile is currently engaged in designing robust institutional arrangements to support the design and implementation of existing and future NAMAs; improving cross-sectorial coordination and synergies; developing, to the extent possible, common tools to enhance understanding; and systematizing information on GHG reductions. For these to be effective, the country must prioritize the development of information management systems in all sectors.

4.2.3. National greenhouse gas inventory

Ongoing funding is needed at the sectorial level for the biennial preparation and continuous improvement of the NGHGI. Permanent and adequately qualified personnel is needed in each of the corresponding government ministries to prepare sectorial inventories. It is especially important that there be an integrated IT system for housing data and supporting the work of SNICHILE.



4.2.4. Adaptation

The OCC has a permanent line of action focused on adaptation. The 2008–2012 National Climate Change Action Plan envisioned the implementation of vulnerability and impact studies for the ultimate aim of preparing a National Climate Change Adaptation Plan and nine sector-specific plans, all aligned with national priorities. However, to ensure the continuity of these plans, ongoing funding must be available in the Ministry of Environment and in each ministry responsible for sectors identified as adaptation priorities. International financial support is also needed for the implementation of the measures envisioned, and Chile needs more qualified personnel at both the national and regional levels (local governments and municipalities) to enable the effective implementation of such plans.

4.2.5. International negotiations

The main need in this area is to establish permanent teams within pertinent sectorial ministries with sufficient financial and technical capacities to engage in comprehensive, strategic follow up on negotiations.

4.3. Support received

As a developing country, Chile is always seeking international support—in the form of financial resources, capacity building, technical assistance and

technology transfer—in order to implement its ambitious portfolio of projects and to fulfill its commitments under the UNFCCC. While the country has received major financial contributions and other kinds of support, in recent years it has used its own resources to finance climate change actions locally. Additionally, the country has worked bilaterally and multilaterally with donor countries to promote South-South cooperation initiatives, while supporting other countries in the region by providing technical assistance and capacity building.

Most initiatives are aimed at mitigation, in line with the country's voluntary commitment to the UNFCCC, and the main form of support Chile has received to date has been financial, followed by capacity building and technical assistance.

4.3.1. Funding

As reported in this document, Chile received a total of USD 8,054,941 between 2011 and 2014, not including contributions approved but not yet available, which amount to USD 39,083,420.

In terms of funding received, the greatest contribution to date was a donation from a group of countries and organizations working collectively on a specific initiative (USD 3,999,643), followed by bilateral-country-specific donations (USD 3,225,298), funding from multilateral funds and institutions (USD 480,000) and, lastly, support from international finance agencies (USD 350,000).



Government projects and programs that have received the bulk of funding earmarked for climate change are MAPS-Chile, LECB-Chile, and climate change projects sponsored by GEF, the Forest Carbon Partnership Facility and the Partnership for Market Readiness (PMR).

4.3.2. Capacity building and technical assistance

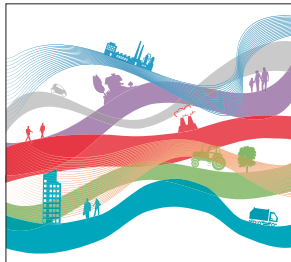
Chile received support in the form of capacity building and technical assistance projects,

programs and partnerships from the Federal Republic of Germany, the European Commission, the Kingdom of Spain, the World Bank, and other supporting entities. The Federal Republic of Germany is the primary collaborator in the areas of capacity building and technical assistance, supporting with projects, workshops, studies and specific programs that have notably increased Chile's installed technical capacity.

In addition to the abovementioned projects, programs and partnerships, support for capacity building and technical assistance has come through specific projects, studies and other initiatives funded directly by donors without the direct transfer of funds to Chile.

4.3.3. Technology transfer

Over the period analyzed, a variety of initiatives—solar energy, GHG measurement and climate change-resistant crops, among others—have been implemented in Chile through the direct transfer of a specific technology or technologies, accompanied by the required technical support and capacity building.



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CLIMATE CHANGE OFFICE