Ministerio del Medio Ambiente

Gobierno de Chile

Chile´s Draft of its Intended Nationally Determined Contribution on Climate Change

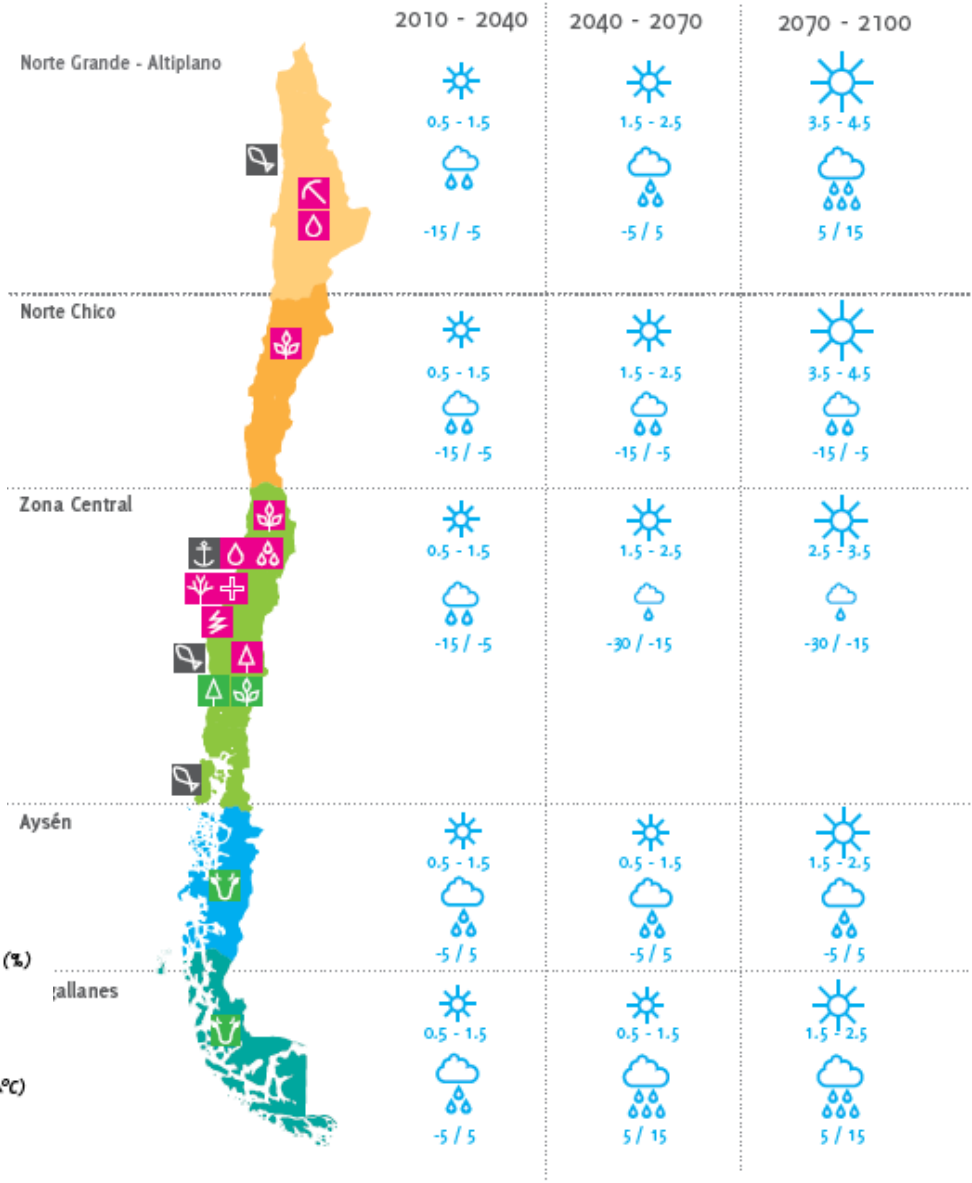
Dr.Fernando Farías
Head Department of Climate Change
Ministry of Environment of Chile

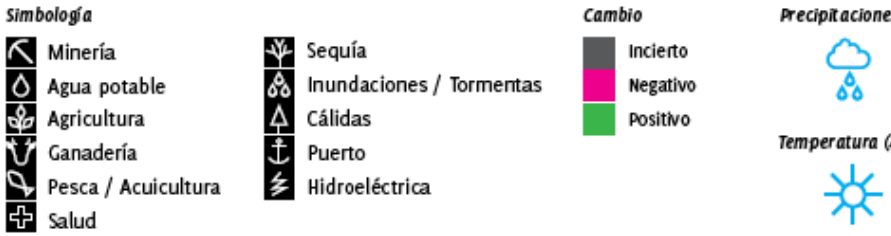
An intergenerational challenge

1st Chile National Environmental Survey

Climate Change in Chile

Negative impacts on mining, agriculture, drinking water, hydroelectricity, health, droughts and extreme temperatures are projected for the central northern region of the country.





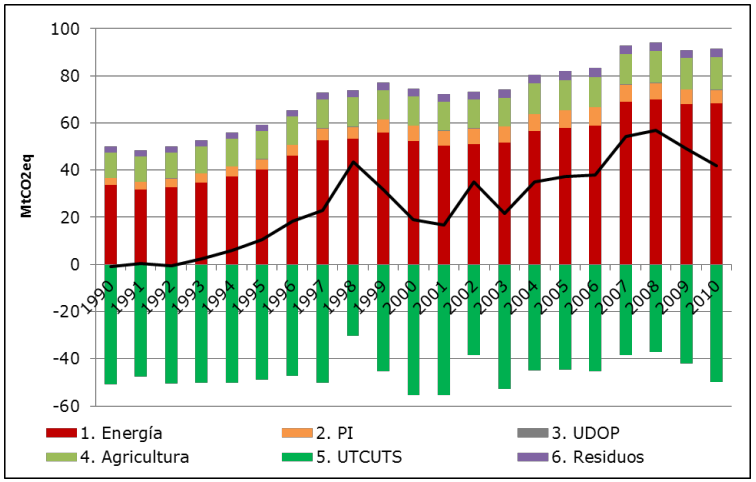
Steps that Chile has been taking against climate change

- Chile was the first country to sell carbon credits through CDM
- Chile was the first country to register a NAMA for recognition
- Chile is the first country in South America to introduce a carbon tax which is unique in its design
- Climate change adaptation plan aproved by Council of Ministers in 2014
- Discussions at the Congress for a glaciar protection law
- Participation in AILAC

Climate Change Summit in New York

September 2014

"We are working on our emissions inventories to present our Biennial Update Report. This is a concrete contribution of Chile to our transparency of action "



Conference of Parties (COP20) in Lima

December 2014

LIMA COP20 | CMP10

Chile delivered its First Biennial Update Report to the Secretary of the UNFCCC in December 2014

MAPS 2012-2015 and GHG Mitigation Options for Chile

- 300 participants from NGOs, academy, the public and private sector have guided aprox. 100 consultants to build scenarios.
- 96 mitigation measures were analyzed in detail, each one with a chart to indicate savings and costs per ton de CO2 reduced.
- It is possible for Chile to comply its mitigation goals, but we have to implement specific sectorial measures.
- Many climate change mitigation actions generate savings and important economic profit.

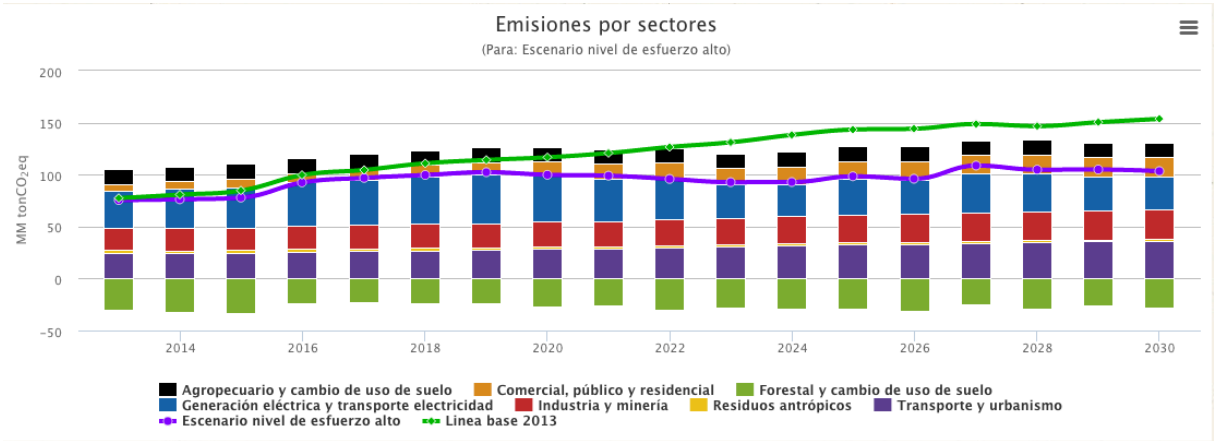
ESCENARIO	PIB		EMPLEO		EMISIONES DE CO_2eq	
	2020	2030	2020	2030	2020	2030
Impuesto al Carbono (5 US$)[7]	-0,2%	-0,2%	-0,4%	-0,4%	-3,1%	-3,4%
Impuesto al Carbono (20 US$)[8]	-0,9%	-0,8%	-1,5%	-1,6%	-12,3%	-13,5%
Base	0,1%	4,1%	-0,1%	3,5%	-8,2%	-9,3%
Medio	-0,3%	6,7%	-0,7%	5,5%	-10,9%	-23,4%
Alto	-0,1%	7,4%	-0,2%	6,3%	-12,2%	-26,2%
Eficiencia Energética	-0,6%	3,3%	-0,8%	2,6%	-4,2%	-6,2%
ERNC	0,0%	0,6%	0,3%	-0,2%	-3,8%	-9,1%
Energías Renovables	-0,1%	0,7%	0,3%	-0,2%	-4,1%	-15,2%
80/20	0,2%	1,2%	-0,3%	0,0%	-9,9%	-18,8%

Tabla 2: Resumen de efectos macroeconómicos y emisiones según escenario (los valores señalados corresponden a desviaciones respecto a Línea Base 2013-2030, %). Fuente: MAPS Chile, 2014.

7, 8 Las estimaciones presentas en la tabla corresponden al PIB valorado a precios de mercados, que incorpora el alza de precios como resultado de la imposición del impuesto al carbono. El mismo cálculo hecho para precios sin impuestos, como aproximación a la actividad económica medida en Cuentas Nacionales, resulta en desviaciones al 2030 de -0,5% y -1,8% para impuestos de 5 US$ y 20 US$, respectivamente.

Source: www.mapschile.cl

Example: High Effort Scenario



Escenario compuesto por:

Generación eléctrica y transporte electricidad

- Activo — Expansión hidroeléctrica en Aysén
- Nivel 1 — Incentivo a energía nuclear
- Nivel 2 — Incentivo a una tecnología ERNC específica - Eólica
- Activo — Incentivo a una tecnología ERNC específica - Mini-hidro
- Activo — Interconexión regional
- Activo — Norma o incentivo a tecnologías a carbón más limpias
- Activo — Sistema de almacenamiento para energía eólica
- Activo — Sistemas de captura y almacenamiento de CO2
- Activo — Generación eléctrica en obras de riego
- Nivel 2 — Incentivo a una tecnología ERNC específica - Concentración solar
- Activo — Incentivo a una tecnología ERNC específica - Geotérmica
- Nivel 1 — Incentivo a una tecnología ERNC específica - Solar fotovoltaica
- Activo — Modificación de la Ley ERNC: 30-30
- Activo — Reducción de pérdidas eléctricas
- Activo — Sistema de almacenamiento para energía solar

Industria y minería

- Activo — Captura y almacenamiento de CO2 (CAC)
- Activo — Estándar de eficiencia energética en nuevos proyectos mineros
- Activo — Instalación de cogeneración para plantas existentes
- Activo — Proyectos de autogeneración de energía eléctrica con ERNC
- Activo — Recuperación de energía por transporte de material en la minería
- Activo — Restricción a la entrada de otros equipos industriales (MEPS)
- Activo — Sistemas para recuperar excedentes de calor de procesos térmicos
- Activo — Uso eficiente de la energía en la industria impulsada por auditorías
- Activo — ERNC para usos térmicos en instalaciones nuevas y existentes
- Activo — Impulso a redes más limpias introduciendo un factor de emisión
- Activo — Medidas de eficiencia energética para el transporte en la minería
- Activo — Recambio de motores eléctricos
- Activo — Restricción a la entrada de motores eléctricos ineficientes (MEPS)
- Activo — Sistemas de gestión de la energía
- Activo — Combustibles de bajas emisiones para usos térmicos
- Activo — Utilización de combustibles no convencionales de bajas emisiones

Comercial, público y residencial

- Activo — Calificación energética de viviendas existentes
- Activo — Programa de adopción de sistemas solares térmicos
- Activo — MEPS para iluminación residencial
- Activo — Calificación energética de viviendas nuevas
- Activo — Programa de recambio de aireadores
- Activo — MEPS para lavadoras

You can explore your preferred scenario here:

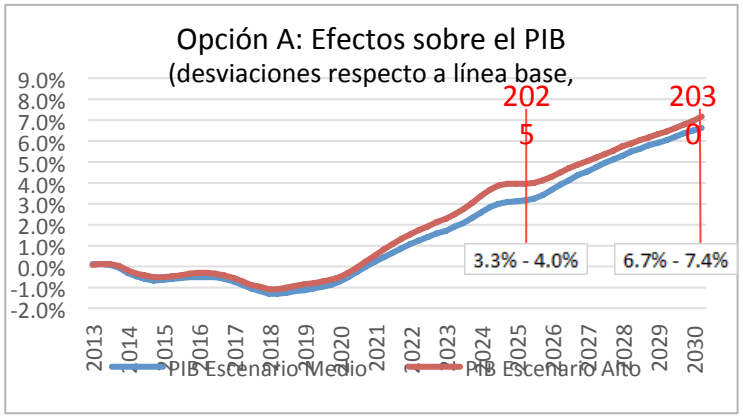
visualización.mapschile.cl

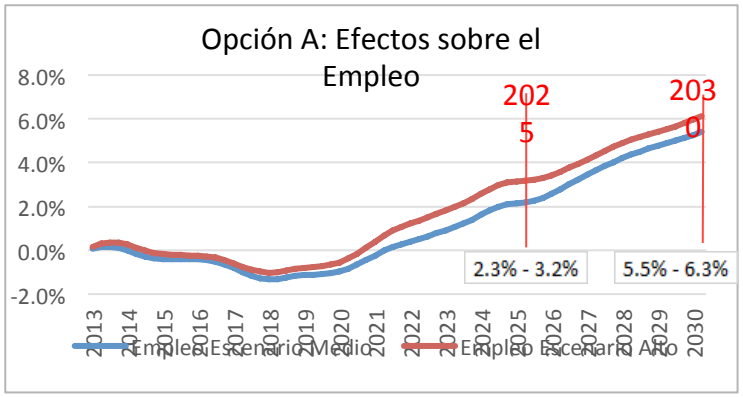
Macroeconomic Modelling Results

Objective:

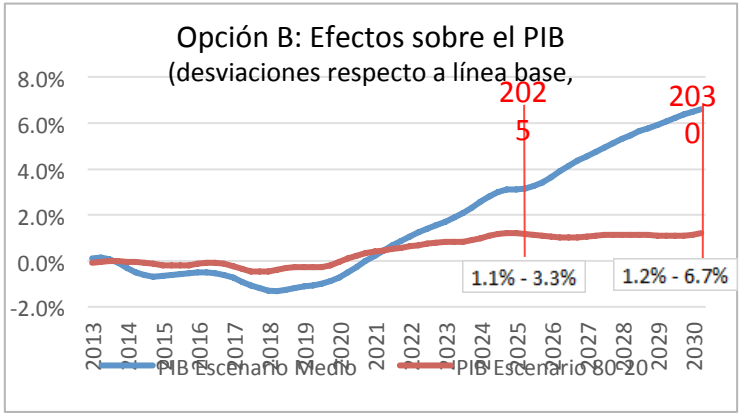
- Assess the impact of Chile´s mitigation measures in macroeconomic terms (GDP, Employment)

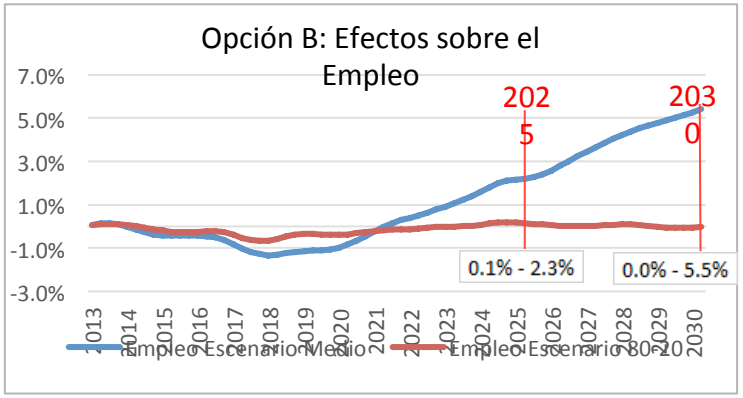
High and Medium Scenario





Medium and 80/20 Scenario





Chile´s INDC deadlines and activities:

23rd of September 2014: President announces INDC public consulting process. Dates: 17th December 2014 – 27th February 2015.

29th October 2014: Resolution and opening of file for the draft INDC.

October and November 2014: Assess technical options for INDC and inputs from MAPS Chile

17th of December 2014: Minister of Environment, by resolution, presents the draft INDC, available at www.mma.gob.cl

17th of December - 31st of March 2015: Draft INDC for public consulting process

January- March Dissemination: Regions RM, II, VIII, IX, X y XIV, parliament, consultive committee LBGMA and SEMINAR.

April 2015: analysis, weighing and answers to consulting process. Development of final INDC.

May 2015: CMSCC approves INDC to subsequently be submitted to United Nations.

June 2015: INDC is oficially communicated to the secretary of the UNFCCC.

Draft INDC

http://portal.mma.gob.cl/consultacontribucion/

1. National Circumstances
2. Adaptation
3. Capacity Building
4. Technology Transfer
5. Finance
6. Mitigation
    1. Two options under consultation process
    2. Forest Sector with Specific Target

1. **National Circumstances**

   Impacts of climate change in a highly vulnerable country.
   Vulnerability: Climate, Macroeconomy and Natural Resources.
   High per cápita Inequities

2. **Adaptation**

   Chile adapted concept of planned adaptation, in order to facilitate adaptation and resilience of the population, its life styles, services, laws, policies and institutions, climatic changes that are already impacting national territory.

3. **Capacity Building**

   Chile has valuable experiences and lessons learned which can be used in the wellbeing of all Chileans, but also from its equals under the UNFCCC. We have incorported the challenges and opportunities of climate change in universities for students and teachers and generated platforms for the management and dissemination of information related to climate change in Chile.

4. **Technology Transfer**

Currently, Chile does not have a technology stretegy to confront national climate change challenges. Although it is apparent that a relevant part of the national budget has been designated to technological development which has generated greater resilience and climate change mitigation in the country, a significant part of our related investment and spending has come from international sources , according to the design of out national 2020 pledge.

5. **Finance**

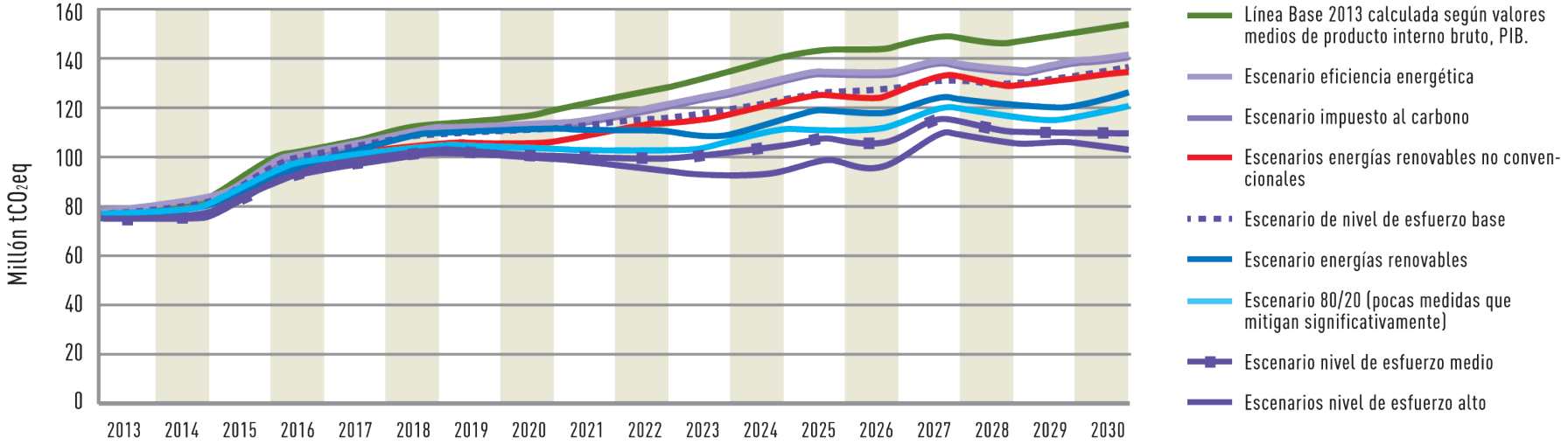
Currently, **Chile does not have a climate change financing strategy**. In order to contribute effectively in the context of a post 2020 agreement, Chile needs a national **assessment of possible financing available and necessary in the country to contribute to climate action** considering its national circumstance and in line with its capacities.

6. **Mitigation**

A subset of three types of committments were analyzed:

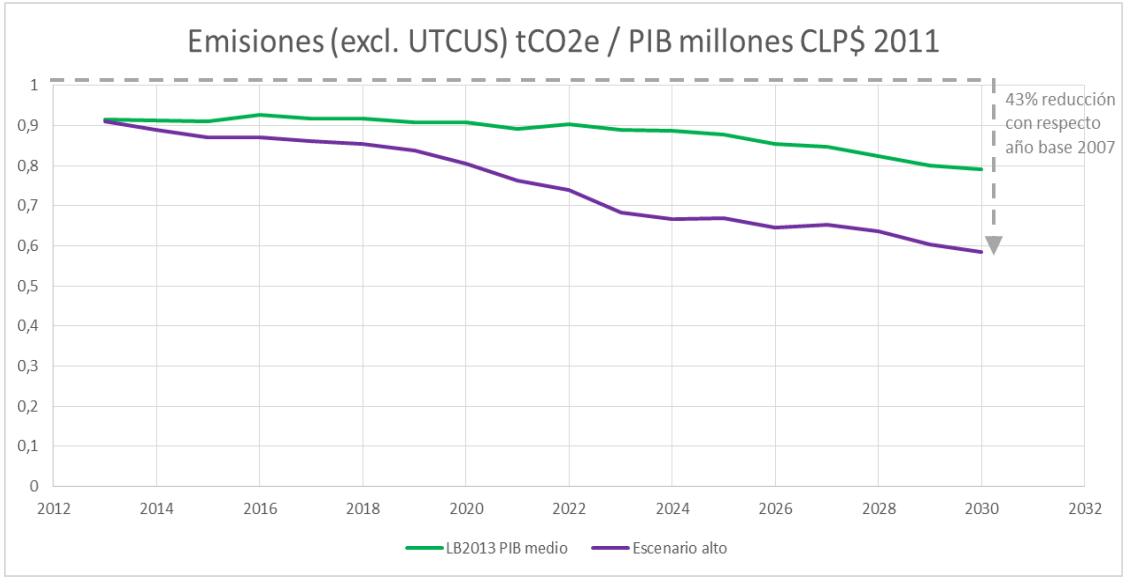
- Emissions Intensity Goals (ton/GDP)
- Deviation below a *business as usual scenario (BAU) (%)*
- Trajectories (absolute value)

Baseline emission trajectories and scenarios 2013-2030



Source: Resultados Fase 2 MAPS Chile (2014).

Graphic example of the high mitigation scenario of Phase 2 of MAPS-Chile presented as a emission intensity goal.



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¿ CUALES SON LAS OPCIONES ENTRE LAS QUE DEBEMOS ELEGIR ?

2025

Opción A

PIB	Empleo
3.3 a 4%	2.3 a 3.2%

30-35%

Adicionalmente, Chile se compromete a reducir sus emisiones de CO_2 por unidad de PIB en un 30% a 35% por debajo de los niveles del 2007, para el año 2025.

Opción B

PIB	Empleo
1.1 a 3.3%	0.1 a 2.3%

25-30%

Adicionalmente, Chile se compromete a reducir sus emisiones de CO_2 por unidad de PIB en un 25% a 30% por debajo de los niveles del 2007, para el año 2025.

2030

Opción A

PIB	Empleo
6.7 a 7.4%	5.5 a 6.3%

40-45%

Chile se compromete a reducir sus emisiones de CO_2 por unidad de PIB en un 40% a 45% por debajo de los niveles del 2007, para el año 2030.

Opción B

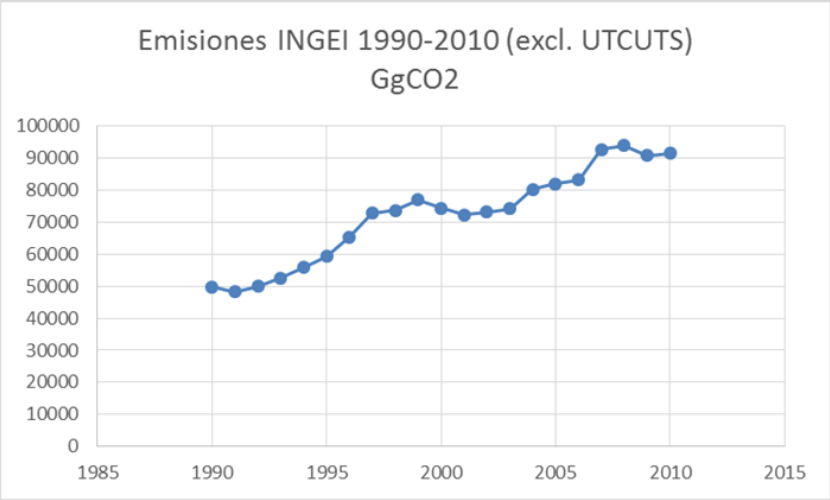
PIB	Empleo
3.3 a 6.7%	0 a 5.5%

35-40%

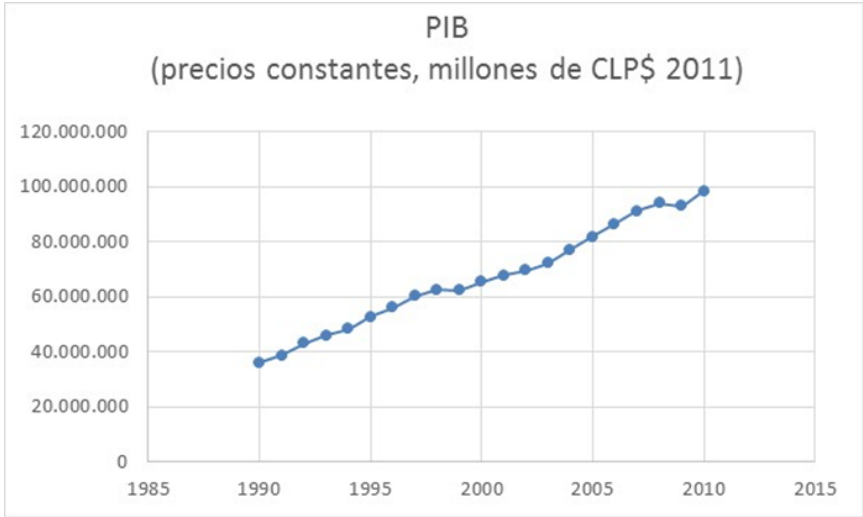
Chile se compromete a reducir sus emisiones de CO_2 por unidad de PIB en un 35% a 40% por debajo de los niveles del 2007, para el año 2030.

Which has been the real intensity of GHG emissions for Chile between 1990 and 2010?

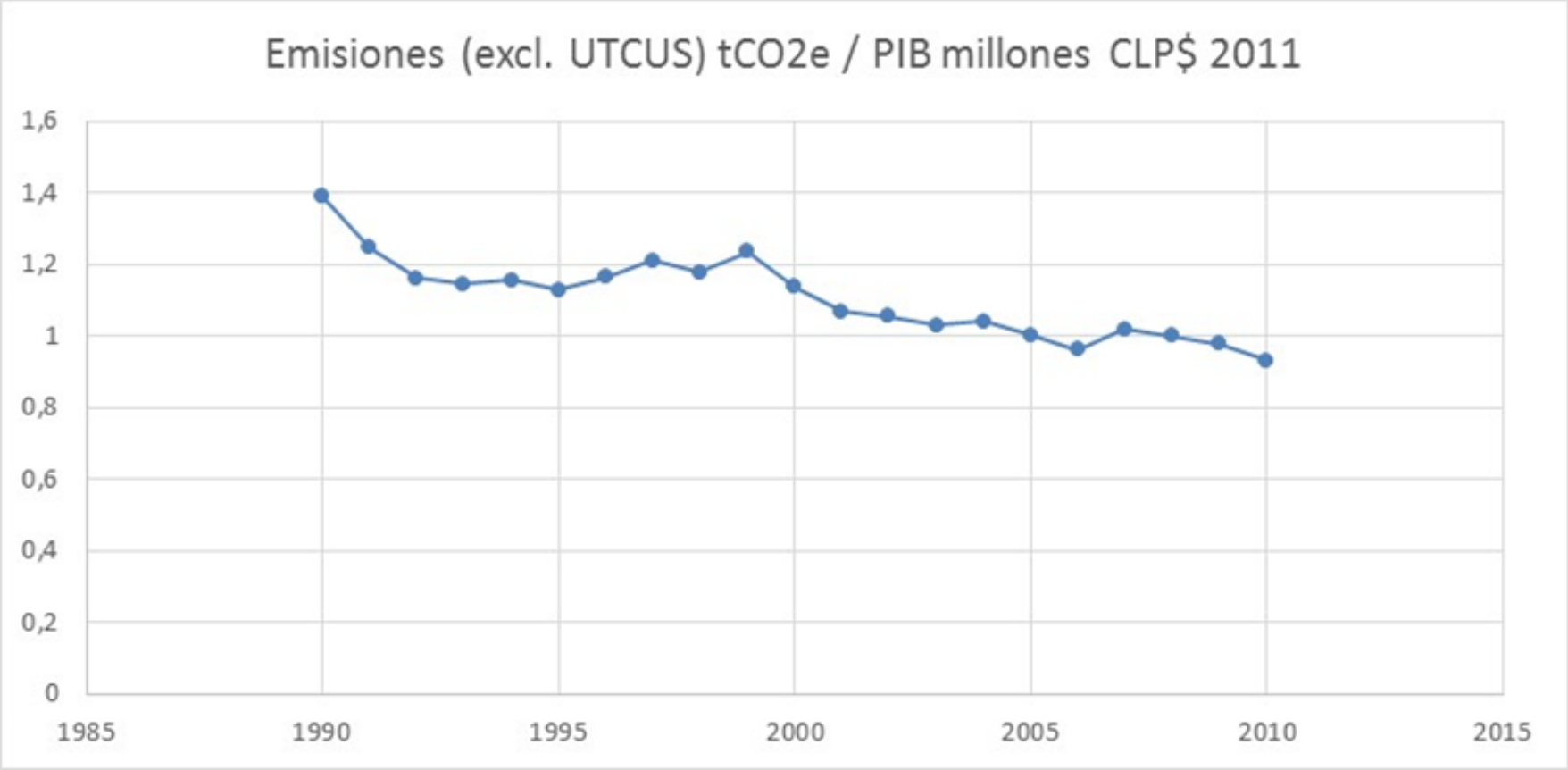
Development of GHG emissions in Chile excluding the forestry sector, 1990-2010



Development of the GDP in Chile, at current prices in millions CLP$ 2011, 1990-2010



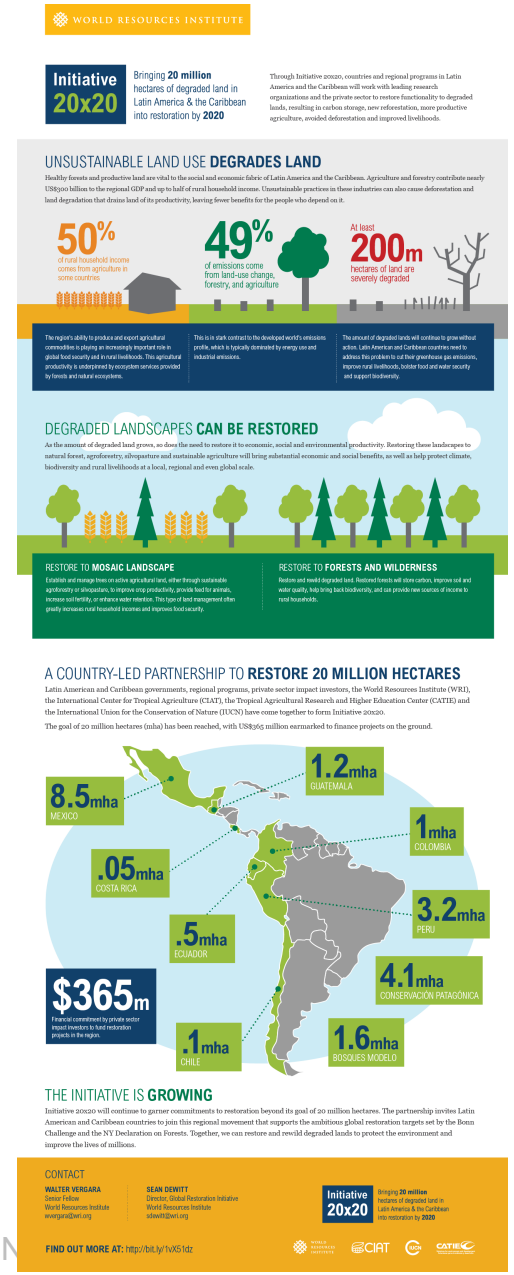
Historical Emissions Intensity by GDP in Chile (excluding the forestry sector), 1990-2010



- In a period of 20 years (1990-2010) the real intensity of GHG emissions of the country has decreased by 32%.

Specific Contribution for the Forestry Sector

- With its own resources, Chile has proposed to restore aprox. 100.000 ha of deteriorated forest land (forestation) with an estimated own investment of aproximately US$250 millions and achieve at least an area of 100.000 ha of managed native forest by 2035.
- The forest contribution, as dissociated from the GDP, looks to enhance environmental attributes of forests and not only those purely business oriented that are more associated with comercial plantations that are associated with the national GDP.



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Thank you very much!