

Climate Change Policy and Strategy in Chile

Cristián Mosella V.

Co-Founder and Executive Director | EnergyLab

✉ cmosella@energylab.cl

 [@cmosellav](https://twitter.com/cmosellav)

29 de agosto de 2019

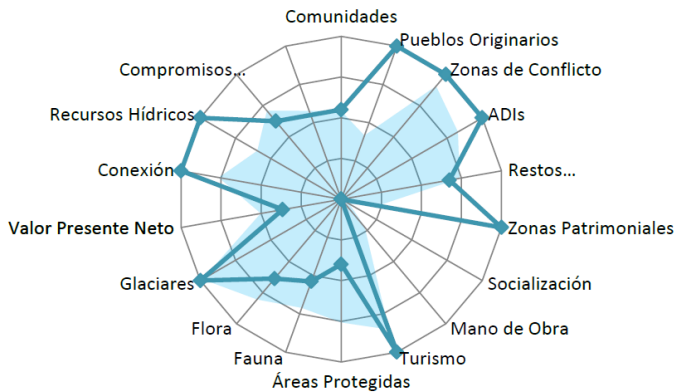
Agenda

- 1. High Level National Climate Change Overview**
- 2. Economic Figures**
- 3. CO₂ Emissions Figures**
- 4. Chilean NDC**
- 5. Some Challenges**



EnergyLab

We develop innovative tools and business models for the energy industry, aiming to add value to the different stakeholders, while promoting a paradigm shift around the generation, trading and good use of energy.



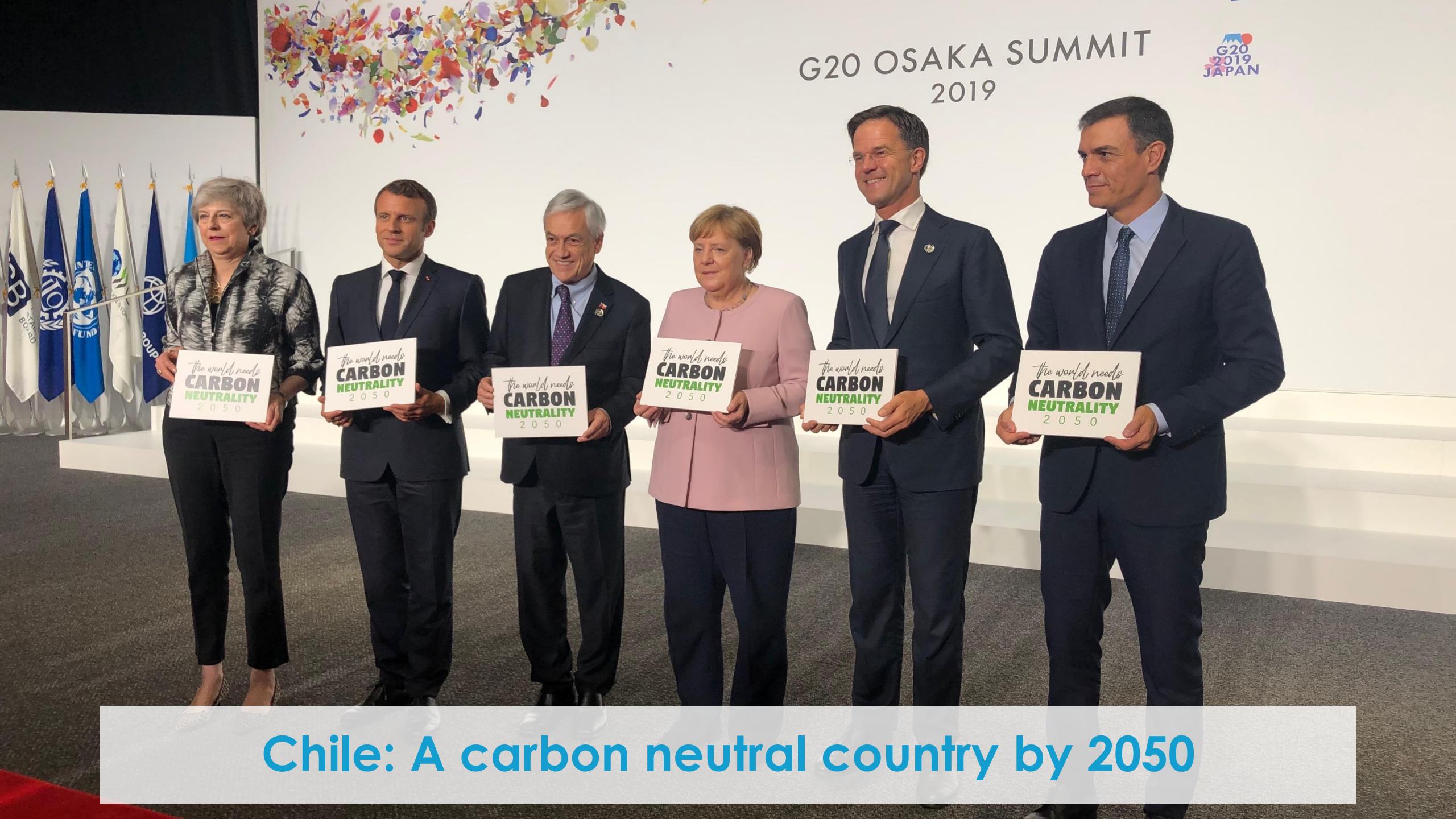
United Nations
Framework Convention on
Climate Change



Climate Change National Overview



G20 OSAKA SUMMIT
2019



Chile: A carbon neutral country by 2050



National agreement for phasing-out coal fired power plants by 2040



Climate Change Law under discussion in Congress during 2019

Chile's Economic Figures



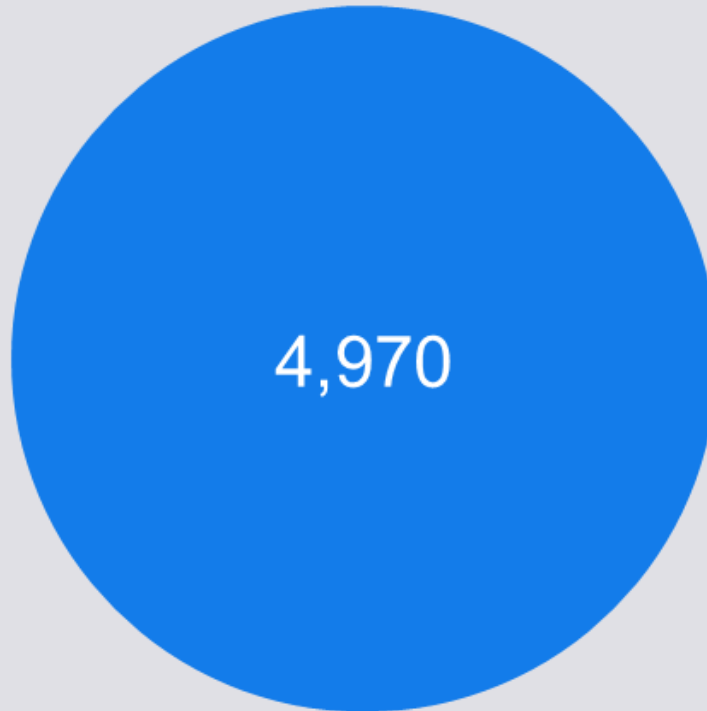
Japan's economy is more than 16x Chilean's economy

Gross Domestic Product (USD MM, 2018)

Chile



Japan



GDP per cápita (USD, PPP, 2018)

Chile



Japan

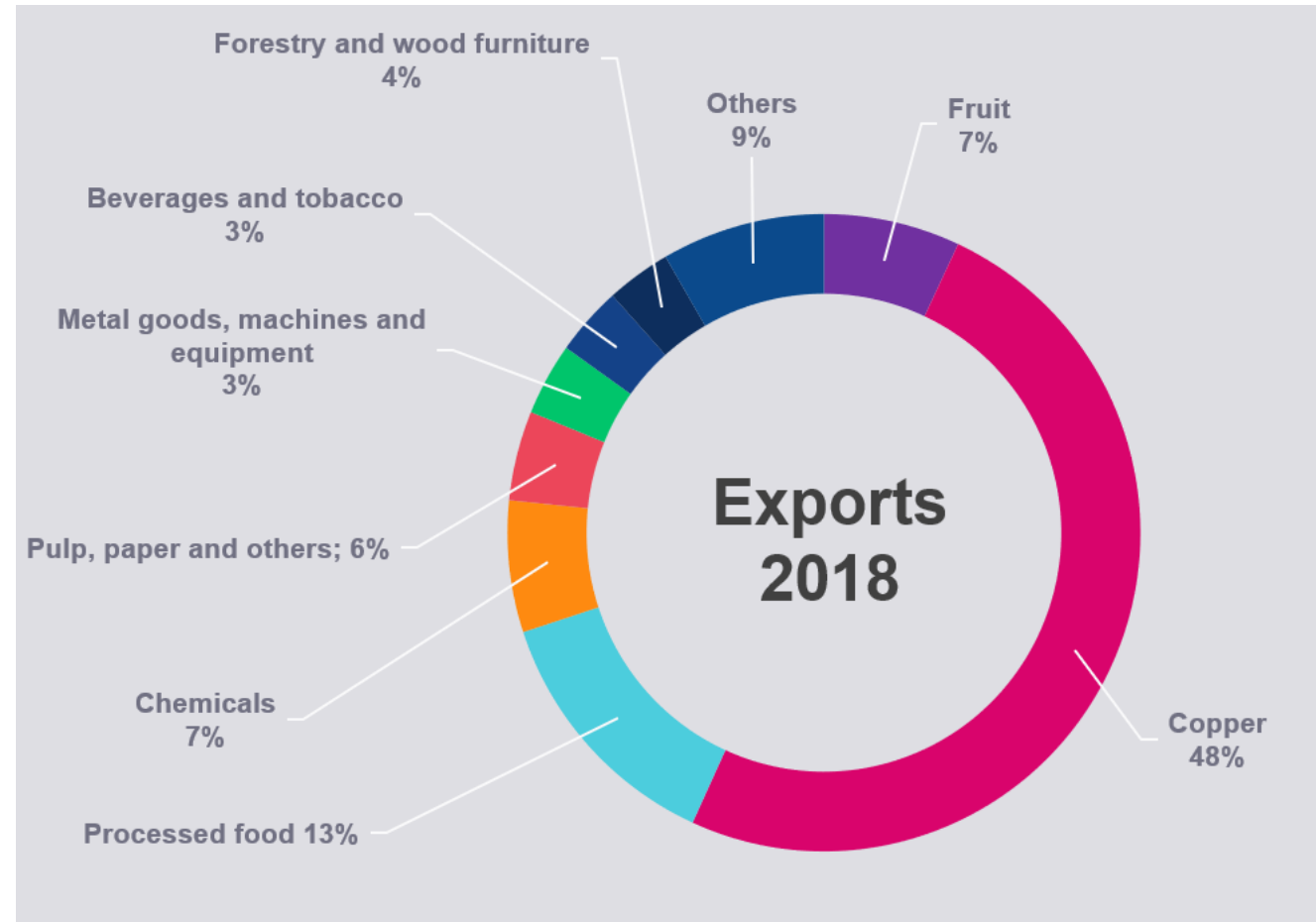


Open Economy: 26 Trade Agreements

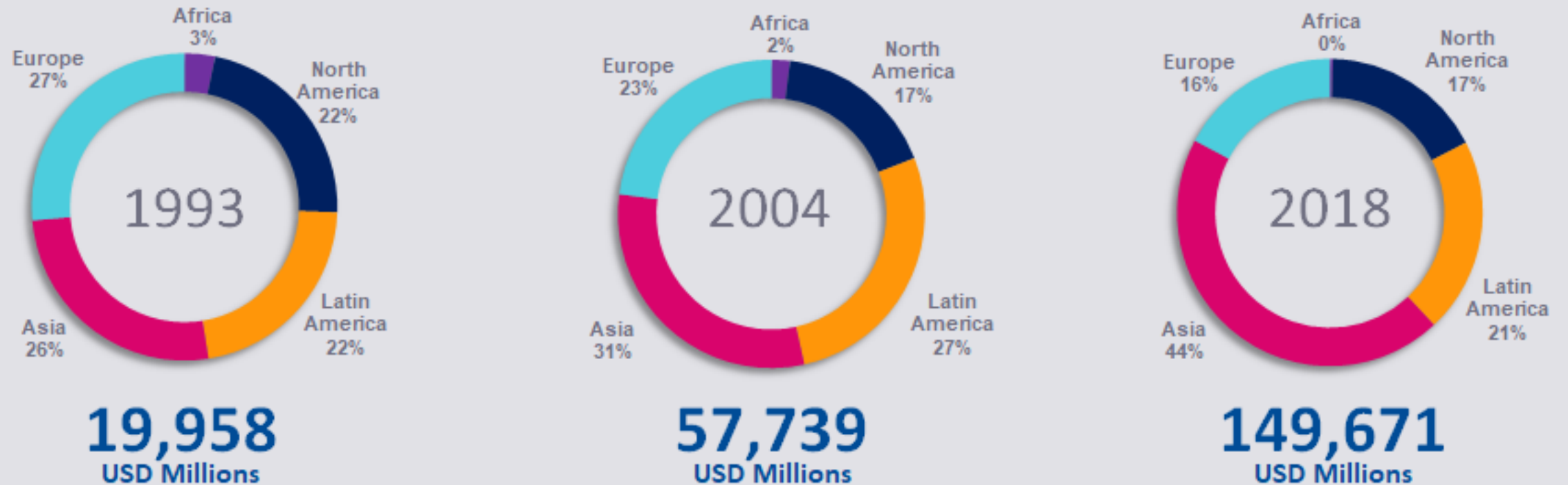


Chilean main exports (USD millions)

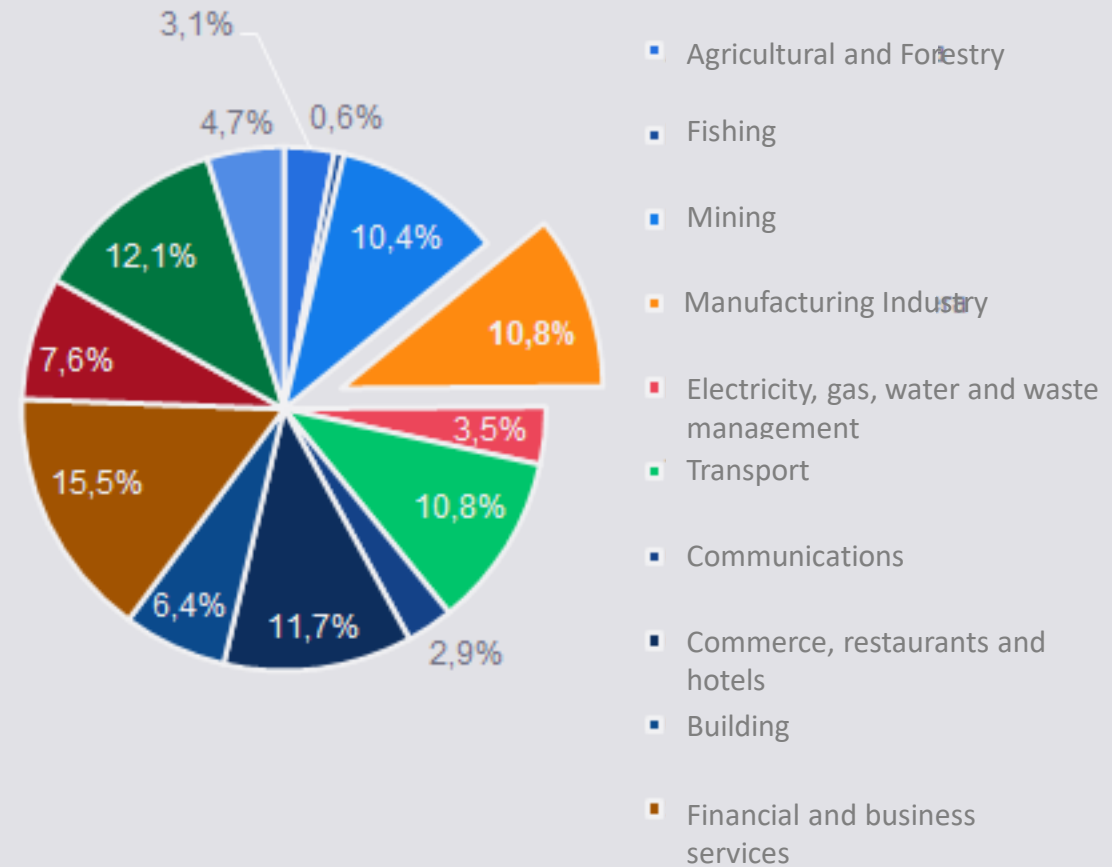
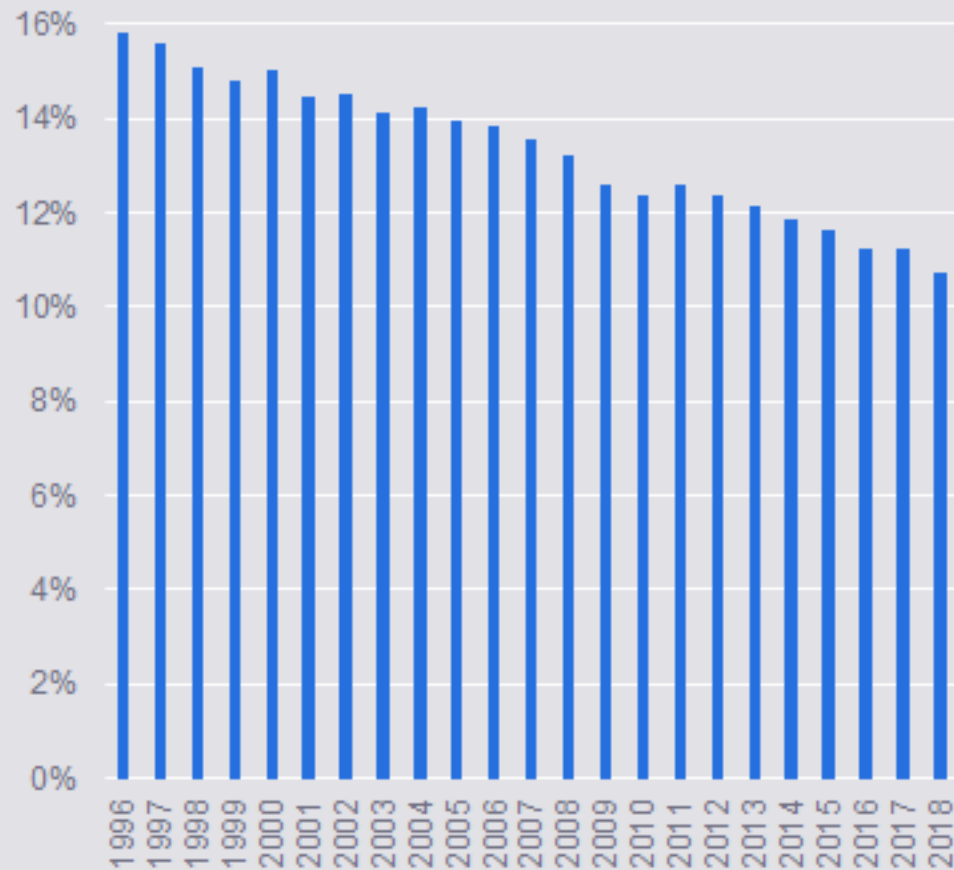
	2017	2018	Growth
Commercial exchange	135,292	149,671	11%
1. Total Exports (FOB)	69,230	75,482	9%
I. Agriculture, silviculture and fishing	5,610	6,346	13%
II. Mining	37,957	40,062	6%
III. Industry	25,663	29,074	13%
Processed food	8,943	10,135	13%
Salmon	4,159	4,728	14%
Others	4,784	5,408	13%
Drinks and tobacco	2,390	2,321	-3%
Bottled wine	1,634	1,622	-1%
Pulp, paper and others	3,143	4,211	34%
Pulp	2,332	3,194	37%
Forestry and wood furniture	2,255	2,622	16%
Basic metals	672	840	25%
Metal, machinery and equipments	2,529	2,423	-4%
Chemicals	4,531	5,248	16%
Others	1,201	1,274	6%
2. Total Imports (CIF)	65,062	74,189	14%
I. Intermediate goods	31,388	37,290	19%
Oil	3,132	4,193	34%
II. Consumer goods	21,028	22,708	8%
III. Capital goods	12,646	14,192	12%
3. Total Imports (FOB)	61,308	70,104	14%
Trade balance (FOB) (1-3)	7,922	5,378	-



Chilean commercial exchange evolution



Manufacturing industry: Stagnant growth and losing economic share



Activity: Global economic uncertainty leads FMI to decrease growth prospects, except for Chile

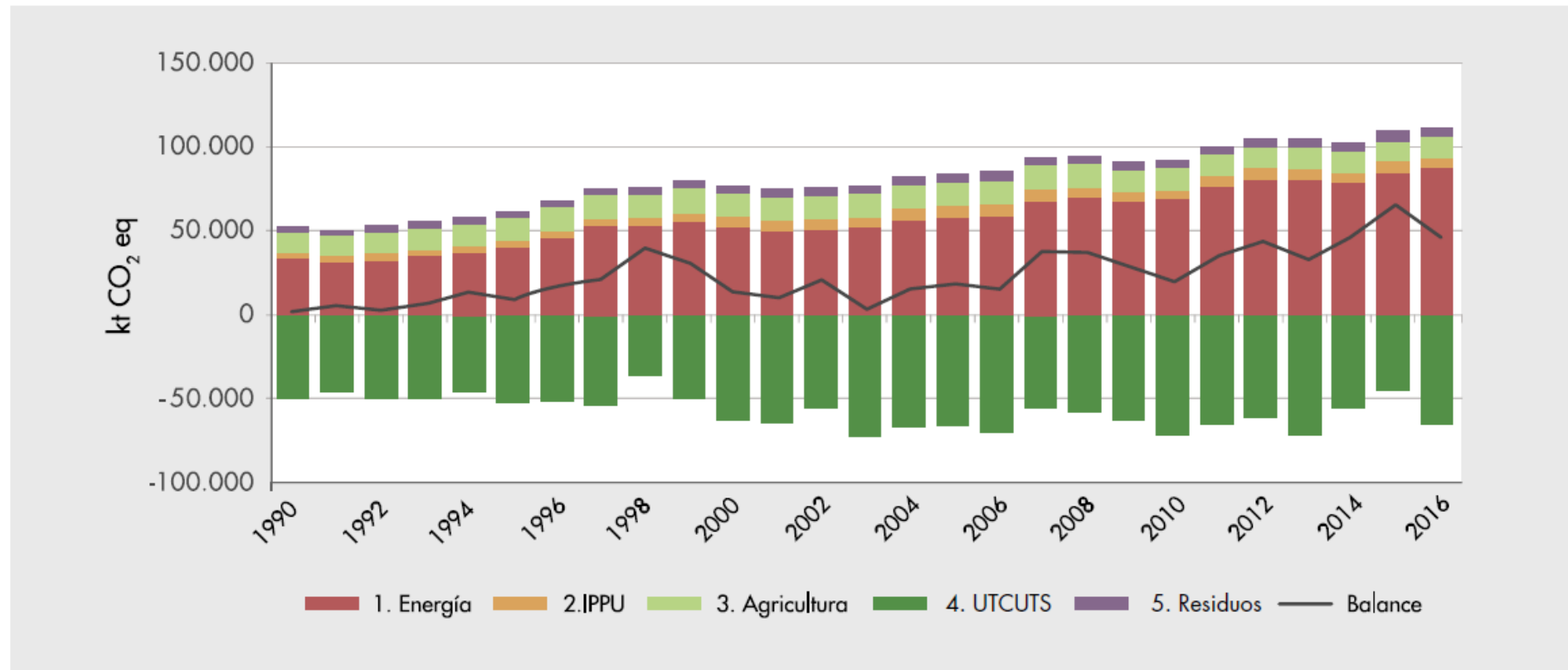
					WEO April 2019		WEO January 2019		WEO October 2018	
	2010-2015	2016	2017	2018	2019	2020	2019	2020	2019	2020
Chile	4,2	1,7	1,3	4,0	3,4	3,2	3,4	3,2	3,4	3,2
Brazil	2,2	-3,5	1,1	1,3	2,1	2,5	2,5	2,2	2,4	2,3
Argentina	2,9	-1,8	2,9	-2,6	-1,2	2,2	-1,6	2,2	-1,7	2,7
Latam	3,0	-0,6	1,3	1,1	1,4	2,4	2,0	2,5	2,2	2,7
China	8,3	6,7	6,9	6,6	6,3	6,1	6,2	6,2	6,2	6,2
USA	2,2	1,6	2,2	2,9	2,3	1,9	2,5	1,8	2,5	1,8
Euro zone	1,0	1,9	2,4	1,8	1,3	1,5	1,6	1,7	1,9	1,7
Japan	1,5	1,0	1,9	0,9	1	0,5	1,1	0,5	0,9	0,3
World	3,9	3,3	3,8	3,7	3,3	3,6	3,5	3,6	3,7	3,7
Advanced	1,9	1,7	2,4	2,3	1,8	1,7	2,0	1,7	2,1	1,7
Emerging	5,5	4,4	4,7	4,6	4,4	4,8	4,5	4,9	4,7	4,9



Chile's CO₂ Emissions Figures

Greenhouse Gases Chilean Inventory

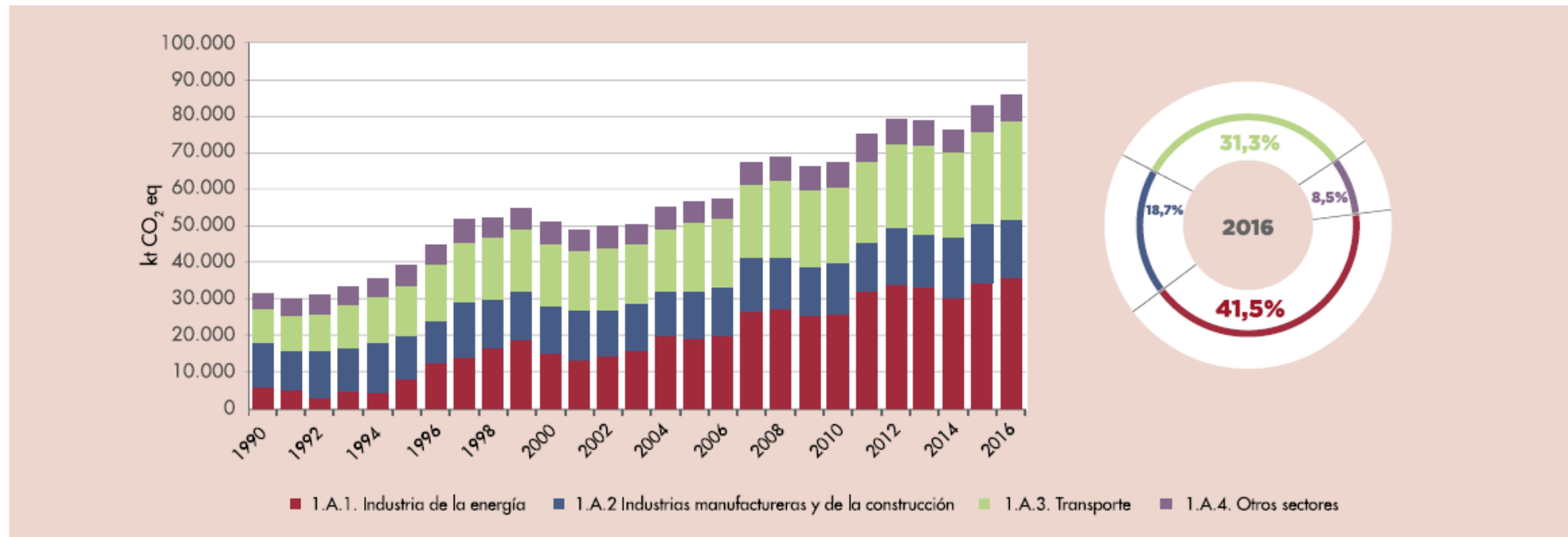
Figura RE1. INGEI de Chile: balance de GEI (kt CO₂ eq) por sector, serie 1990-2016



Fuente: Equipo Técnico Coordinador del MMA.

Greenhouse Gases Chilean Inventory: Energy Sector

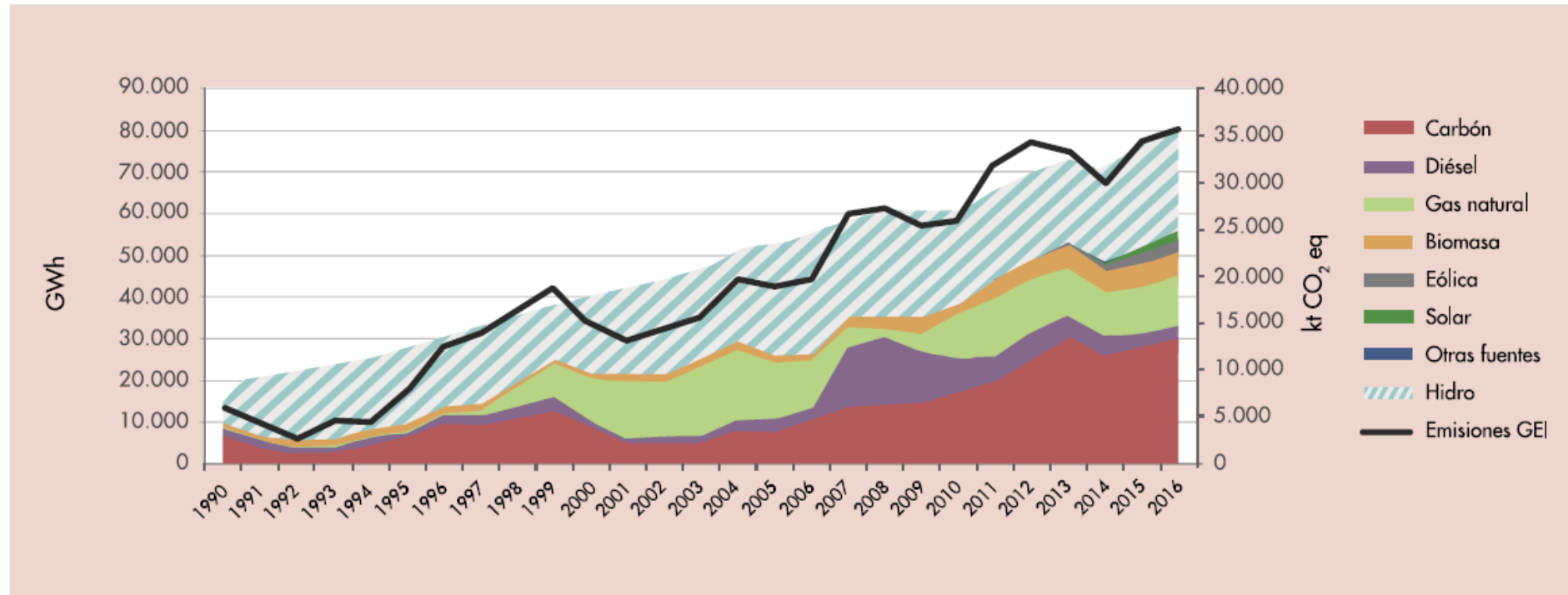
Figura 12. Actividades de quema de combustible: emisiones de GEI (kt CO₂ eq) por subcategoría, serie 1990-2016



Fuente: Equipo Técnico de Energía del MINENERGIA

Greenhouse Gases Chilean Inventory: Power Generation Sector

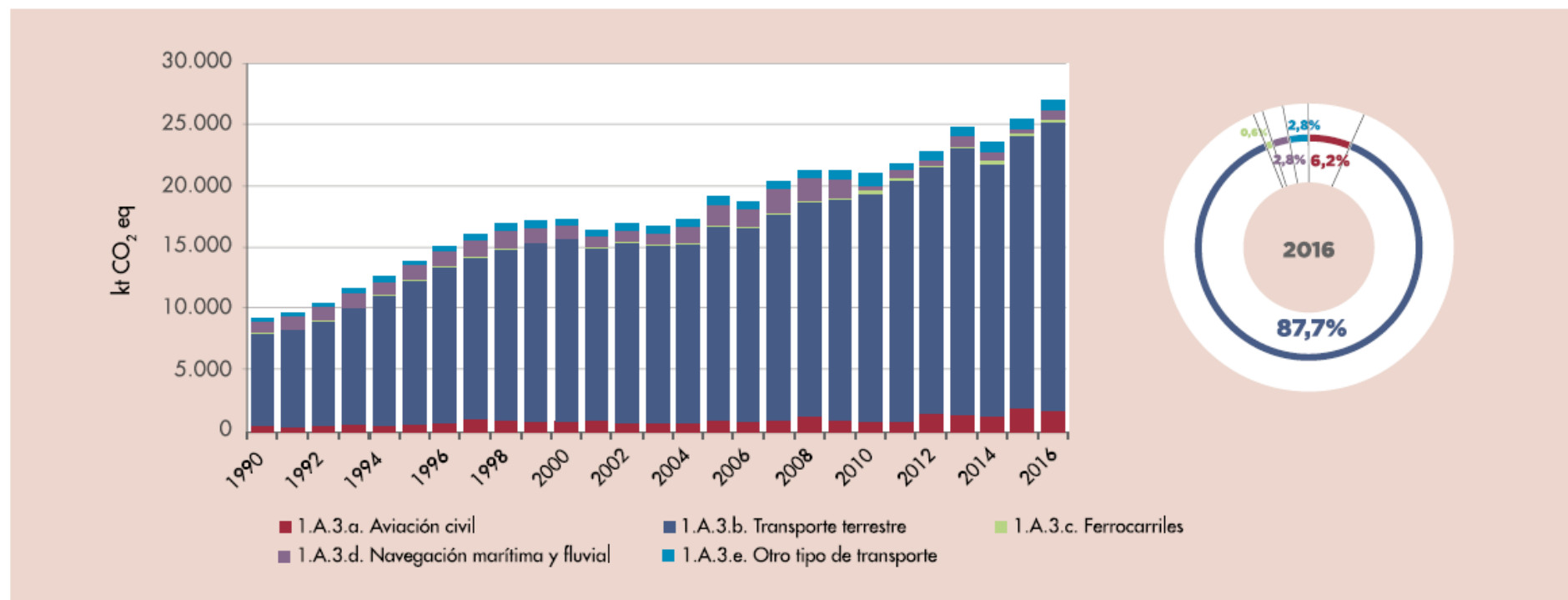
Figura 14. Producción de electricidad y calor como actividad principal: generación eléctrica por tipo de fuente y emisiones de GEI (kt CO₂ eq), serie 1990-2016.



Fuente: Equipo Técnico de Energía del MINENERGIA

Greenhouse Gases Chilean Inventory: Transport Sector

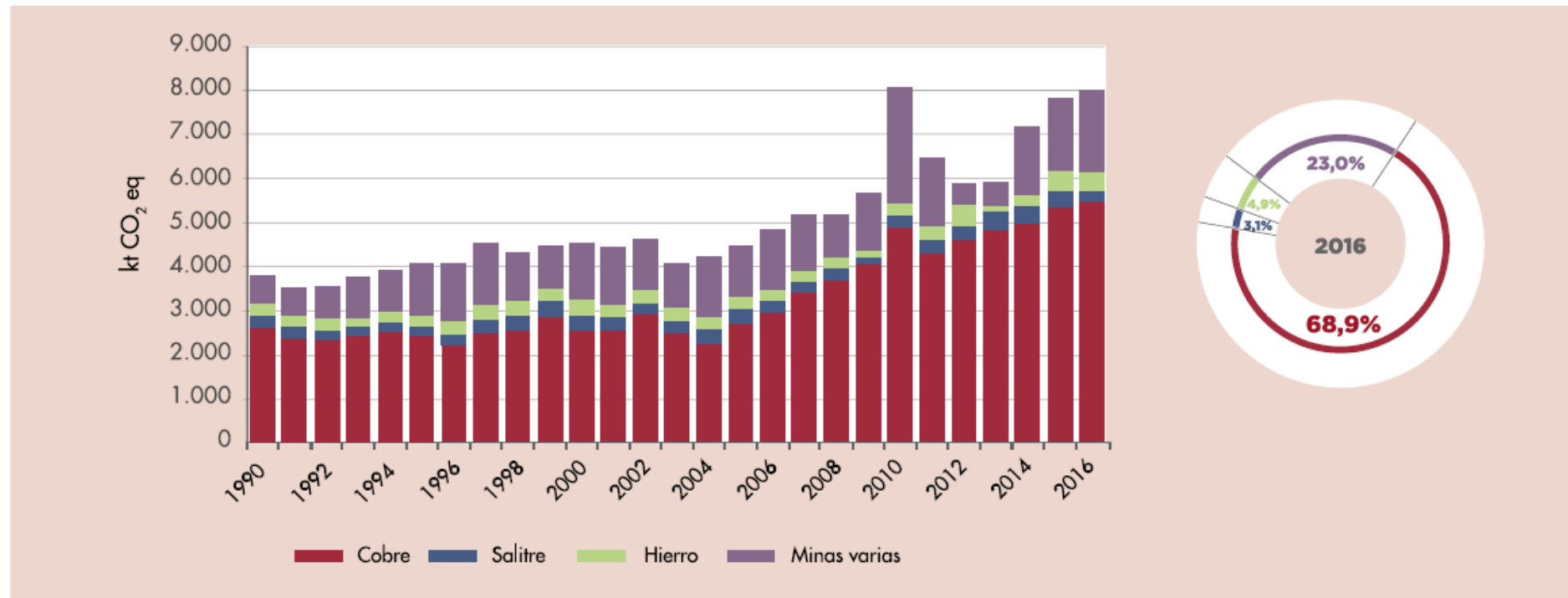
Figura 16. Transporte: emisiones de GEI (kt CO₂ eq) por componente, serie 1990-2016



Fuente: Equipo Técnico de Energía del MINENERGIA

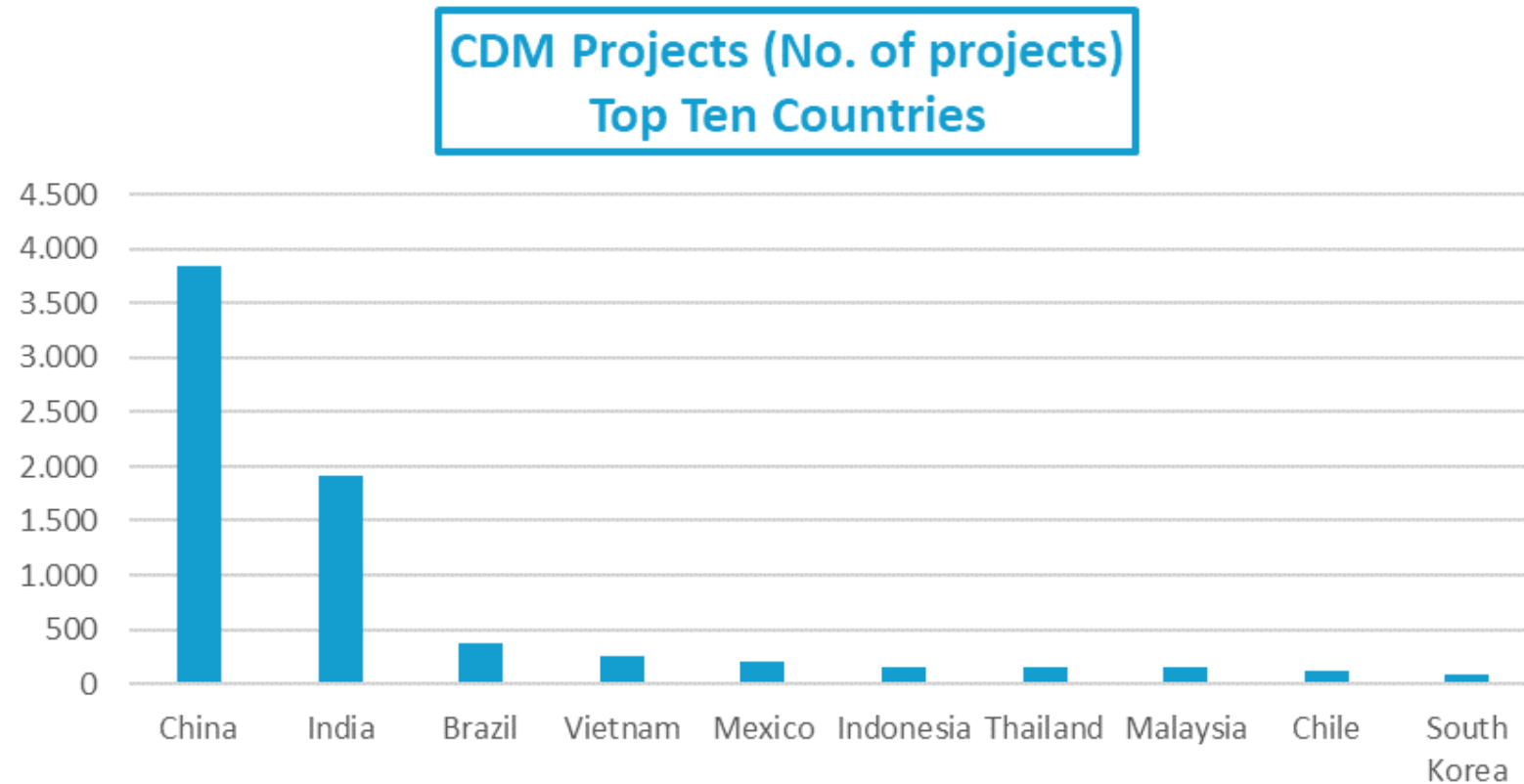
Greenhouse Gases Chilean Inventory: Mining Sector

Figura 15. Minería (con excepción de combustibles) y cantería: emisiones de GEI (kt CO₂ eq) por subcomponente, serie 1990-2016

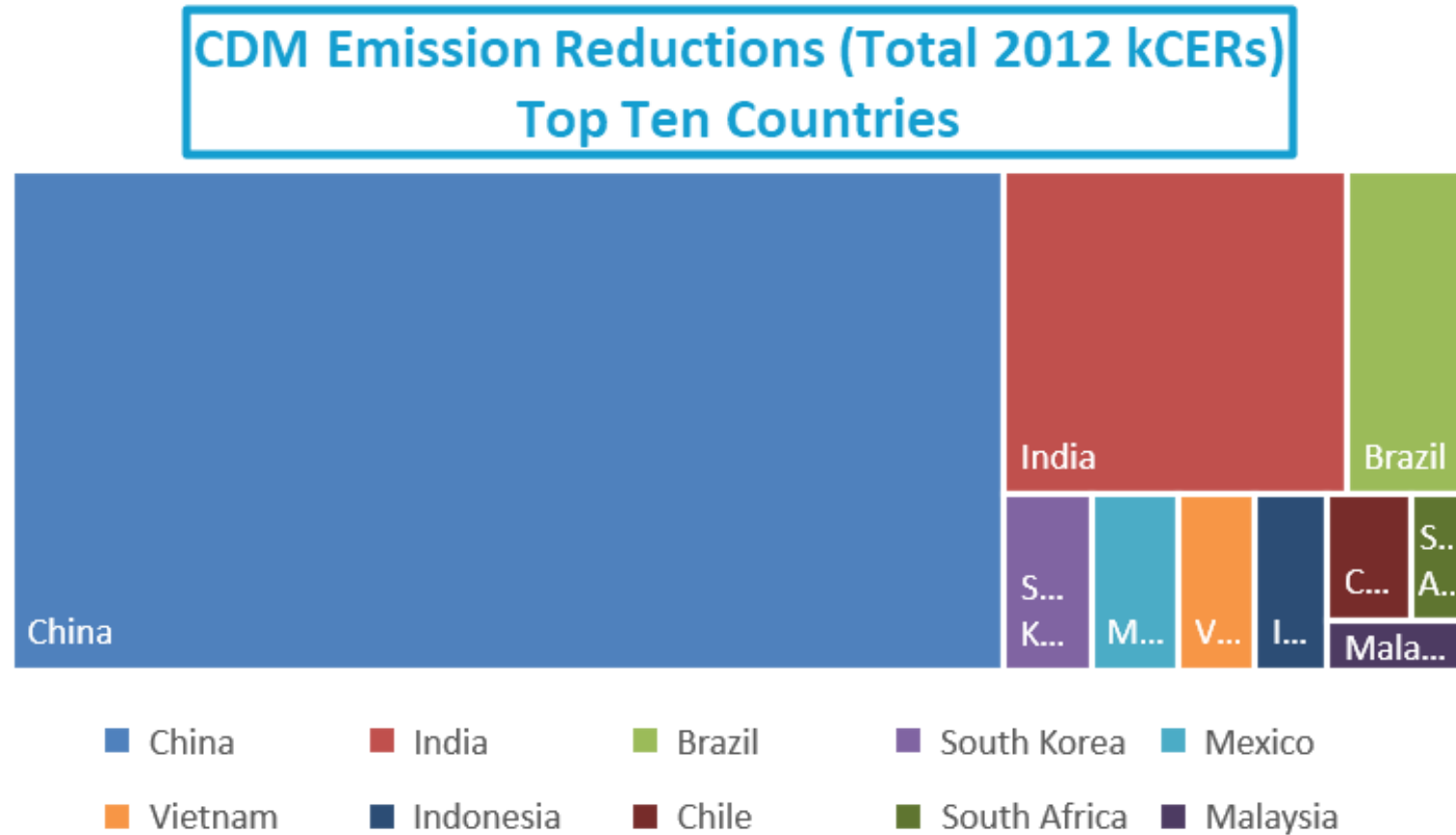


Fuente: Equipo Técnico de Energía del MINENERGIA

But Chile has a long history in terms of emissions reductions, being one of the most active countries in the world within the CDM of the Kyoto Protocol

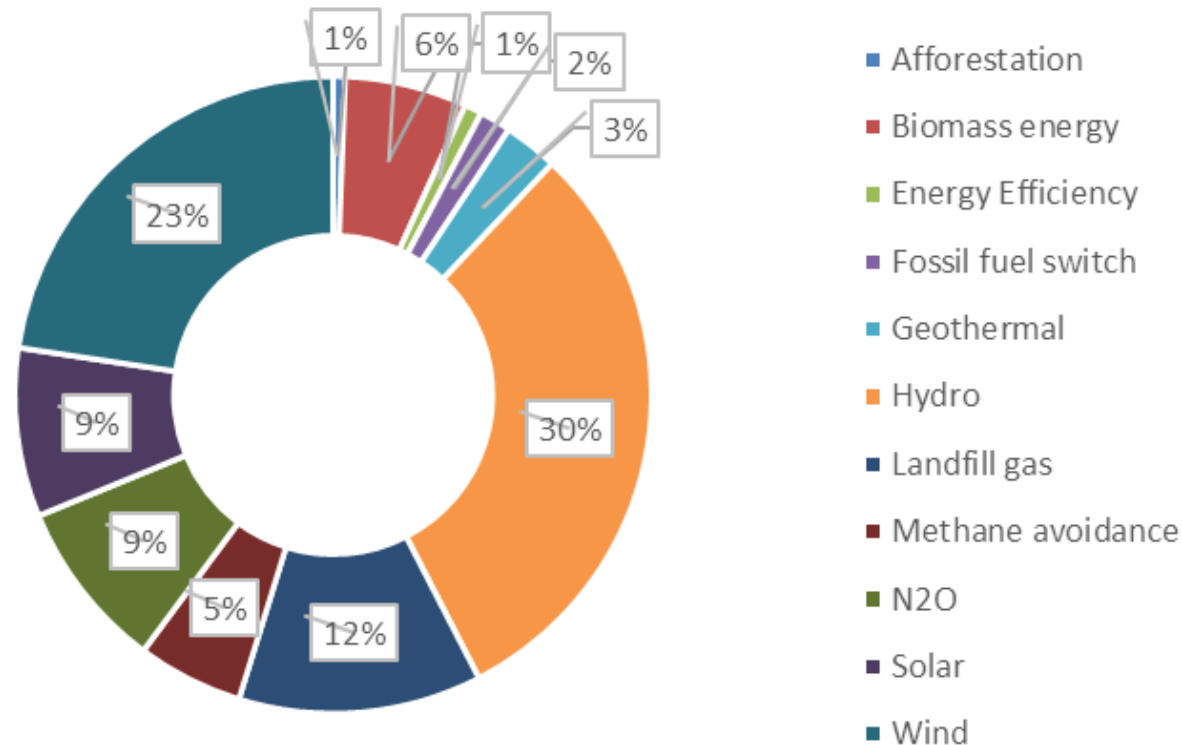


But Chile has a long history in terms of emissions reductions, being one of the most active countries in the world within the CDM of the Kyoto Protocol



But Chile has a long history in terms of emissions reductions, being one of the most active countries in the world within the CDM of the Kyoto Protocol

Registered and Under Validation CDM Project Types by emission reductions generation



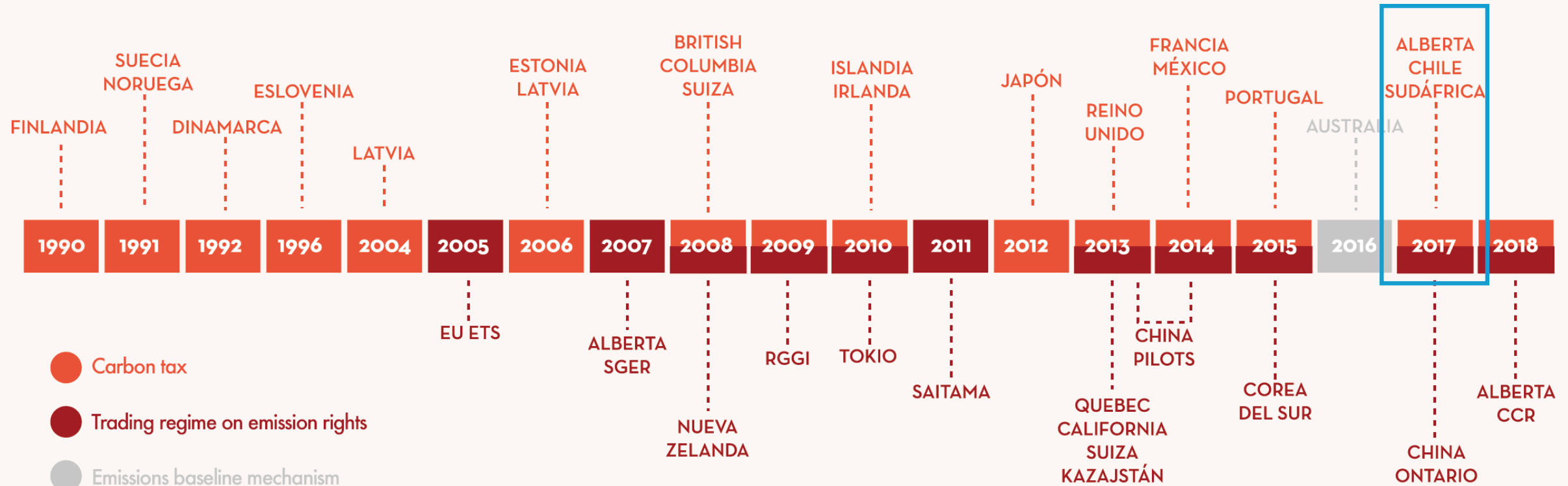
Chile's Climate Actual Instruments

Nationally Determined Contribution (NDC)

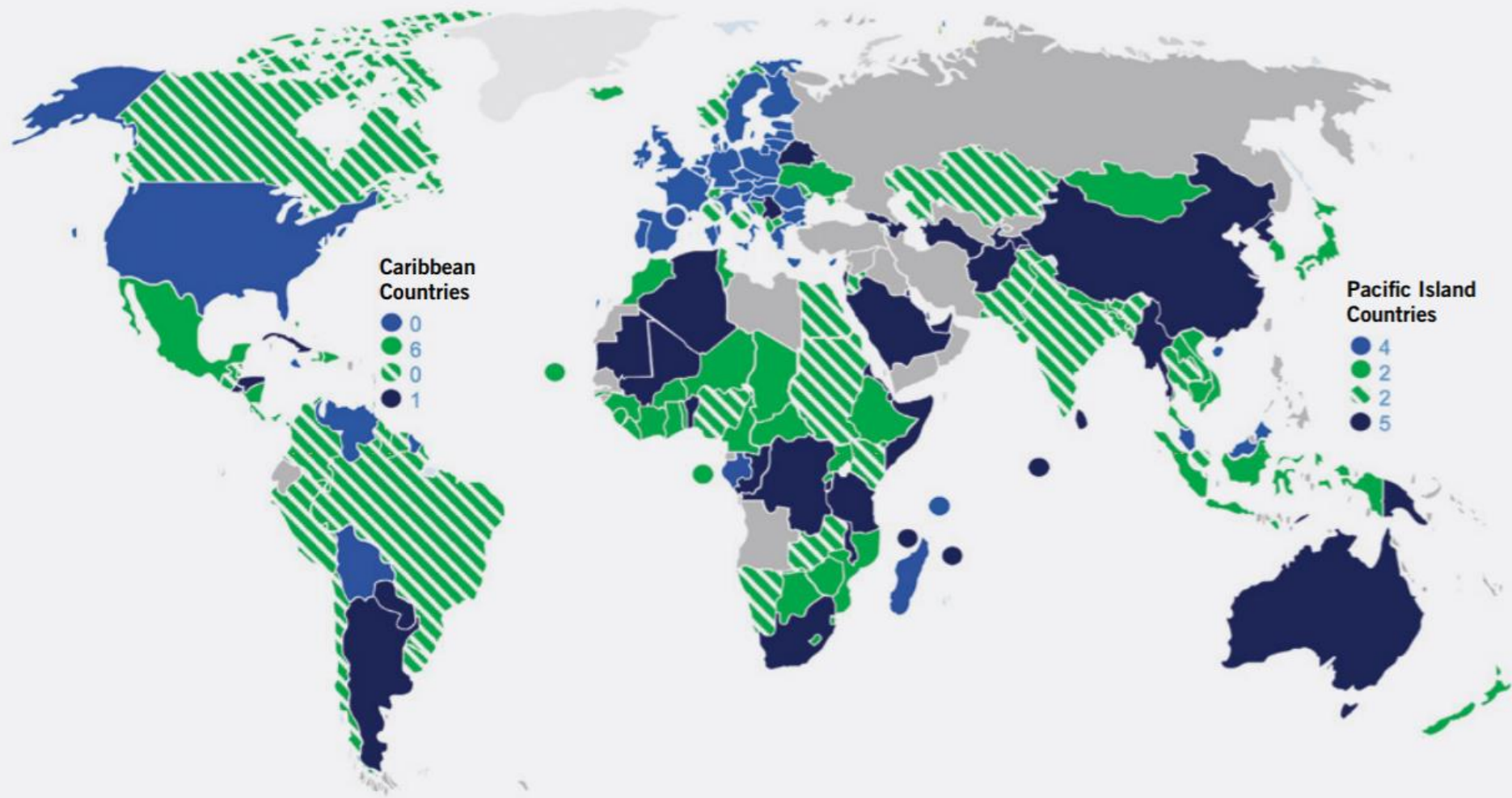
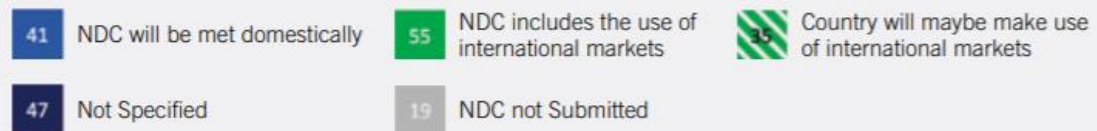
CHILE	Main pledges and targets		
PARIS AGREEMENT	Ratified	Yes	
	2030 unconditional target(s)	30% below 2007 GHG intensity of GDP by 2030 [151% above 1990 emissions excl. LULUCF by 2030] [42% above 2010 emissions excl. LULUCF by 2030]	
	2030 conditional target(s)	35–45% below 2007 intensity of GDP by 2030 [97–133% above 1990 emissions excl. LULUCF by 2030]	
	Coverage	Economy-wide, excl. LULUCF	
LONG-TERM GOAL(S)	Long-term goal(s)	Carbon-neutral by 2050	

Green Taxes: 5 USD/tonCO₂e (Under Modernization Now)

Offsets under consideration as tax credit



Why is this relevant?



Source: Own elaboration based on CDM Pipeline up to July 1st, 2019.

Markets can reduce costs and mobilize additional resources

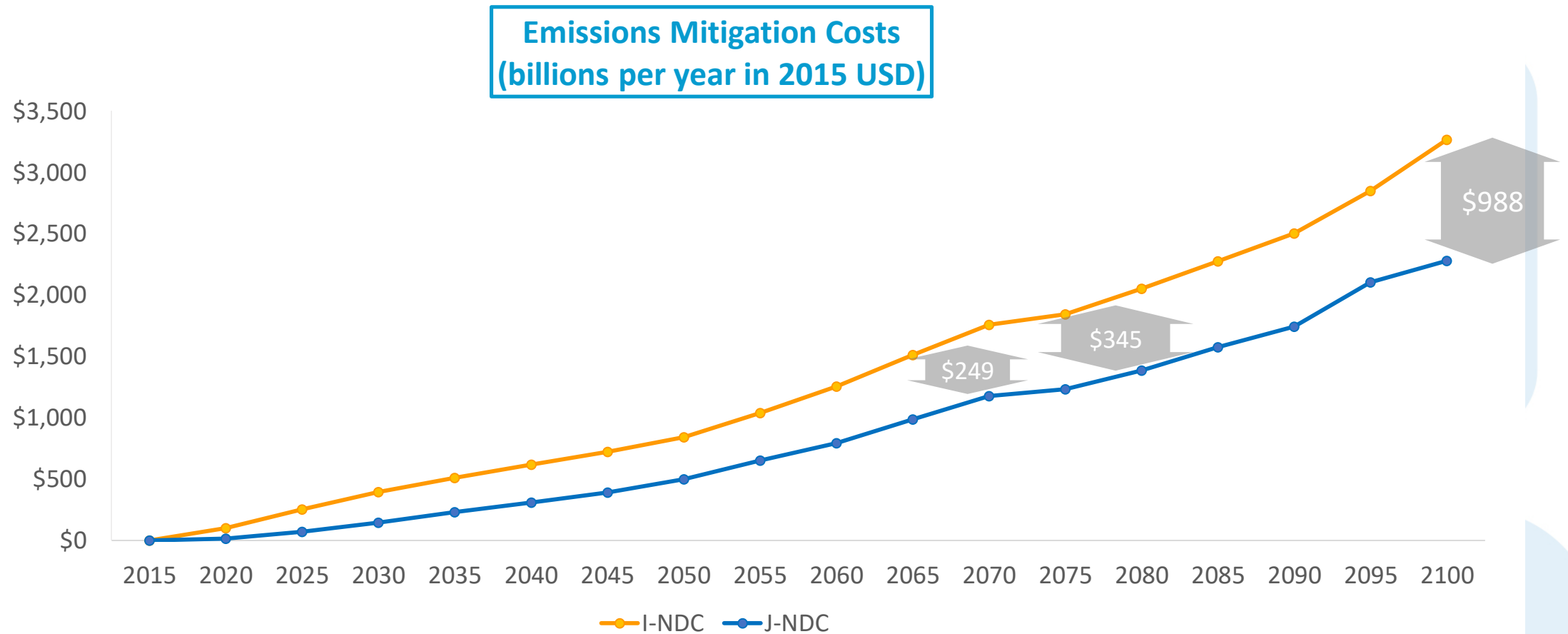
- International carbon markets could reduce the cost of delivering the mitigation represented in NDCs by around 33% by 2030 and 50% by 2050¹.
- Markets also increase resource mobilization:
 - For instance \$1 invested in emission reductions under CDM led to \$4.60 to \$10 in underlying low carbon investment¹.

They represent a powerful policy tool to catalyze entrepreneurship and action from the private sector and mobilize flows of finance².

¹ World Bank. State and Trends of Carbon Pricing, 2016.

² European Bank. Operationalizing Article 6 of The Paris Agreement, 2017.

Markets can reduce costs and mobilize additional resources



I-NDC= Independent NDC implementation
 J-NDC= Joint or collaborative NDC implementation

Some challenges?

1. Offsets usage potential

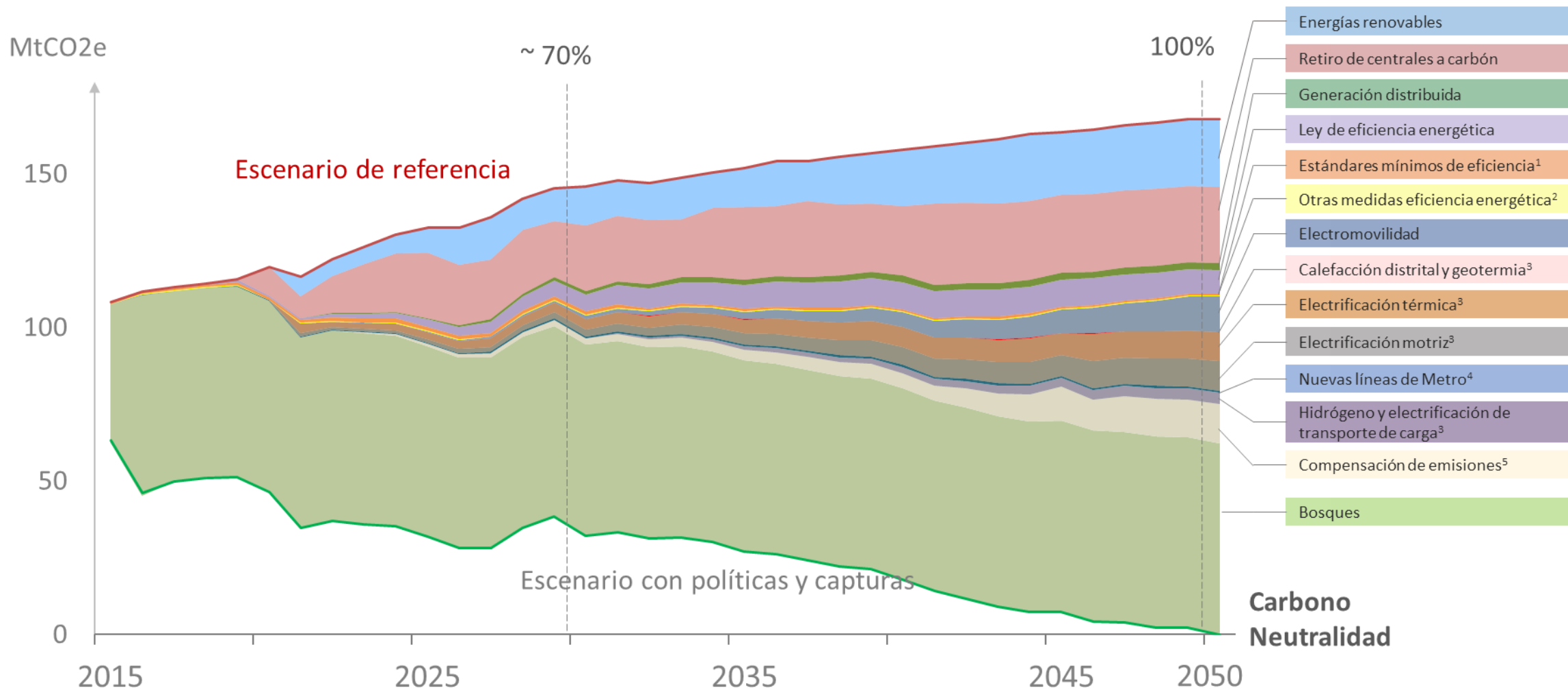
**Carbon Tax
Credit**

**Voluntary
Compliance**

**Carbon
Bilateral
Partnerships**

**ITMOs wider
approach**

2. Offsets usage within the carbon neutrality



Fuente: División Ambiental y Cambio Climático

¹ Considera ahorros por estándares mínimos de eficiencia en ampolletas, refrigeradores y motores industriales. ² Considera ahorros por recambio de alumbrado público, programa de eficiencia energética en hospitales y reacondicionamiento térmico de viviendas. ³ Medidas que deben ser estudiados en mayor profundidad para su correcta cuantificación. ⁴ Considera entrada de líneas 6 y 3; extensiones de línea 2, 3 y 4; y nuevas líneas 7, 8, 9 y 10. ⁵ Medida aún en estudio, este sistema a nivel nacional aún está en proceso de diseño y análisis.

3. Pilot Project at Energy Sector: Regulatory Framework and Infrastructure

+ Regulatory Framework

Energy Sector: Database & Registry

- Database reflects projects pipeline (expected to generate MOs)
- Each MO with unique and permanent serial numbers attached
- Registry to have a capability of recording the history of MO transfers, transactions, or other status changes
- MOs and independent assessments publicly available (for transparency)

World Bank: Meta-Registry (Warehouse)

- Connect to country-level registries and use data exchange protocols to reflect information on all MOs on a single platform
- The user interface would include filters related to MO characteristics to enable buyers to sort and identify MOs that meet their requirements
- Track MOs issued into registries and status changes (i.e., use or transfer of MOs)

National or International: Exchanges

- National registries to allow for transactions, link to exchanges, and/or support transactions using distributed ledger technology
- Aim to mitigate double counting, corresponding adjustment challenges

Climate Change Policy and Strategy in Chile

Cristián Mosella V.

Co-Founder and Executive Director | EnergyLab

✉ cmosella@energylab.cl

🐦 [@cmosellav](https://twitter.com/cmosellav)

29 de agosto de 2019