“20 th Annual IEA-IETA-EPRI Workshop on 20th Annual IEA-IETA-EPRI on Greenhouse Gas Emission Trading”

Carbon Pricing in Latin America

22-10-2020

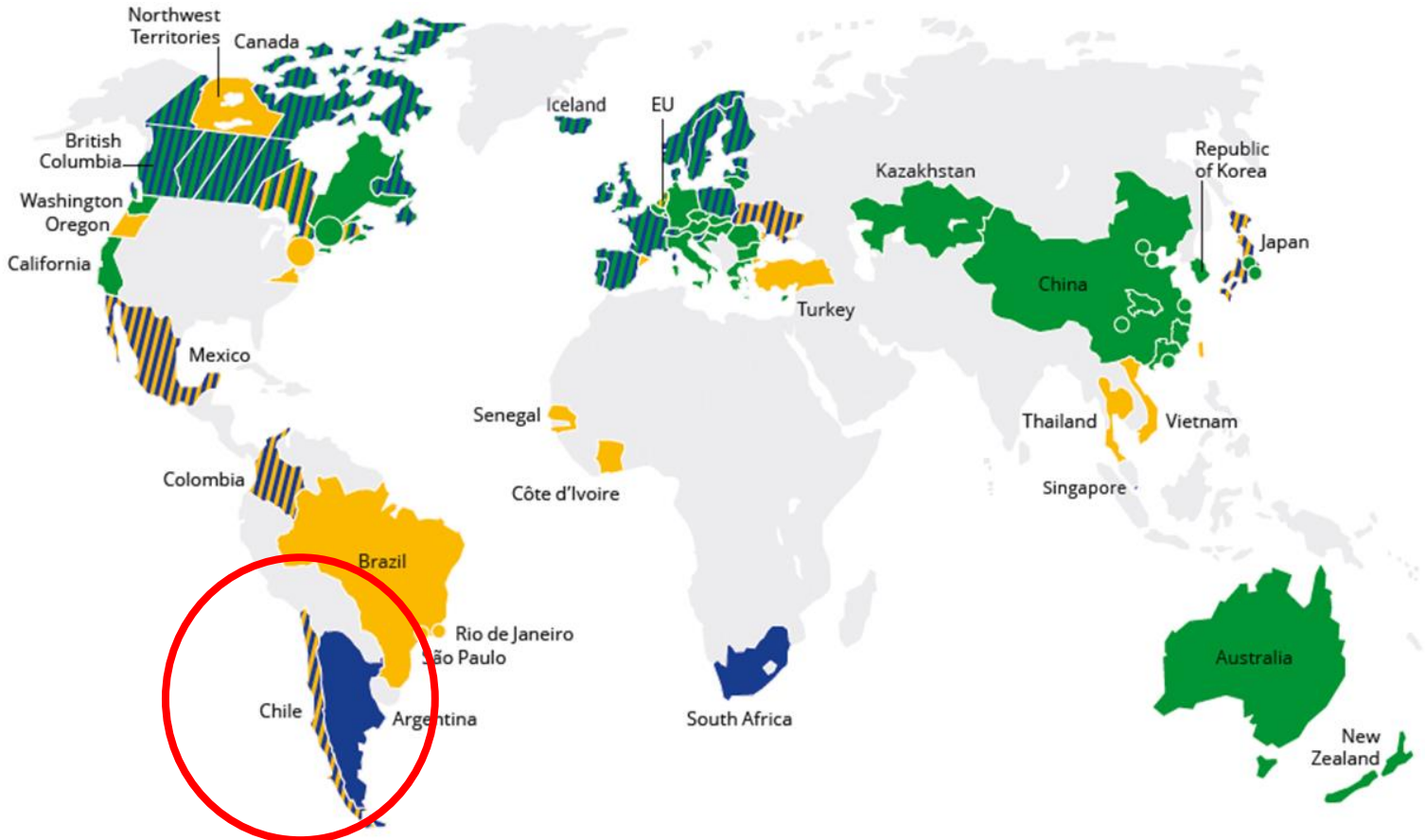
Juan Pedro Searle Solar

Ministerio de Energía

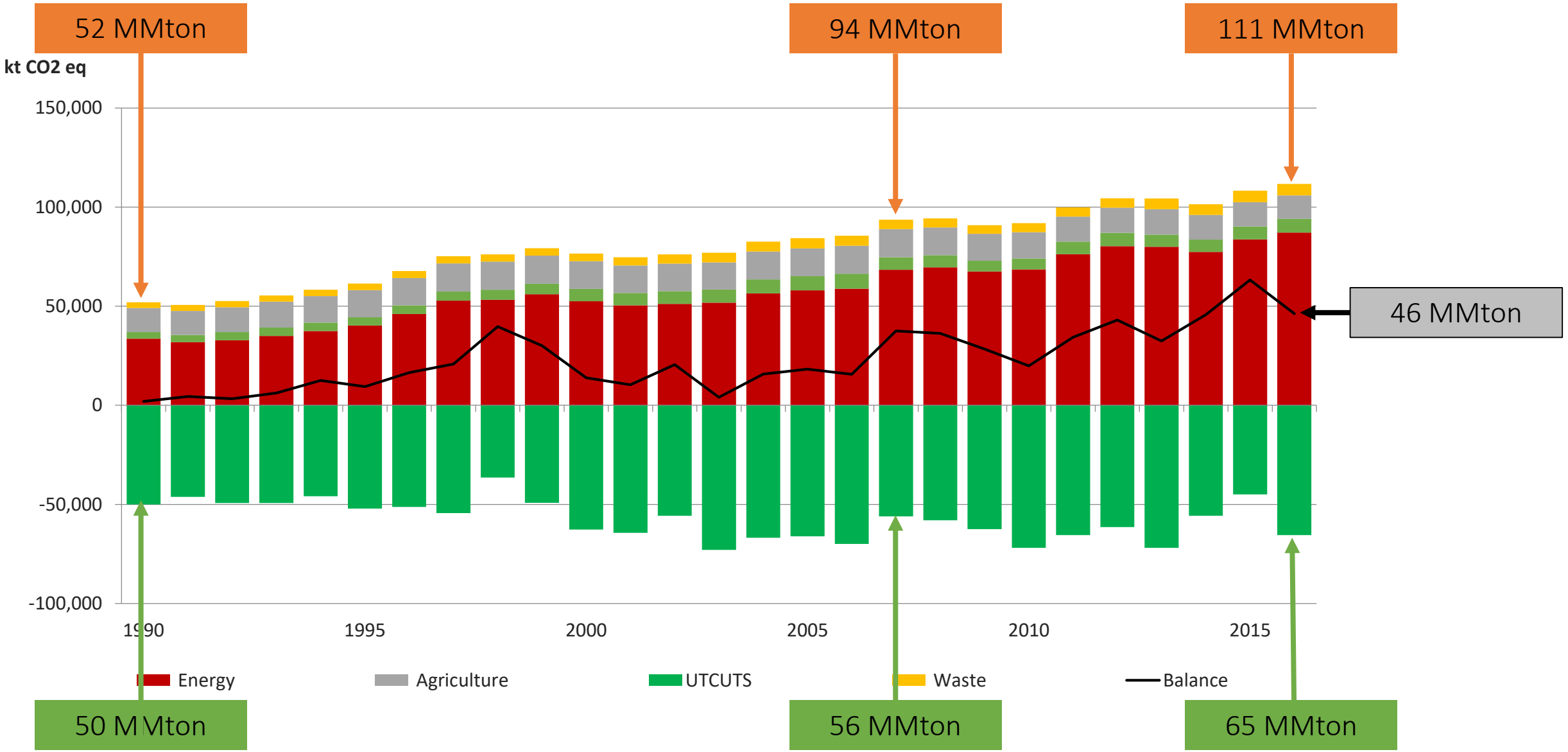
Gobierno de Chile

Carbon Pricing in Chile

- Tax for CO_2 and local pollutants
- **New instruments** under climate change bill
- Article 6
- Regional Alliances
- CDM
- JCM



GHG Emissions in Chile: 1990-2016

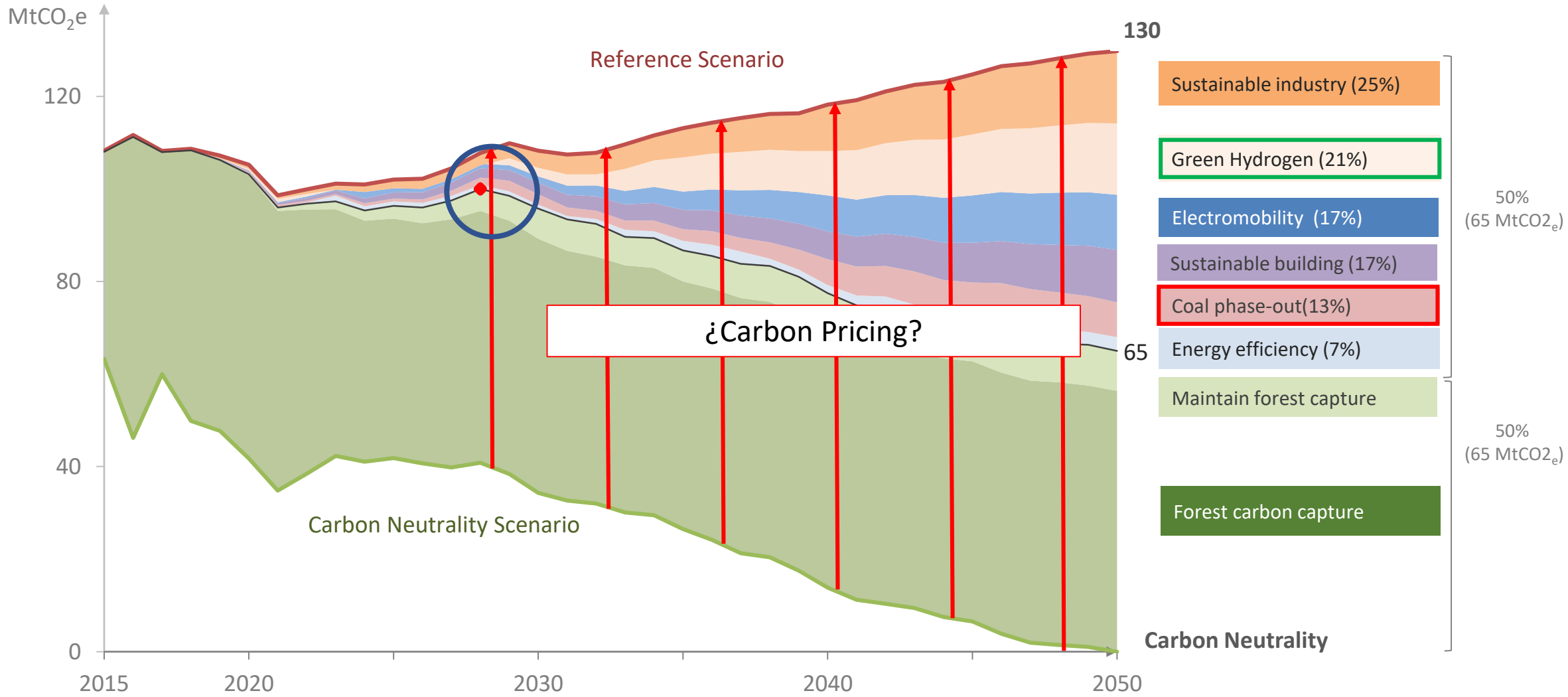


Source: Third BUR, Ministry of Environment



Carbon neutrality before 2050

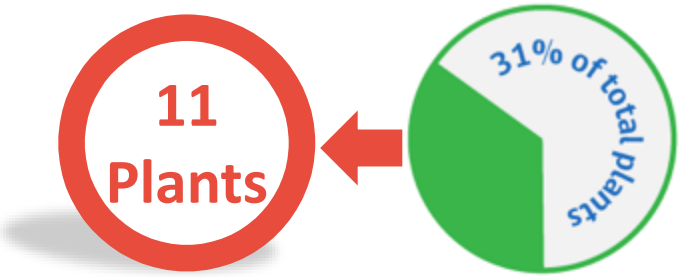
Carbon Neutrality by 2050



Note: considers a capture of 57 MM tons per year from the forestry sector, plus an increase of 8 MM tons in 2050. The reduction percentages represent the aggregate for the period 2020-2050.

Fuente: Ministerio de Energía
2019/10/04

COAL PHASE -OUT
First phase schedule 2019-2024



First Phase: 1.731 MW

Tocopilla

Unit:	Tocopilla U12	Unit:	Tocopilla U13
Company:	Engie	Company:	Engie
Power:	85 MW	Power:	86 MW
Start up:	1983	Start up:	1985

Withdrawn: June 2019

Tocopilla

Unit:	Tocopilla U14	Unit:	Tocopilla U15
Company:	Engie	Company:	Engie
Power:	136 MW	Power:	132 MW
Start up:	1987	Start up:	1990

Withdrawal: January 2022

Mejillones

Unit:	CTM1	Unit :	CTM2
Company:	Engie	Company:	Engie
Power:	162 MW	Power:	172 MW
Start up:	1996	Start up:	1998

Withdrawal: December 2024

Iquique

Unit:	Tarapacá
Company:	Enel
Power:	158 MW
Start up:	1999

Withdrawn: Diciembre 2019

Puchuncaví

Unit:	Ventanas U1
Company:	Aes Gener
Power:	114 MW
Start up:	1964

Withdrawal: December 2020

Coronel

Unit:	Bocamina U1
Company:	Enel
Power:	130 MW
Start up:	1970

Withdrawal: December 2020

Coronel

Unit:	Bocamina U2
Company:	Enel
Power:	348 MW
Start up:	2012

Withdrawal: May 2022

Puchuncaví

Unit:	Ventanas U2
Company:	Aes Gener
Power:	208 MW
Start up:	1977

Withdrawal: December 2022

2019 | 2020 | 2021 | 2022 | 2023 | 2024

Source: Ministry of Energy

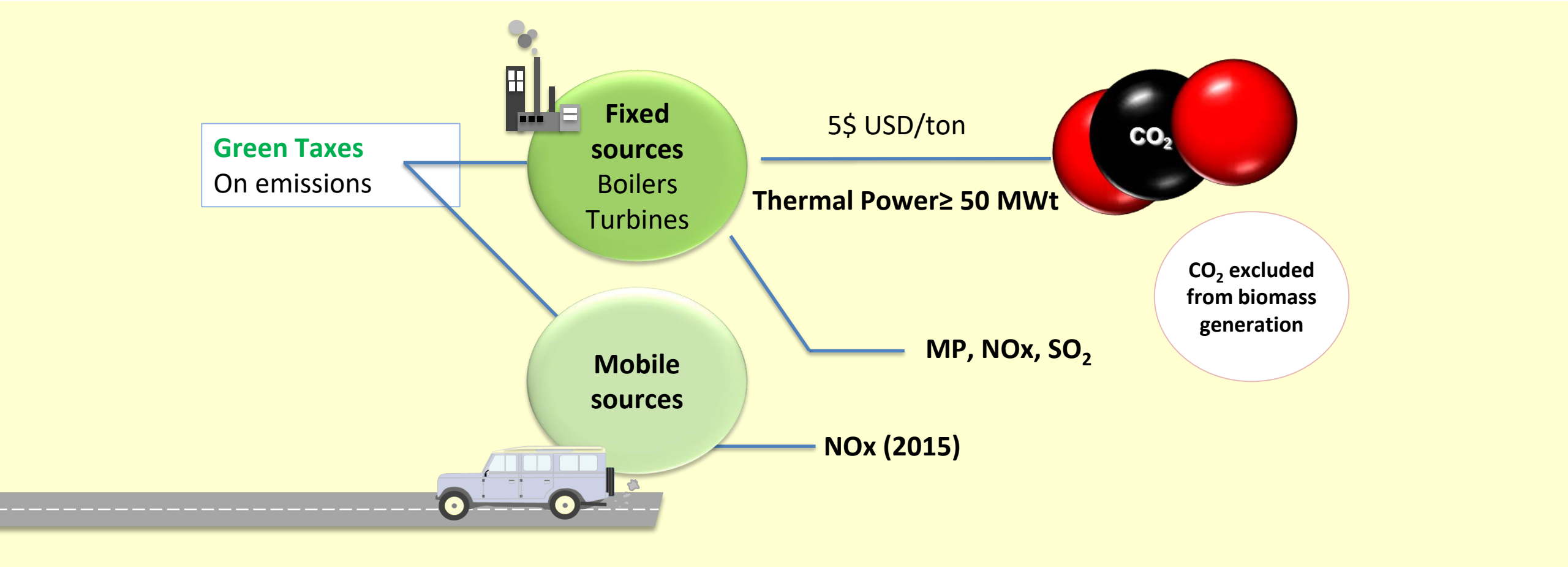
Updated May 2020

Nueva NDC de Chile

	First NDC	New NDC
 GHG	Emissions intensity (tCO_2/PIB): - 30% (unconditional) and - 45% (conditioned to international $) by 2030 Based on 2007 intensity.	**Absolute emissions**: 95 $MMtCO_2$ by 2030 **Carbon budget** 2020-2030: 1,100 **$MMtCO_2$** **Peak** in emissions: 2025
Black Carbon	No goal	Between 10% and 20% of emission reductions by 2030, with 2016 as base year. To be reached mainly with air quality domestic policies.
 Sustainable Management	100.000ha, mainly with native species. Subject to Native Forest Law.	200.000ha with native species by 2030. Equivalent reduction: 0.9-1.2 $MMtCO_2$ by 2030.
Forestation	100.000ha, mainly with native species.	200.000ha: at least 100.000ha of permanent cover, with at least 70,000ha covered with native species. Equivalent reduction: 3.0-3.4 $MMtCO_2$ by 2030.
Reduce forest degradation and deforestation	No goal	25% reduction in emissions due to native forest degradation and deforestation by 2030, considering average emissions between 2001-2013. Equivalent reduction: 2.5 - 3.0 $MMtCO_2$ by 2030.

Article 6 in the new NDC: a cost-effective mitigation instrument; new tecnologies through ITMO transfers; a **Carbon Pricing Public Policy** is required → Public-Private Roundtable

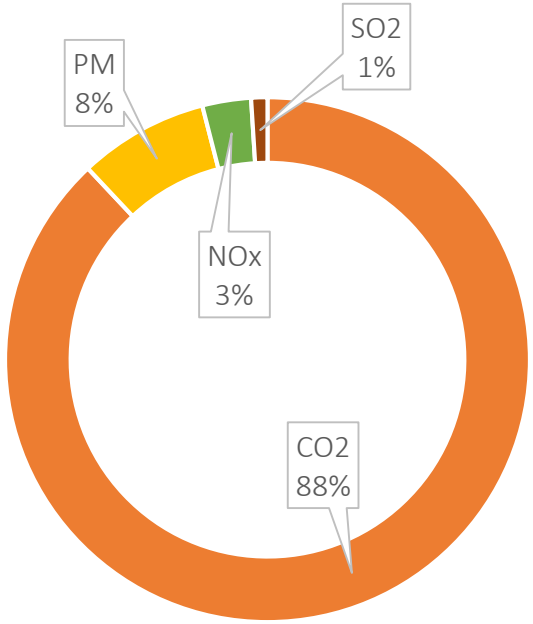
Carbon Tax (2014 Tax Reform)



- Entry into force: January 2017
- **94 facilities** representing **40%** of total GHG emissions.

Carbon Tax revenues 2017-2019

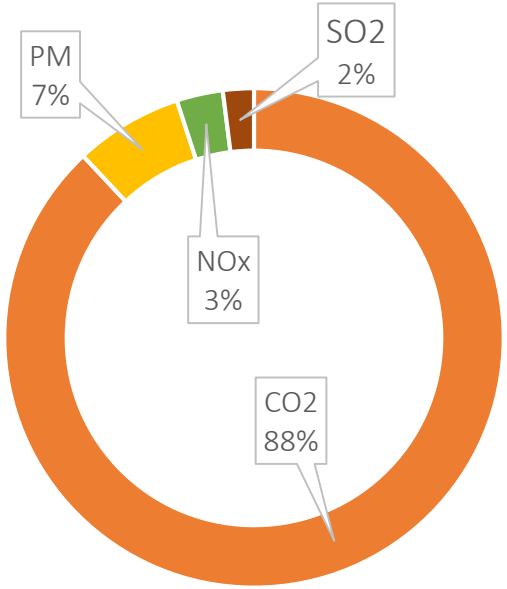
Revenue per pollutant (2017)



- CO2: 33,6 MTon
- PM: 5,3 kTon
- NOx: 51,7 kTon
- SO2: 43,8 kTon

MMUSD 191

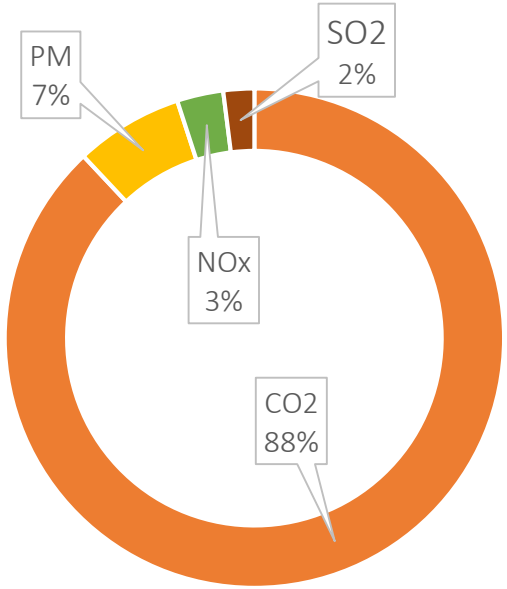
Revenue per pollutant (2018)



- CO2: 33,3 MTon
- PM: 4,9 kTon
- NOx: 50,7 kTon
- SO2: 43,8 kTon

MMUSD 187

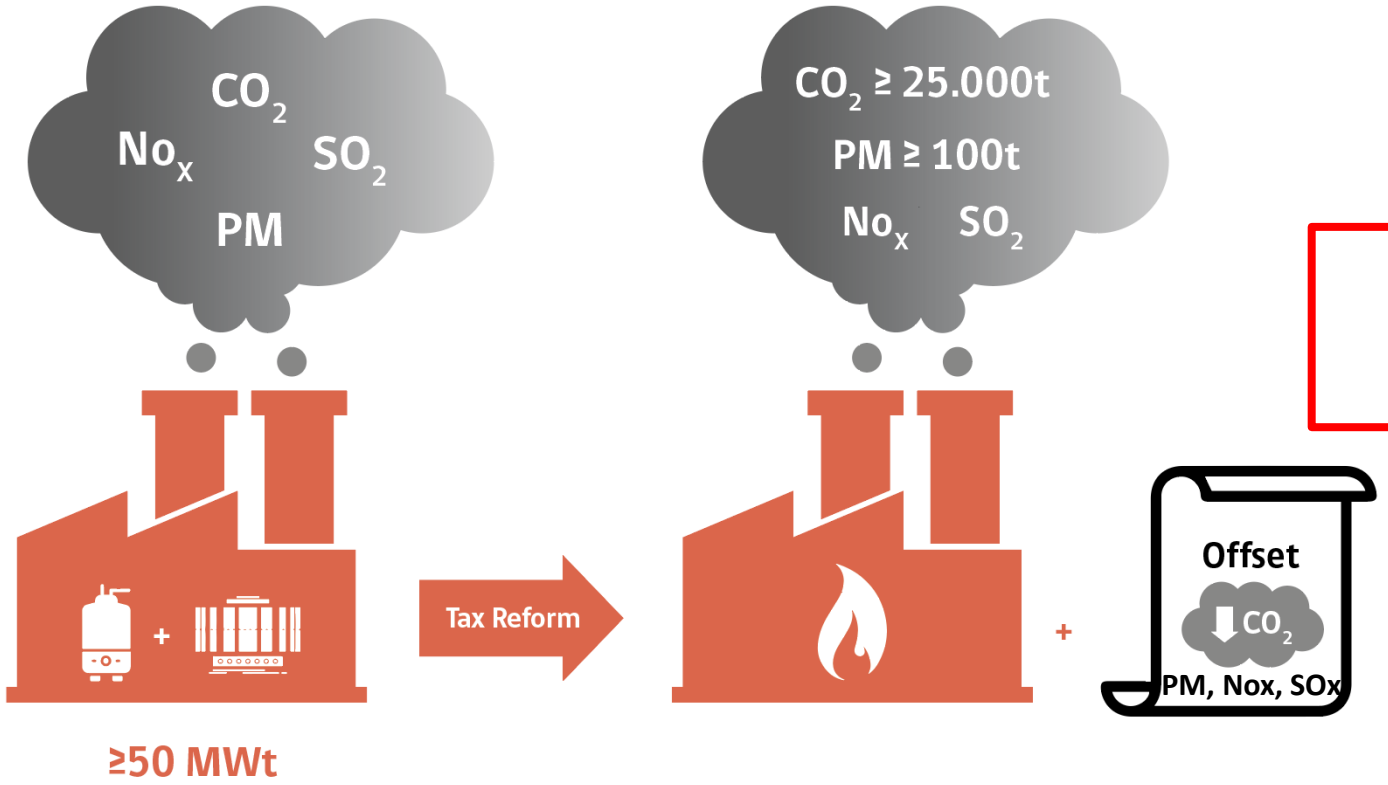
Revenue per pollutant (2019)



- CO2: 33,3 MTon
- PM: 3,8 kTon
- NOx: 48,2 kTon
- SO2: 41,5 kTon

MMUSD 186

2014 Tax Reform



PMR and GCM were key!!

Introduced	Aprobed	In operations
August 2018	January 2020	2023

Climate Change Bill

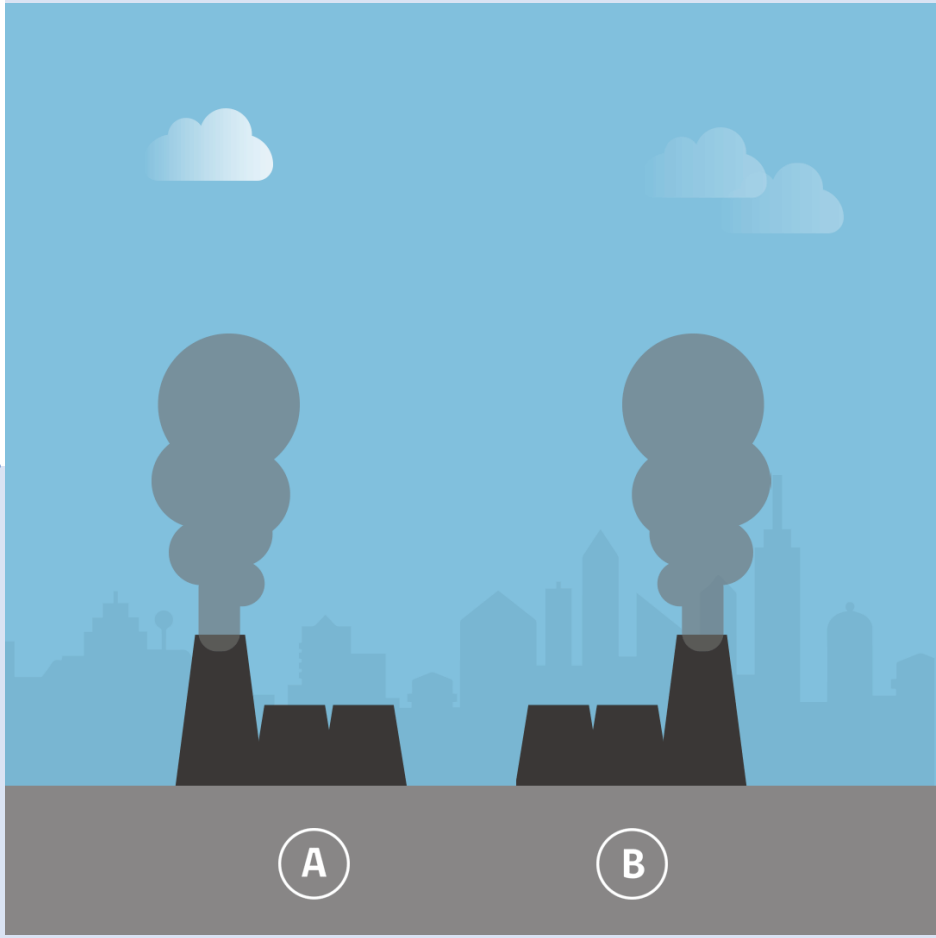
(Under Congress Review as of January 2020)

Main figures:

- **Carbon neutrality goal** by 2050.
- **Long Term Climate Strategy**.
- **Sectoral responsibilities**.
- **Emission limits** for GHG and black carbon

Carbon pricing/trading of emissions:

- Allows for the trading of emission limits surplus and credits coming from domestic mitigation projects.
- Allows for the use of **ITMOs** coming from international sources.



COOPERATION

INFRASTRUCTURE FOR ITMO MRV AND TRADE

-Mitigation actions register
-Meta-registry Pilot using BCT
-Third Party verifier
-Authorization figures

ART.6: VIRTUAL ITMO PILOT ON RE (RPS)

-Firm and flexible RE
-Crediting threshold
-Quantification of ER
-Duration of crediting period

CLIMATE TEAMS

-Possible arrangement for large-scale ITMO generation
-Technical cooperation (part of a prospective study) to understand the main issues behind Art6 rules.

GUIDELINES FOR PILOTING, GENERATION, TRANSFER AND USE OF MOS

-Policy Framework
-Country - Processes/Institutional Arrangements

ARTICLE 6 COOPERATION AGREEMENT

-Authorization
-MRV, Issuance
-Recognition of transfers
-Reporting/Corr. Adjustments

JCM THE JOINT CREDITING MECHANISM

-5 approved projects in energy sector

Québec

Pending issues

- Role of carbon pricing role in NDC and Carbon Neutrality
- National policy for the use of Article 6
- Carbon tax offsetting system
- Approval of climate change bill
- Strengthen regional cooperation (Pacific Alliance, CPA)







Thank you!

Ministerio de Energía

Gobierno de Chile

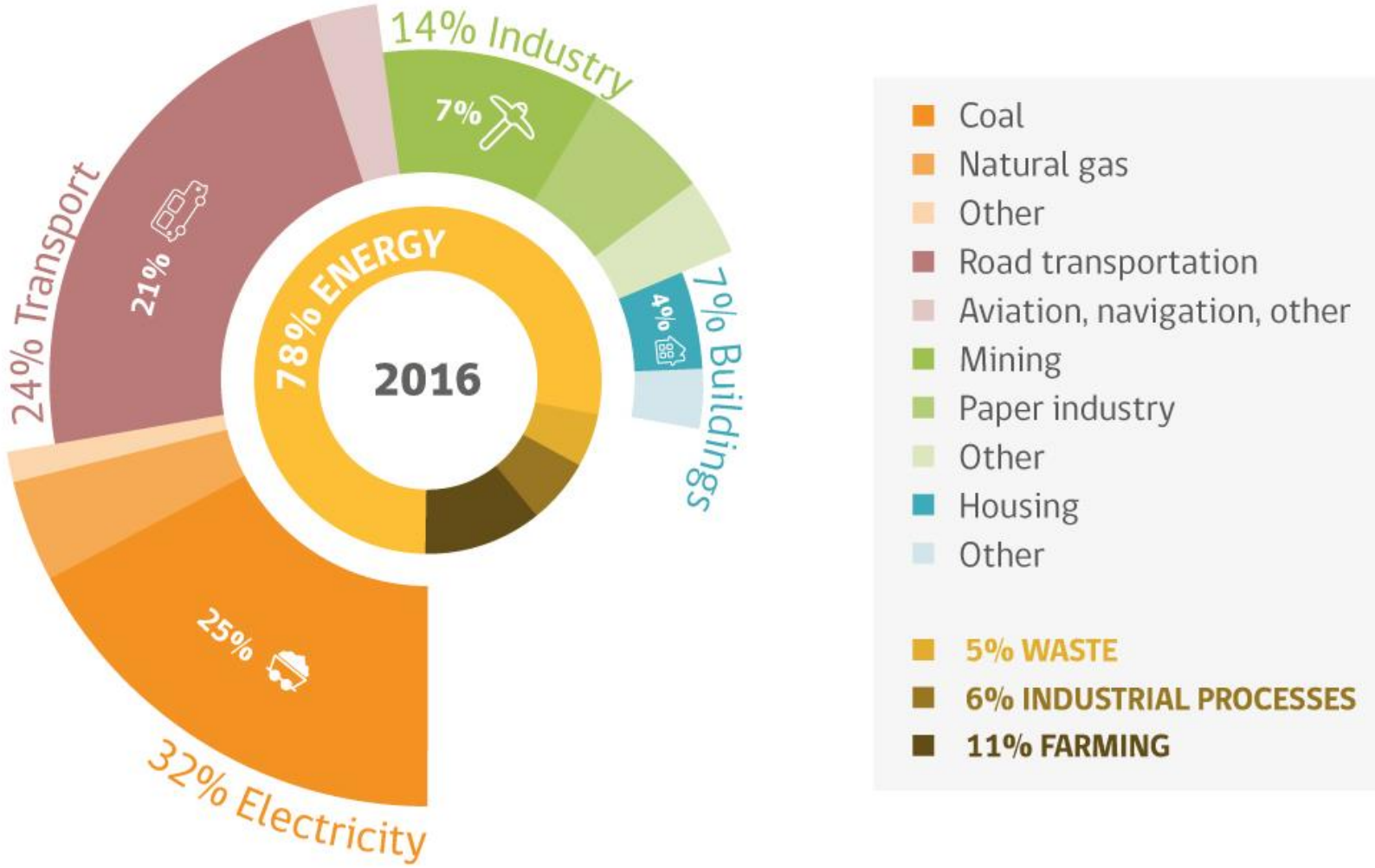
In Chile, the energy sector accounts for 78% of CO_2e emissions

CO_2e

All references to CO_2e, refer to greenhouse gases (GHG) such as:

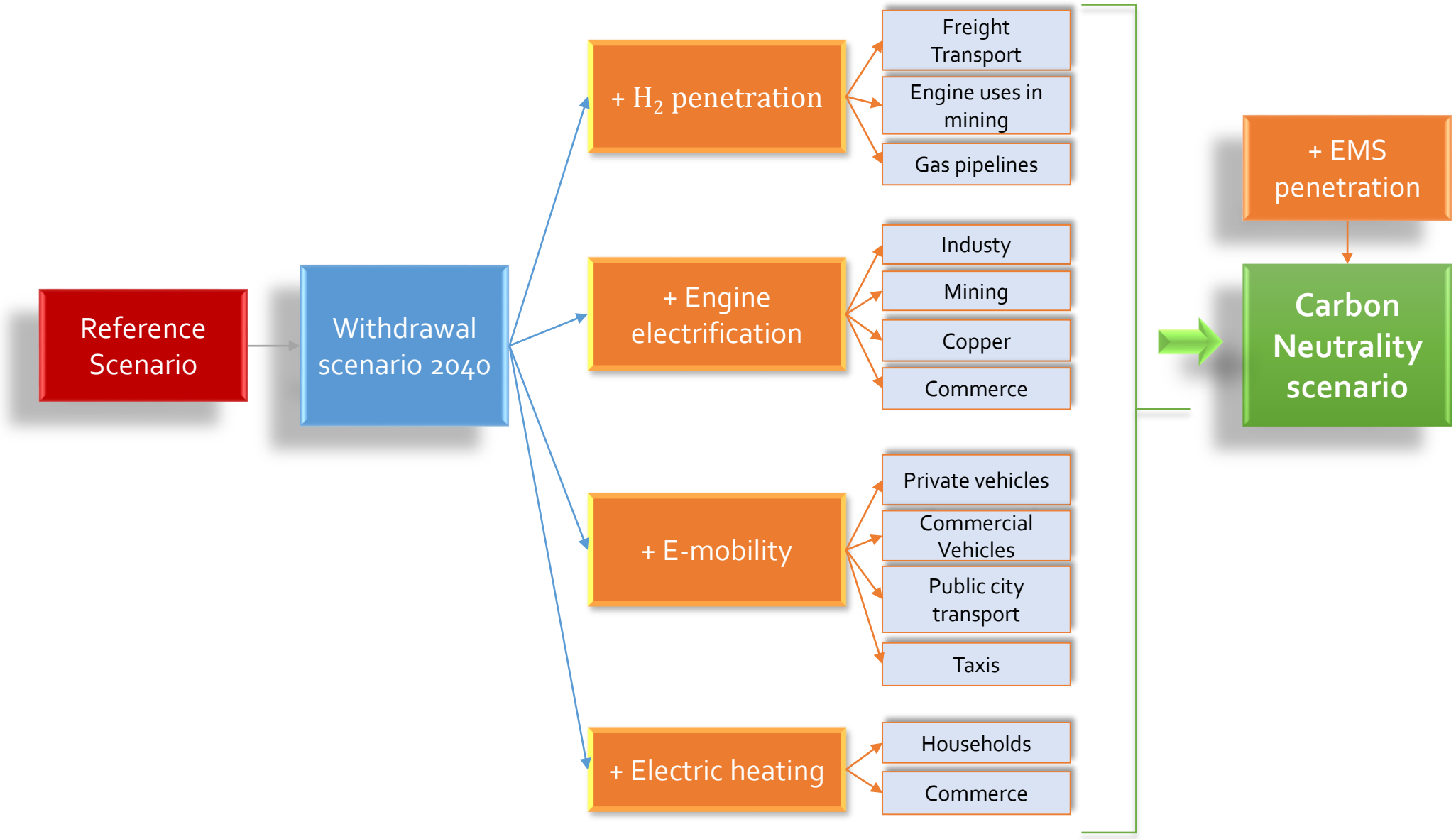
- Carbon dioxide (CO2),
- Methane (CH4),
- Nitrous oxide (N2O),
- Hydrofluorocarbons (HFC),
- Perfluorocarbons (PFC),
- Sulfur hexafluoride (SF6),

measured in CO_2 equivalent units

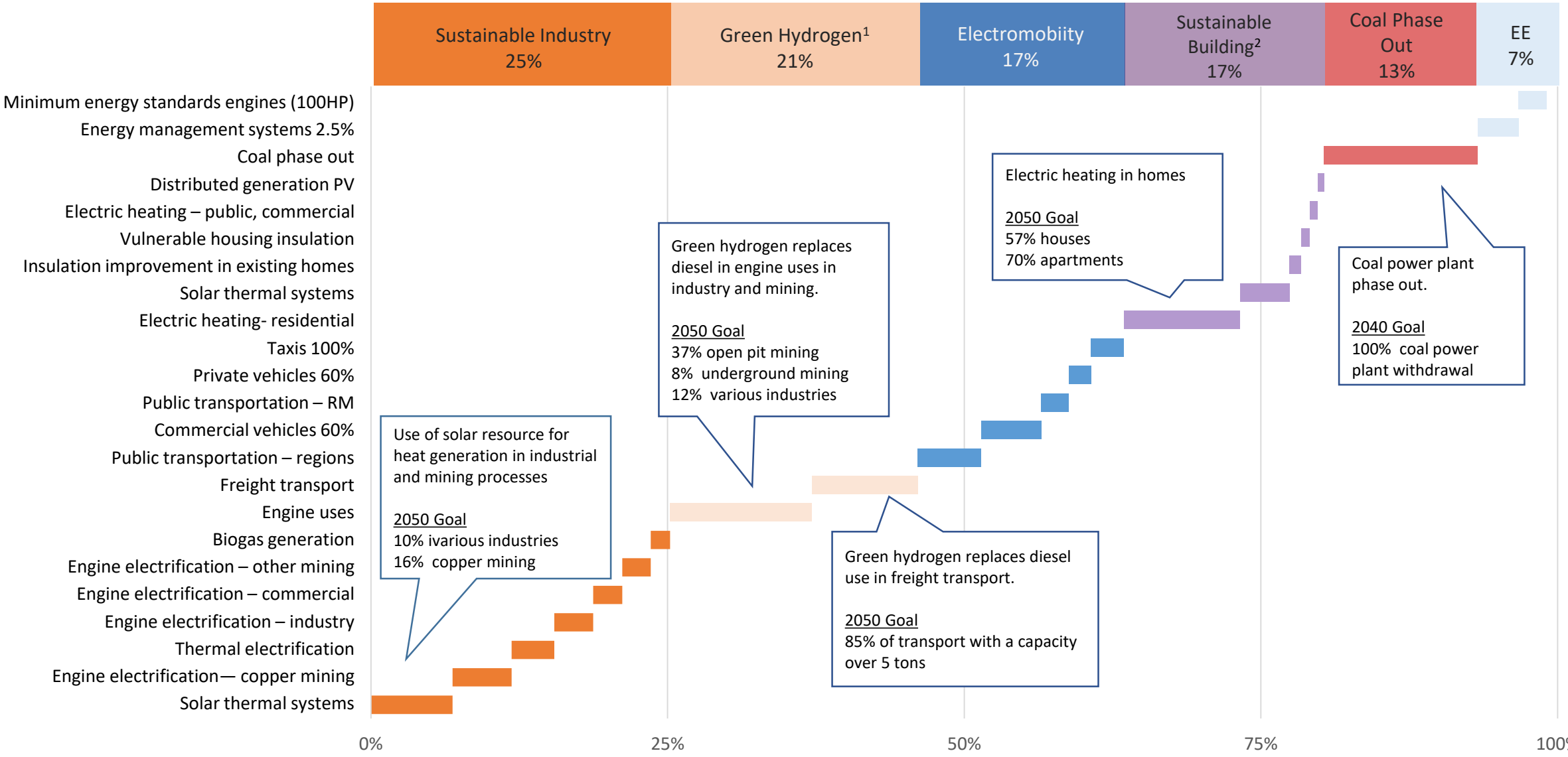


Based on National Greenhouse Gas Inventory (INGEI) data, year 2016.

Coal phase-out: an enabling measure



Measure contributions by 2050



[1] Gas pipelines measure is not graphed (<1%). [2] District heating and geothermal are not graphed (<1%). [3] EE: Energy efficiency. Modal shift and new minimum energy performance standards are not graphed (<1%).