



Ministerio del
Medio
Ambiente

Gobierno de Chile



Green Taxes in Chile

Ministerio del Medio Ambiente y Superintendencia
del Medio Ambiente

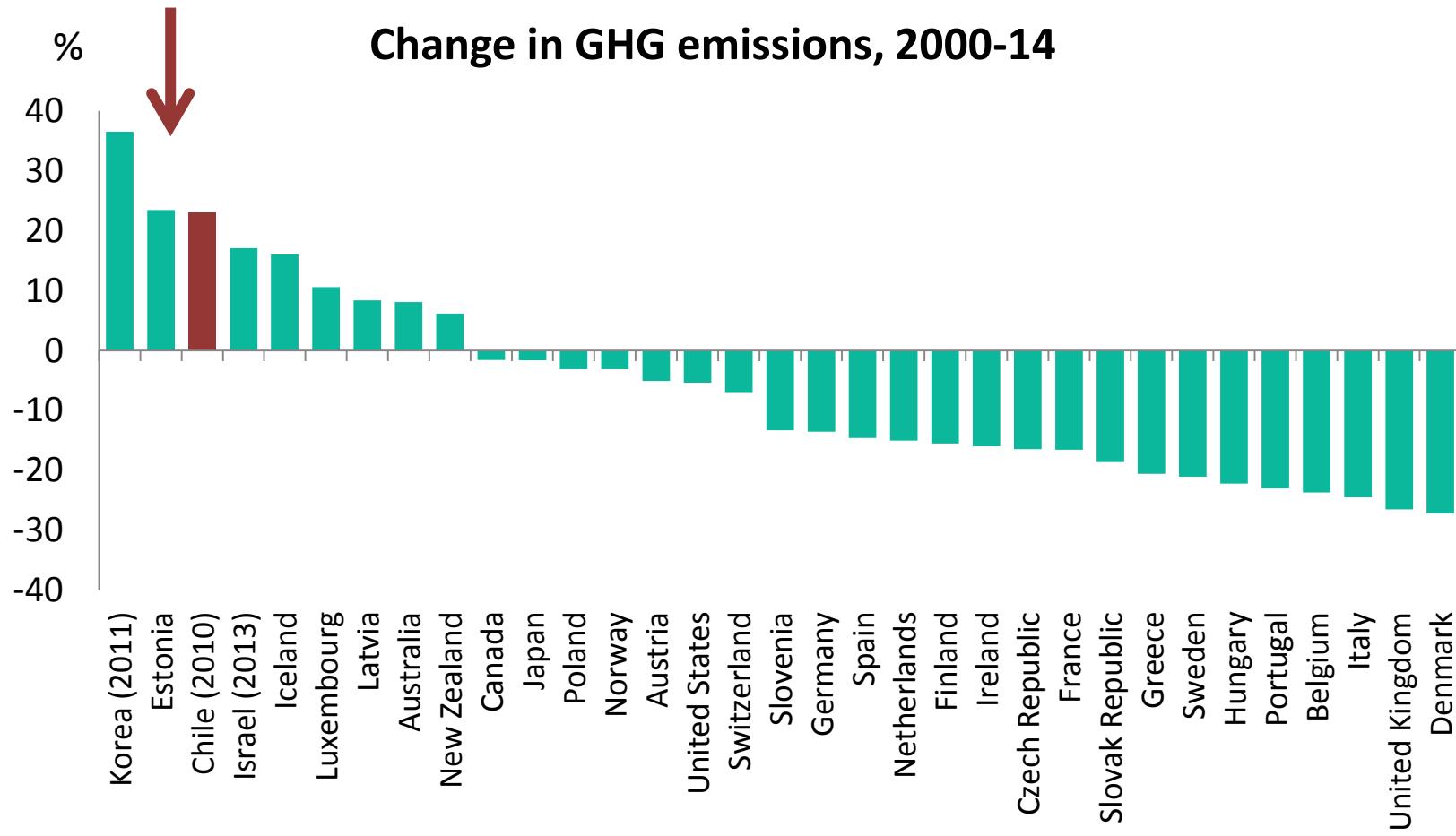


Context

- Chile has significant environmental problems
 - Climate Change
 - Atmospheric pollution
 - Congestion and motor vehicle pollution.
- Environmental policy is centered on standards and regulations.

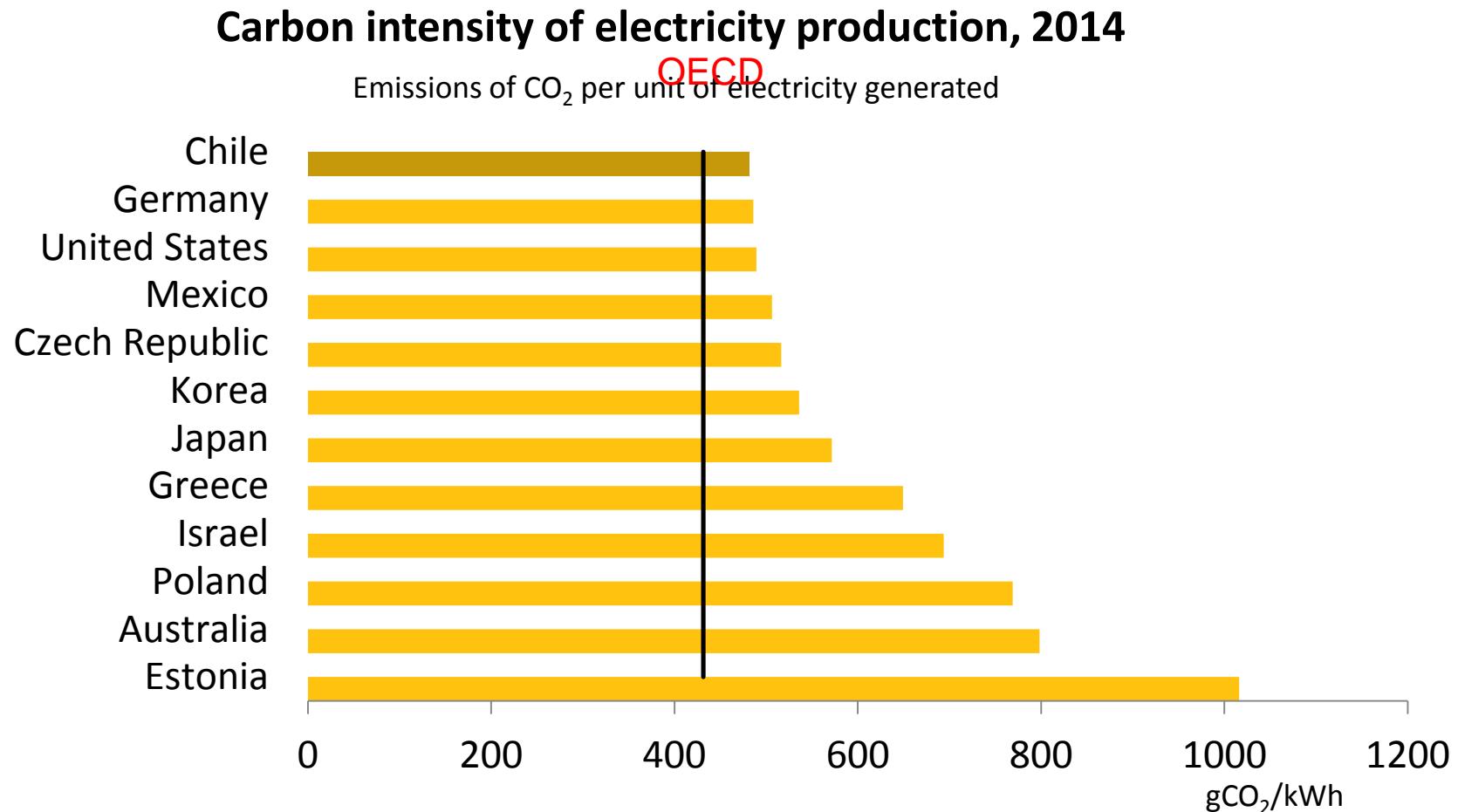


Chile had one of the highest increases in GHG in the OECD



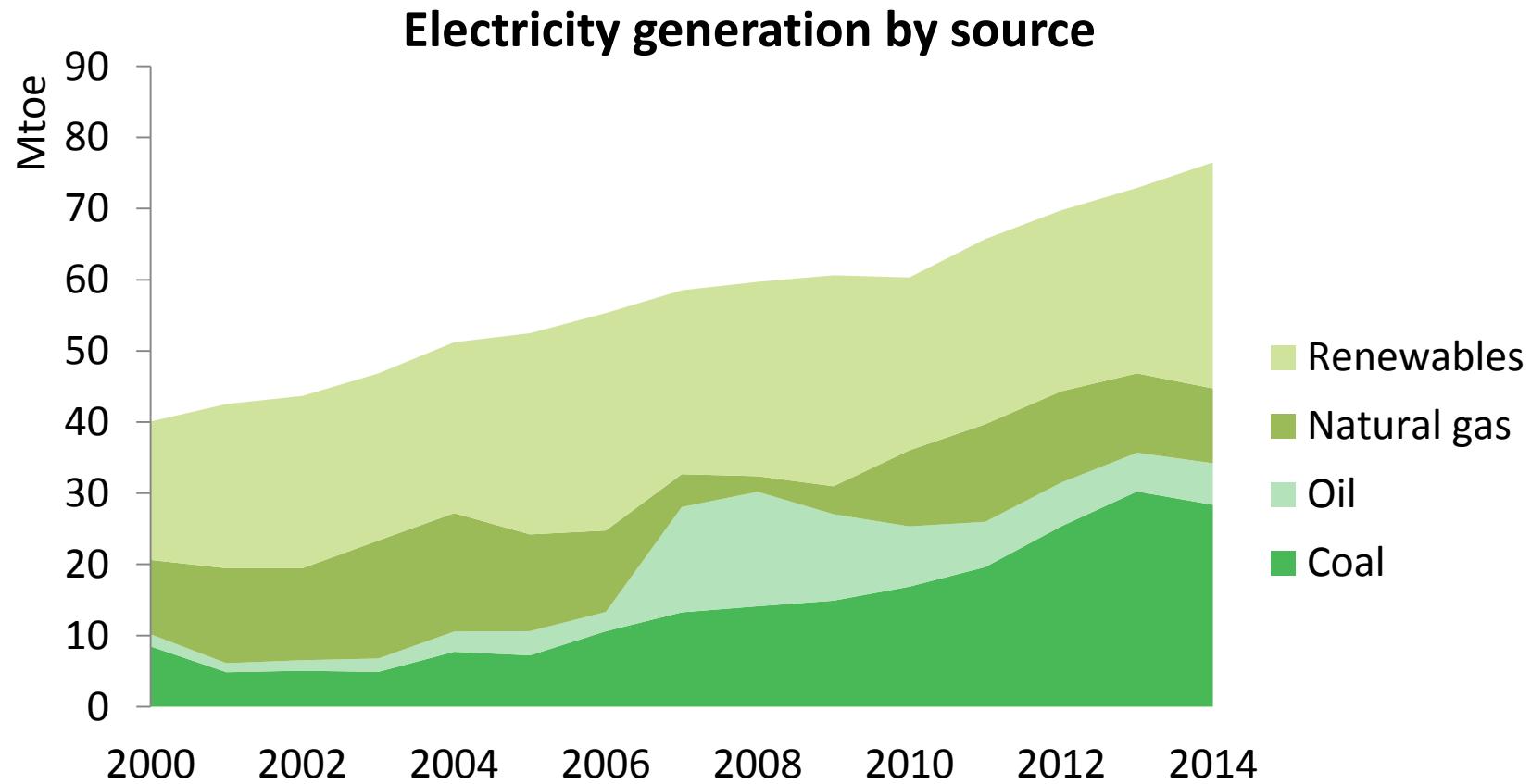
Source: OECD (2016), "Greenhouse gas emissions by source", *OECD Environment Statistics* (database).

The carbon intensity of power generation is high



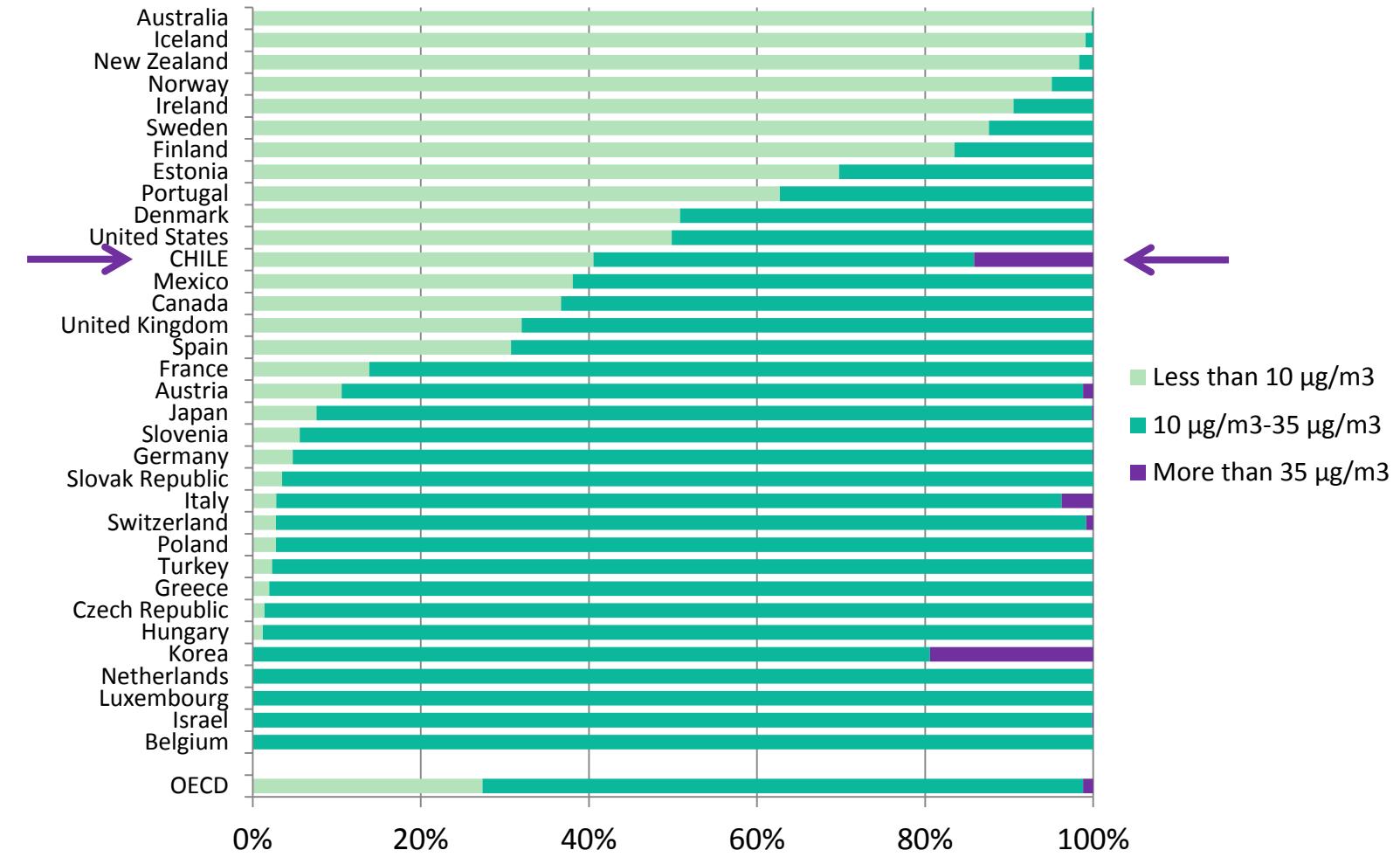
Source: IEA (2015), *IEA World Energy Statistics and Balances* (database).

Power production from fossil fuels increased twice as much as from renewables



Source: IEA (2015), *IEA World Energy Statistics and Balances* (database).

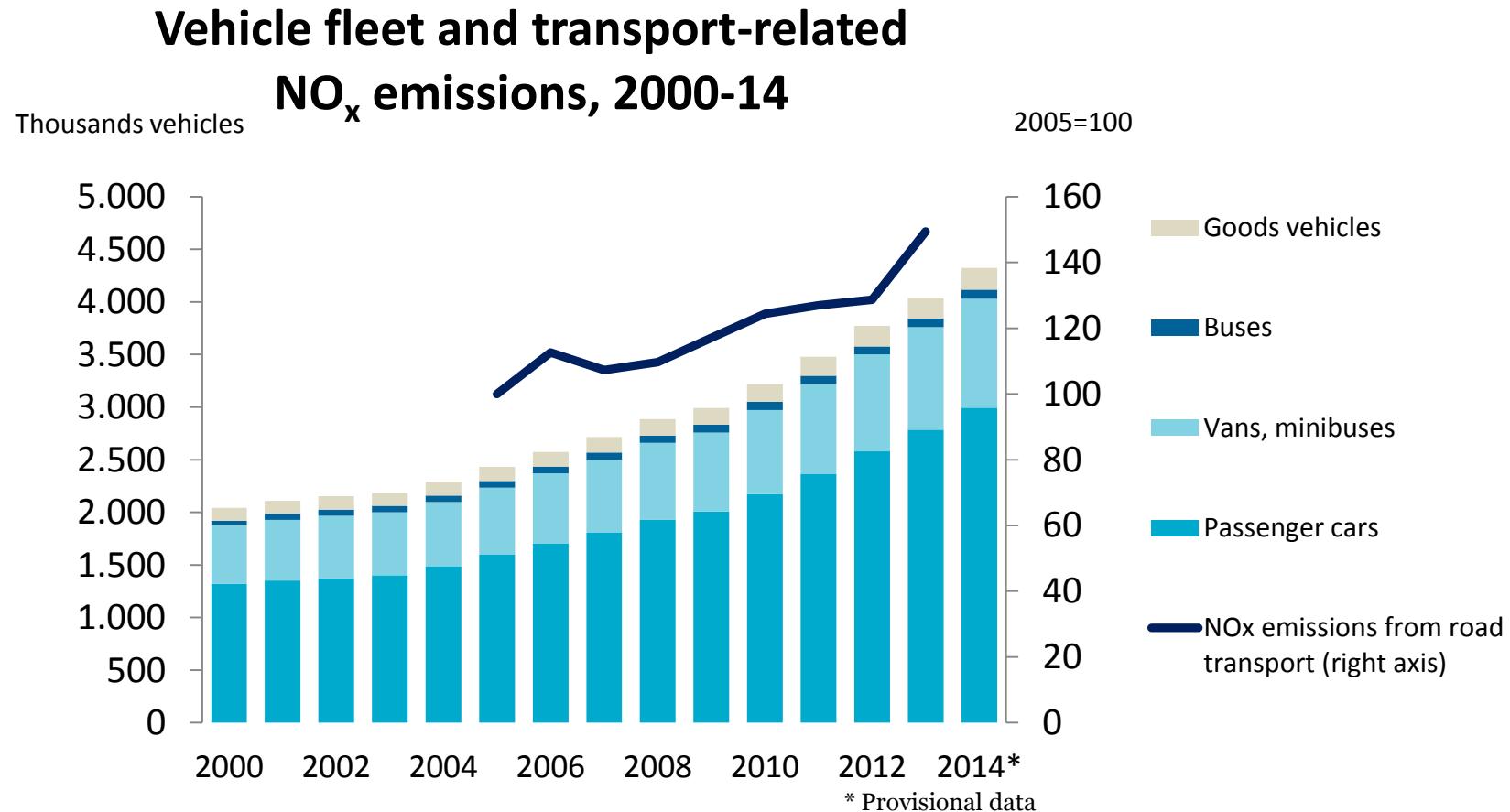
A large share of the population is exposed to severe PM2.5 pollution levels



Source: OECD (2016), *OECD Environment Statistics*(database).

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The vehicle fleet has doubled since 2000, increasing air pollution



Source: INE (2015), *Anuarios parque de vehiculos en circulacion*; OECD (2015), *OECD Environment Statistics* (database).

Green taxes

- In September 2014, Chile passed a General Tax Reform Bill (Ley 20.780) with 3 green taxes.
- Three new taxes were introduced:
 - tax on CO₂ emissions from stationary sources with boilers and turbines (sum over 50MW)
 - tax on local contaminants also on stationary sources with boilers and turbines (PM, SO₂ and NO_x).
 - tax on the first sale of new cars considering the expected NOx emissions over their lifetime.

Taxes

Carbon tax

- \$5 USD/Ton CO₂.

Local Pollutant's tax
(SO₂, NO_x and PM)

$$\bullet T_{ij} = 0.1 * CCA_j \times CSCpc_i \times Pob_j$$

Air quality Social cost Population

Mobile sources tax

$$\bullet T (\text{in UTM}) = [(35/\text{urban performance (km/lt)}) + (120 \times \text{g/km of NO}_x)] \times (\text{selling price} \times 0,00000006)$$

Local Tax formula

- Example: Puente Alto PM: $0.1 * 1,2 * 0.9 * 625,555$

	Saturated Zone	Latent Zone	
CCA	1,2	1,1	
Contaminante	MP	SO2	NOX
Social Cost (US\$)	0,9	0,01	0,025

Example Local Tax

Comuna	CCA	MP US\$/ton	SO2 US\$/ton	NOx US\$/ton
PUENTE ALTO	1,2	67.560	751	1.877
MAIPÚ	1,2	60.385	671	1.677
ANTOFAGASTA	1,0	35.083	390	975
SAN BERNARDO	1,2	32.780	364	911
TEMUCO	1,2	31.594	351	878
CONTULMO	1,0	495	6	14
QUEILÉN	1,0	500	6	14
PORTEZUELO	1,0	506	6	14
COBQUECURA	1,0	510	6	14
CORRAL	1,0	519	6	14
MARÍA ELENA	1,2	523	6	15
MELIPEUCO	1,0	524	6	15

Green Tax Implementation

Law 20.780

Regulatory Statute (30 dic 2016)

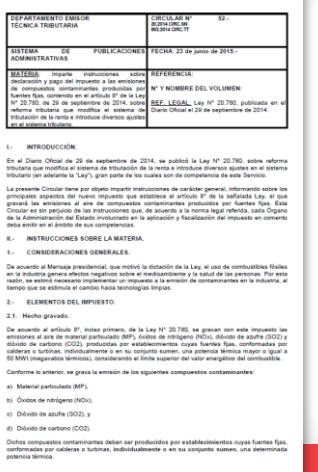
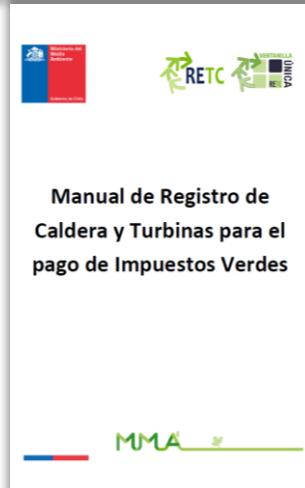
Measurement Protocols (SMA)

Notification of Facilities (MMA)

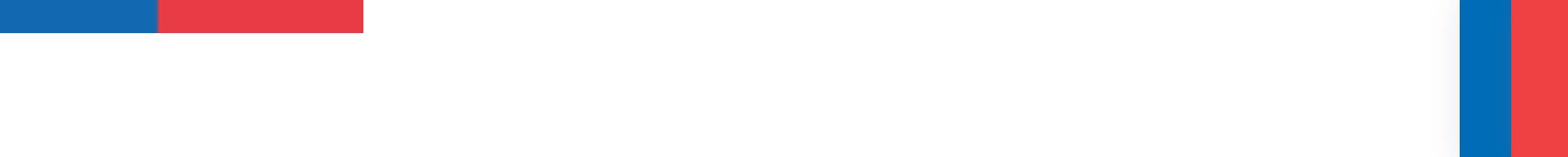
Registration System (RETC)

Development of a System of Reportin (SMA)

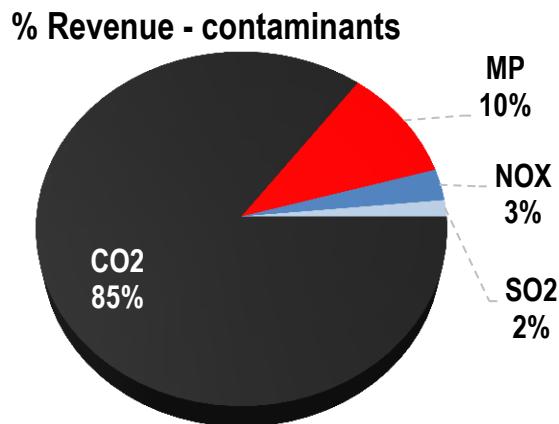
Design of a Verification System (SMA)



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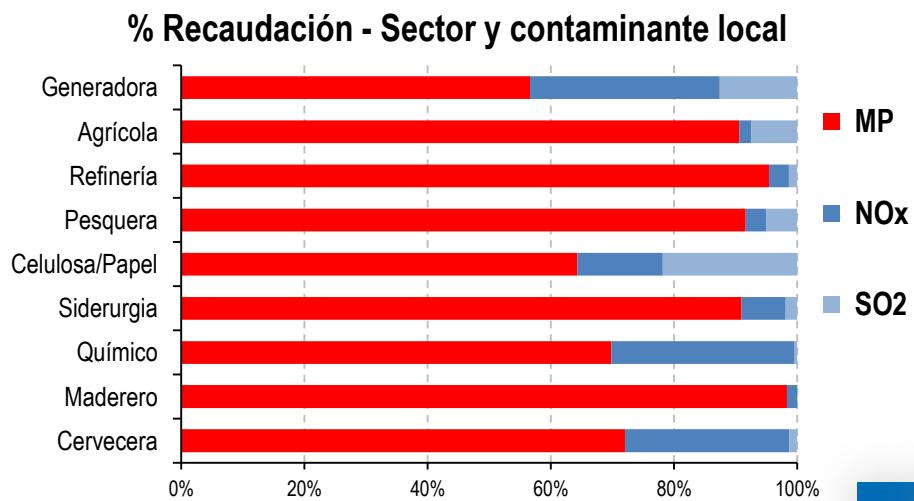
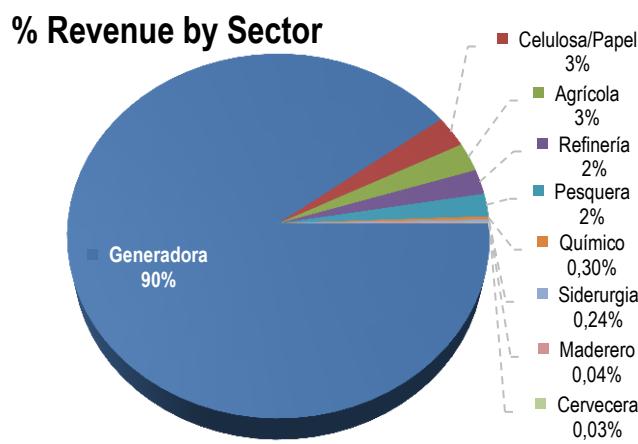


Green Tax - Estimates



Ministry of Finance Financial Report

Revenue
USD 170 MM aprox.



GHG Inventory (2013)

	CO2 tons (mm)	Tax (2016)
Energy	85,1	
Generation	38,5	40
Industry	14,3	2,5
Others	32,3	
Industrial Processes	6,6	
Agriculture	13,7	
Waste	4,5	
Total	109.9	

Conclusion

- Tax supports mitigation policy
- But perhaps
 - Builds new institutional infrastructure that will boost our monitoring, reporting and verification capabilities.
 - By upgrading Chile´s reporting capacity in the future it will be possible to develop more sophisticated policy instruments.
 - Although this bill does not include ‘offsets’ after the full implementation of the tax it will be possible to introduce offsets if the authorities consider it appropriate.

Thank You



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