

Case Study: Carbon Tax in Chile

Prepared by Emily Giovanni, Fatima Khalid, and Kenneth Richards

Chile's carbon tax was introduced in 2014 as part of a larger set of tax reforms intended to simplify the tax code, reducing taxes for individuals and increasing taxes for large industry. The downstream carbon tax was accompanied by a one-time tax on new vehicles and an emissions tax on local pollutants (SO₂, NO₂ and particulate matter). The "green taxes" had the stated goals of addressing the significant air pollution problem in Chile, correcting the behaviors of economic actors (GHG emitters), and meeting the targets of the nationally determined contribution (NDC) under the Paris Agreement. Additionally, as the tax reforms came in the wake of student protests (2011 to 2013), they also aimed to raise revenues to fund a campaign promise for free education. Chile's successful carbon tax implementation has been credited to the significant political buy in by the government as well as strong stakeholder involvement (including the private sector).¹

When the carbon tax was implemented in 2017, it affected businesses that operated stationary sources consisting of turbines or boilers with an individual or combined total power capacity of over 50 MW (excluding stationary sources that used biomass as the primary energy source) at a rate of USD \$5/ton CO₂eq. Studies³ found that the carbon tax rate did not substantially contribute to GHG mitigation as it did not modify dispatch of electricity in the short term or alter the levelized cost of energy (LCOE) estimates in the long run. Because of the muted impacts, industries were not financially motivated to switch to cleaner fuel sources or adapt mitigation technologies. In February 2020, the tax underwent a transformation and is now applicable to stationary sources that annually emit more than 25,000 tons CO₂ and/or 100 tons of particulate matter due to combustion processes.⁴

Operationalizing the Carbon Tax: The operationalization phase included specification of facilities that were liable to pay green taxes, instructions on declaration and payment of taxes on polluting compounds, methodologies for quantifying GHG emissions, and developing guidelines and a platform for reporting emissions. The government of Chile rooted the tax system into an existing stable regulatory regime, involving coordination among various agencies including the Ministry of the Environment, the Registry of Emissions and Transfer of Pollutants, the Superintendent of the Environment (SMA), and the Internal Revenue Service.

To identify entities subject to the tax and estimate emissions quantities that are tax liable, the SMA manages a system emissions measurement, reporting, and verification. The emissions data are passed on to the Internal Revenue Service (SII) to calculate the applicable taxes. Finally, the General Treasury of the Republic (TGR) collects the taxes from the taxpaying entities.

Importance of Capacity Development: Observers criticized the carbon tax rate as being too low to instigate any significant reduction in GHG emissions. However, the initial tax rate was used by the Chilean government as a tool to strengthen the institutional mechanisms for monitoring, reporting, and verification. The phased approach allowed the development of consistent methods to obtain information about local and global pollutants, addressed sectoral differences, and allayed fears about decreasing competitiveness.

Jurisdictional Context/Background

- Per-capita GDP (USD): \$15,000 (2019)
- Population: 19 million (2019)
- Major GHG emission sources: energy (75%)
- Human development index: 0.851 out of 1.0 (2019)
- Government capacity² (out of 100; 2014):
 - Voice & accountability: 80.8
 - Political stability and absence of violence/terrorism: 60.0
 - Government effectiveness: 84.6
 - Regulatory quality: 91.8
 - Rule of law: 88.0
 - Control of corruption: 90.9

¹ GIZ (2019)

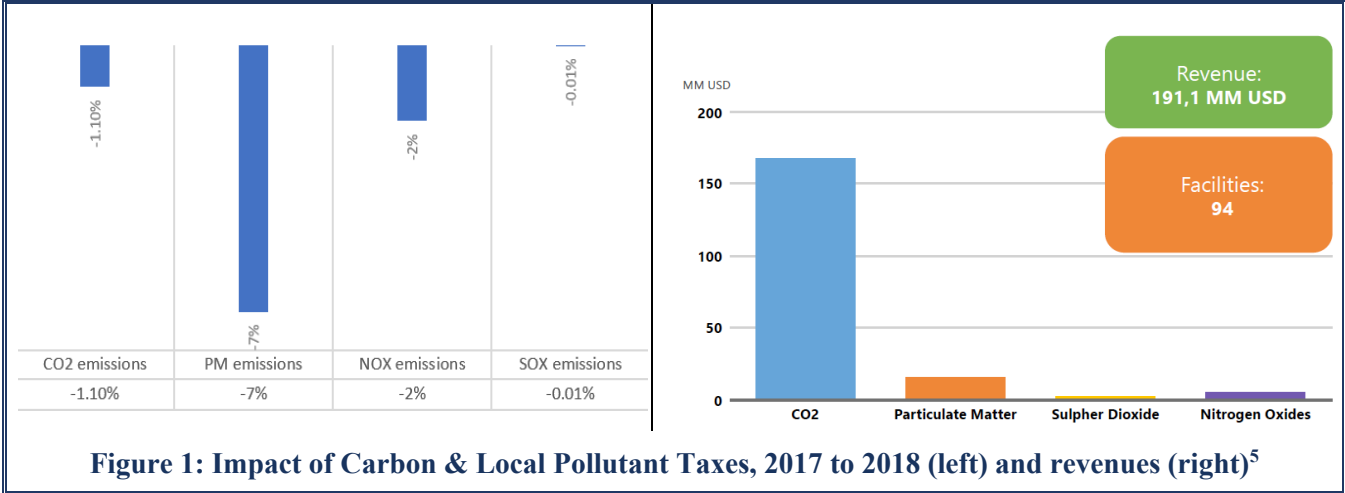
² World Bank (2021)

³ Mardones, et al (2017)

⁴ ICAP (2021)

Measures to Prevent Leakage: Because the carbon tax was imposed primarily on the power sector and Chile does not have electrical connections with other countries, the risk of carbon leakage was low. Additionally, the low level of the carbon tax meant that the cost of electricity was not sufficiently impacted to have an effect on industry behavior or competitiveness.

Outcomes & Revenues: In 2017, revenues of approximately USD \$191 million were collected from 94 facilities. Taxes on CO₂ emissions accounted for 88 percent of the revenues, with the rest coming from taxes on local air pollutant emissions. Overall, 93 percent of the total revenue was collected from the energy sector with marginal revenues coming from industrial sectors.



References

Committee of Experts on International Cooperation in Tax Matters. (2019). Eighteenth session New York, 23-26 April 2019 Item 3(c)(i) of the provisional agenda Environmental tax issues.

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). (2019). Chile’s Carbon Tax: An Ambitious Step Towards Environmentally Friendly Policies And Significant Greenhouse Gas Emission Reductions.

International Carbon Action Partnership (ICAP). (2021). Chile: ETS Detailed Information. Available at: [https://icapcarbonaction.com/en/?option=com_etsmap&task=export&format=pdf&layout=list&systems\[\]=54#:~:text=In%20this%20context%2C%20a%20carbon,to%20combustion%20processes%20oper%20year](https://icapcarbonaction.com/en/?option=com_etsmap&task=export&format=pdf&layout=list&systems[]=54#:~:text=In%20this%20context%2C%20a%20carbon,to%20combustion%20processes%20oper%20year)

Mardones, C and Flores, B. (2017). Evaluation of a CO₂ Tax in Chile: Emissions Reduction or Design Problems? Latin American Research Review 52(3), pp. 334–343. DOI: <https://doi.org/10.25222/larr.33>

Organisation for Economic Co-operation and Development (OECD). (2019). Chile, Taxing Energy Use 2019: Country Note – Chile. Available at: <https://www.oecd.org/tax/tax-policy/taxing-energy-use-chile.pdf>

Pizarro, Rodrigo. (2019). Lessons from the Carbon Tax in Chile. Presentation for the Coalition of Ministers of Finance for Climate Action.

The Earth Institute, Columbia University. (2019). Carbon Pricing as a Policy Instrument to Decarbonize Economies.

World Bank. (2021). Worldwide Governance Indicators. Data for 2014. Available at: <http://info.worldbank.org/governance/wgi/Home/Reports>

World Bank Group, Partnership for Market Readiness. (2017). Carbon Tax Guide: A Handbook for Policy Makers. Appendix: Carbon Tax Case Studies.

⁵ Pizarro (2019)