

The Mexican carbon tax and ETS, and their interaction

Lea Trogrlic

Climate Economics for Engineers – ENV-724

2 December 2020

Mexico



- ◆ OECD country with high inequality
- ◆ about 3.8 tons of GHG emissions per capita
- ◆ General Law on Climate Change passed in 2012
- ◆ Lays the ground for market-based instruments

Carbon tax

- ◊ Introduced in 2014
- ◊ Revenues go to state budget
- ◊ Initial price MXN\$ 39.8 per tCO₂, annually adjusted for inflation
- ◊ Reduction of 1.8 million tCO₂ per year compared to a scenario without a carbon tax

ETS

- ◇ 2020-2021: pilot phase
- ◇ 2022: transitional phase
- ◇ From 2023 onwards: operational phase
- ◇ Reduction of 1% of emissions in covered sectors this year

Interaction and incentive

- ◇ Interaction: overlapping parts of the economy carbon tax as minimum price for the ETS, no carbon tax exemption for ETS participation
- ◇ Incentive for ETS participation:
 - ◇ To have a say in its design
 - ◇ Compliance: non-compliant entities in pilot phase receive fewer allowances in operational phase

Initial vs. approved carbon tax

Fossil fuel	Initial price (MXND)	Approved price (MXND)	Difference (%)
Diesel	19.17 ce/l	12.6 ce/l	34.3
Fuel oil	20.74 ce/l	13.45 ce/l	35.1
Gasoline	16.21 ce/l	10.38 ce/l	36
LPG	11.42 ce/l	6.6 ce/l	42.21
Mineral carbon	MXND 178.33/ton	MXND 27.54/ton	84.6
Petroleum coke	MXND 189.85/ton	MXND 15.6/ton	91.8
Kerosene	18.71 ce/l	0	100 – EXEMPTED
Natural gas	11.94 ce/m ³	0	100 – EXEMPTED

Sources: EDF & IETA, 2018, and SEMARNAT & Centro Mario Molina (as cited in Monzes de Oca, 2016)

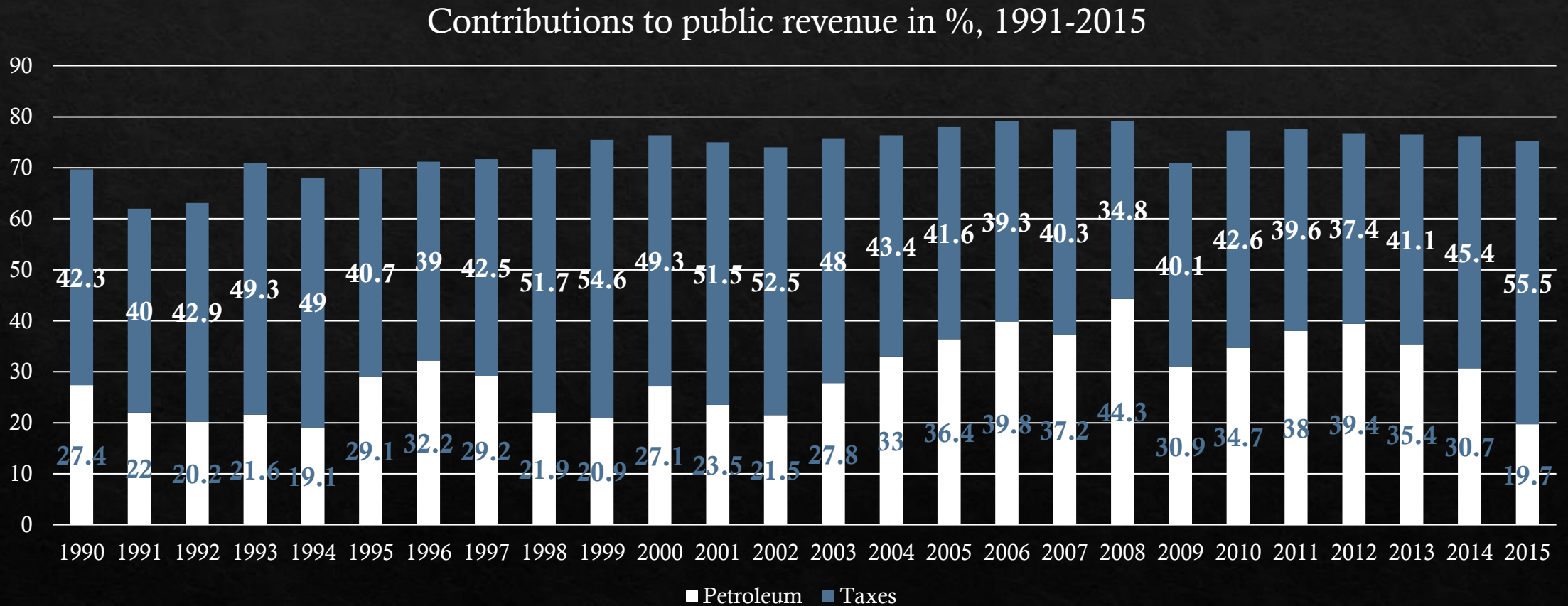
Forgone public revenue

as identified in Mexico's self-review of national fossil fuel subsidies
(USD millions)

	2013	2014	2015	2016	2017
Consumption subsidies for gasoline and diesel	8,245	2,833	0	0	0
Consumption subsidies for LPG	373	493	0	0	0
Tax benefit for gasoline consumption in the northern border	81	289	705	512	519
Fossil fuel subsidies and tax expenditures related to gasoline and diesel used in agriculture and fishing	245	63	171	127	63
Diesel excise tax credit, public transport	0	0	810	1,062	1,309
Diesel excise tax credit, industrial machinery other than transportation	0	0	376	493	532
Diesel excise tax credit, fisheries machinery including vessels	0	0	65	85	6
Diesel excise tax credit, farming machinery	0	0	174	222	92

Source: G20, 2017

”We are the most important company in Mexico, the largest tax contributor to the Mexican government...” (PEMEX, 2020)



Source: SAT, 2015

Conclusion

The environmental effectiveness of the carbon tax and (most likely) the ETS, are compromised by the fossil fuel dependence of the Mexican state.

References

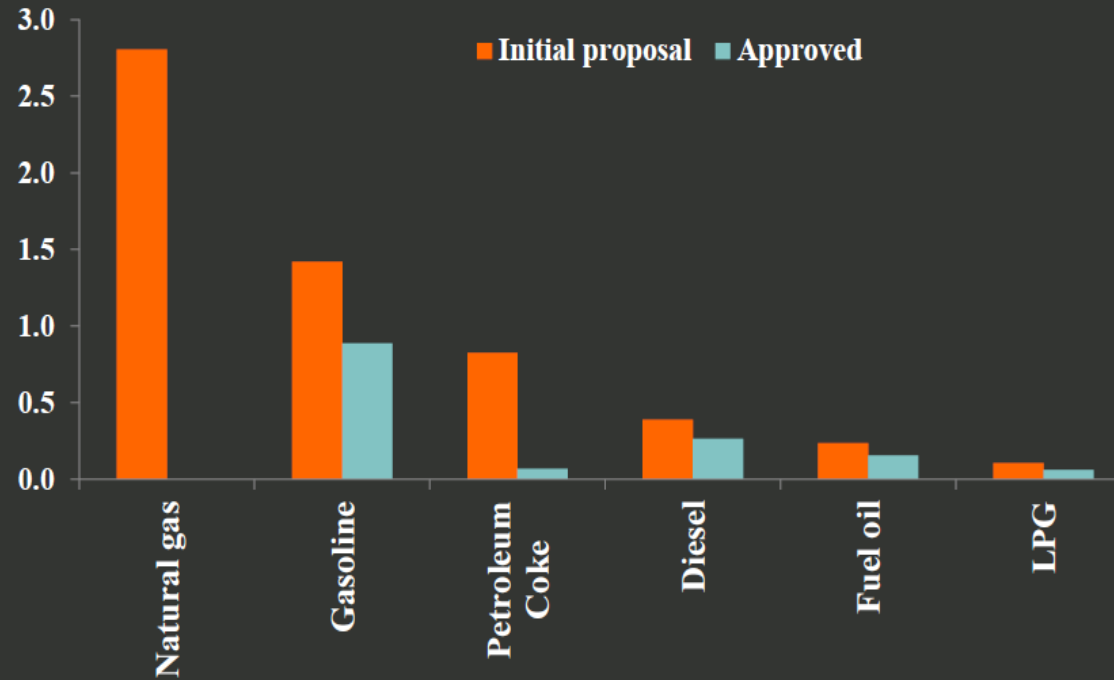
- Alpizar-Castro, I. and C. Rodriguez-Monroy. (2016). Review of Mexico's energy reform in 2013: Background, analysis of the reform and reactions. *Renewable and Sustainable Energy Reviews*, 58, 725-736. <https://doi.org/10.1016/j.rser.2015.12.291>
- Arlinghaus, J. and K. van Dender. (2017). The environmental tax and subsidy reform in Mexico. OECD Taxation Working Papers, No. 31, OECD Publishing. <http://dx.doi.org/10.1787/a9204f40-en>
- Campos-Vázquez, R.M., N. Lustig, and J. Scott. (2018). Inequality in Mexico: On the rise again. WIDER Policy Brief 2018/5.
- Centro Mario Molina. (May n.y.). Economic analyses to support the environmental aiscal feorm [slide set]. Retrieved 1 December 2020 from <https://www.thepmr.org/system/files/documents/Economic%20Analyses%20to%20Support%20the%20Environmental%20Fiscal%20Reform.pdf>
- EDF and IETA. (January 2018). Mexico: A Market Based Climate Policy Case Study. <https://www.edf.org/sites/default/files/mexico-case-study-jan2018.pdf>
- G20 (Group of 20). (November 2017). Mexico's Efforts to Phase Out and Rationalise its Fossil-Fuel Subsidies: A Report on the G20 Peer-Review of Inefficient Fossil-Fuel Subsidies That Encourage Wasteful Consumption in Mexico. <https://www.oecd.org/fossil-fuels/Mexico-Peer-Review.pdf>
- Icap. (n.d.). Mexico publishes cap for its ETS pilot phase. *Icap News*. <https://icapcarbonaction.com/en/news-archive/677-mexico-publishes-cap-for-its-ets-pilot-phase>
- Montes de Oca, M. (2016). Design and approaches to the carbon tax in Mexico: Lessons and the road ahead. <https://doi.org/10.13140/RG.2.2.16273.45927>
- Our World in Data. (2020). *Mexico: CO2 country profile*. <https://ourworldindata.org/co2/country/mexico?country=~MEX>
- PEMEX. (2020). PEMEX in brief. <https://www.pemex.com/en/Paginas/default.aspx>
- SAT. (March 2016). Reporte annual 2016 y retos 2016. <https://www.gob.mx/sat/documentos/reporte-anual-2015-y-retos-2016>
- World Bank. (May 2020). State and Trends of Carbon Pricing 2020. <https://doi.org/10.1596/978-1-4648-1586-7>

Annex

Expected reduction of emissions for 2014



(Million tons of CO₂)



	Reduction of CO ₂ emissions in 2014 (Mt/CO ₂)	% of Mexico's total emissions
Proposal	5.83	1.18%
Approved	1.61	0.33%

Source: Centro Mario Molina, n.d.