

# Environmental Fiscal Reform: Chile as a Case Study

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# Green Tax

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- ▶ In September 2014, Chile passed a General Tax Reform Bill (Ley 20.780) with 3 green taxes.
  1. Tax on CO<sub>2</sub> emissions from stationary sources with boilers and turbines (sum over 50MW)
  2. Tax on local contaminants also on stationary sources with boilers and turbines (PM, SO<sub>2</sub> and NO<sub>x</sub>).
  3. Tax on the first sale of new cars considering the expected NO<sub>x</sub> emissions over their lifetime.

# Chile's Environmental Taxes

Carbon tax

• \$5 USD/Ton CO<sub>2</sub>.

Local Pollutant's tax  
(SO<sub>2</sub>, NO<sub>x</sub> and PM)

Air quality

Social cost

Population

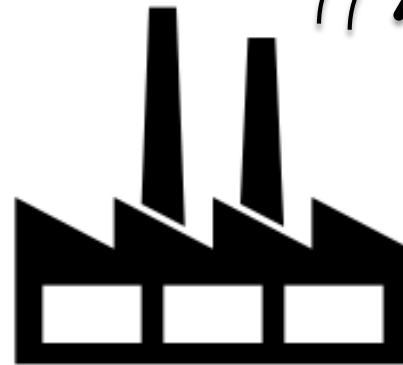
•  $T_{ij} = 0.1 * CCA_j \times CSC_{pc_i} \times P_{ob_j}$

Mobile sources tax

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

# Design features: CO2 based on emissions

Tax on fuels based on carbon content



Tax based on emissions

Chile

México, Colombia,  
Sud-Africa, British  
Columbia

## Example Local Tax Rate: Varies by municipality

Comuna	CCA	MP US\$/ton	SO2 US\$/ton	NOx US\$/ton
<b>PUENTE ALTO</b>	<b>1,2</b>	<b>67,560</b>	<b>751</b>	<b>1.877</b>
<b>MAIPÚ</b>	<b>1,2</b>	<b>60,385</b>	<b>671</b>	<b>1.677</b>
<b>ANTOFAGASTA</b>	<b>1,0</b>	<b>35,083</b>	<b>390</b>	<b>975</b>
<b>SAN BERNARDO</b>	<b>1,2</b>	<b>32,780</b>	<b>364</b>	<b>911</b>
<b>TEMUCO</b>	<b>1,2</b>	<b>31,594</b>	<b>351</b>	<b>878</b>
<b>CORRAL</b>	<b>1,0</b>	<b>519</b>	<b>6</b>	<b>14</b>
<b>MARÍA ELENA</b>	<b>1,2</b>	<b>523</b>	<b>6</b>	<b>15</b>
<b>MELIPEUCO</b>	<b>1,0</b>	<b>524</b>	<b>6</b>	<b>15</b>

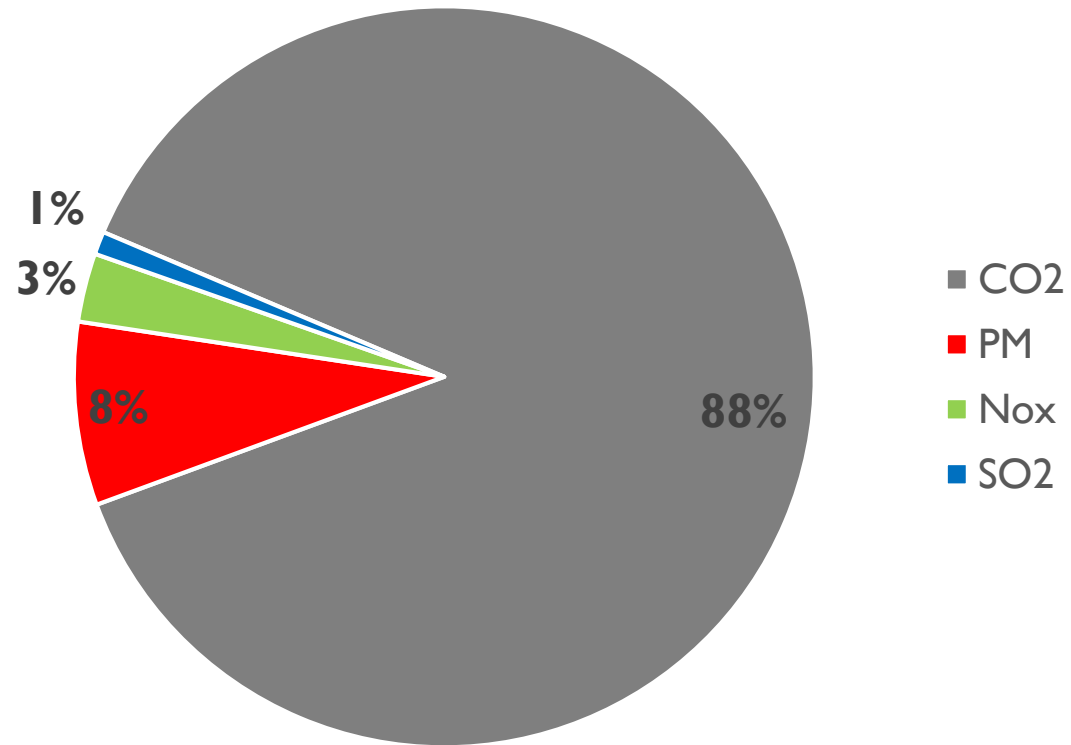


# Facilities and Sectors

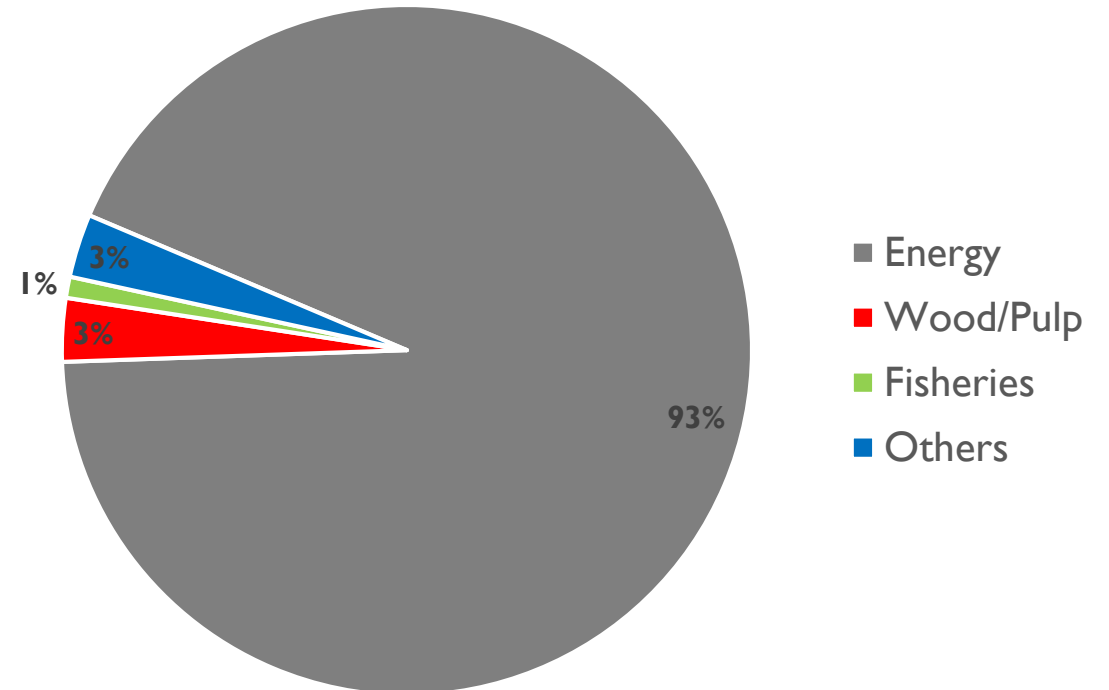
Sector	N° Facilities	%
Energy	55	58%
Fisheries	14	15%
Celulose/Paper	7	7%
Agriculture	7	7%
Wood/Pulp	4	5%
Others	7	5%
Total	94	100%

# Revenues (2018) on stationary source: US\$186 mm

## Contaminants



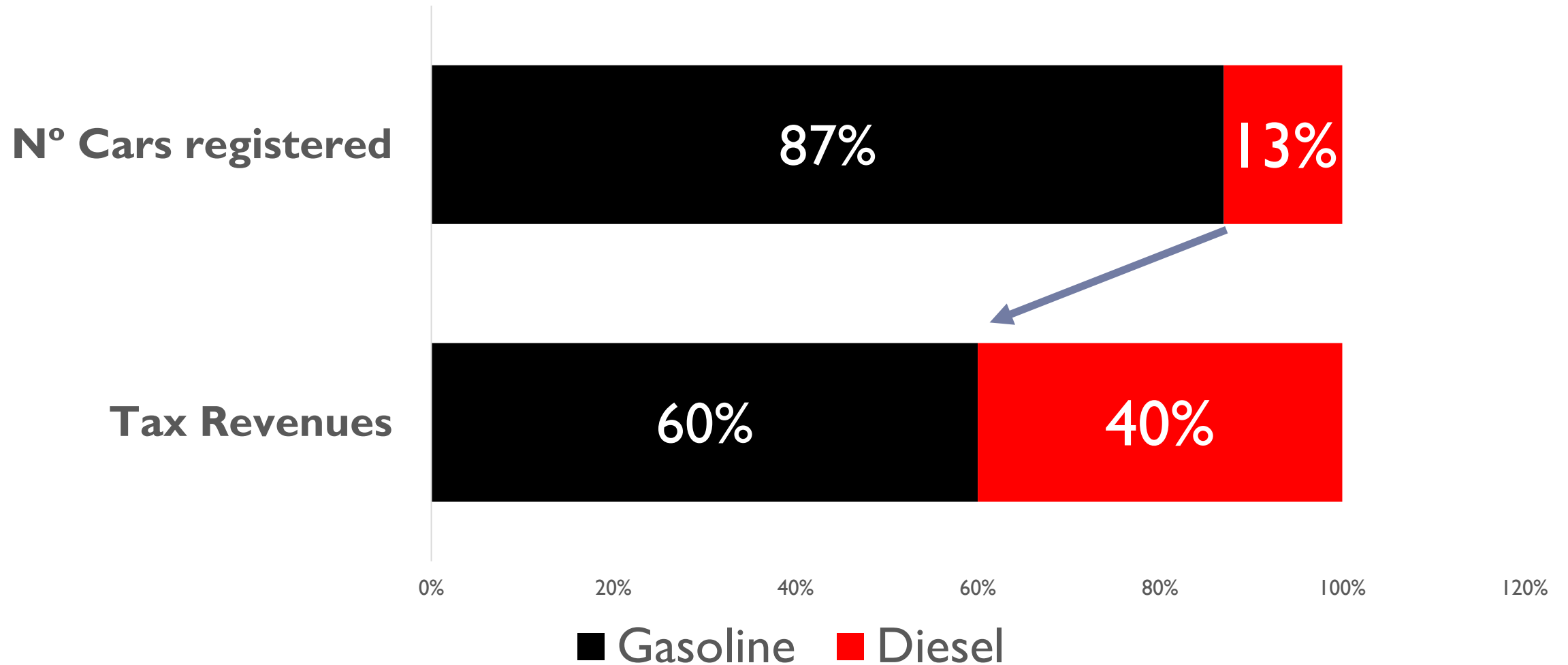
## Sectors



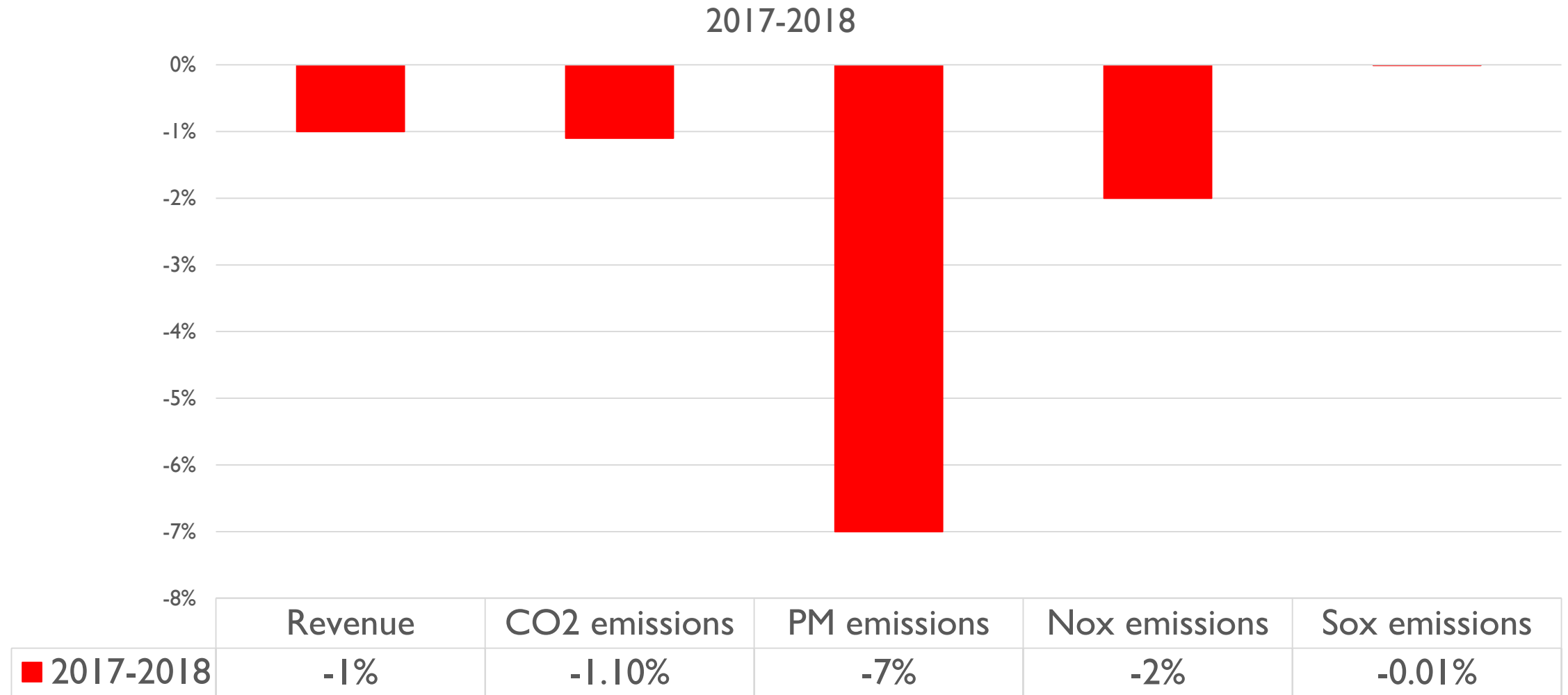


# Tax revenue on vehicles: US\$107 million

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# Impact 2017-2018



# Conclusion

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- Environmental Fiscal Reform is central to SDGs but must be consistent with local problems and objectives.
- Not as difficult as many times considered – Environmental taxes are possible, it depends on the design.
- More efficient
- Impact on vulnerable communities can be dealt with
- Other benefits
  - ▶ Make transparent private agents behavior
  - ▶ Develop consistent information for public policies.
  - ▶ An “institutional infrastructure” for development



# Thank you



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