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Brazil PMR – Carbon Pricing in Fuel Sector

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ETS mainly cover large emission sources in the fuel sector, where as carbon taxes can be applied more flexibly

Fuel combusting sectors	Concentration of emission sources	ETS coverage (downstream)
Electricity	Concentrated	✓
Industry		✓
Transport	Diffuse	X
Commercial / residential		X
Agriculture		X

- **Emissions trading:** administrative practicalities of trading mechanism in sectors with diffuse sources makes ETS **unfeasible**
- **California ETS** was able to cover transport, residential and commercial fuels with an upstream approach;
 - Only fuel provided to diffuse consumers included (remainder was netted out)

- **Carbon taxes**, more flexible with regards to the point of regulation (no trading requirement)
 - Governments are quite familiar with taxing fuel consumption
 - In 2016, 14 European countries had carbon taxes complementing the EU ETS
 - Developing countries are interested particularly in carbon taxing for the Transport sectors (e.g. Colombia)

→ This presentation focuses on the Transport sector.

Carbon pricing can complement transport mitigation policies, but is only effective under certain conditions

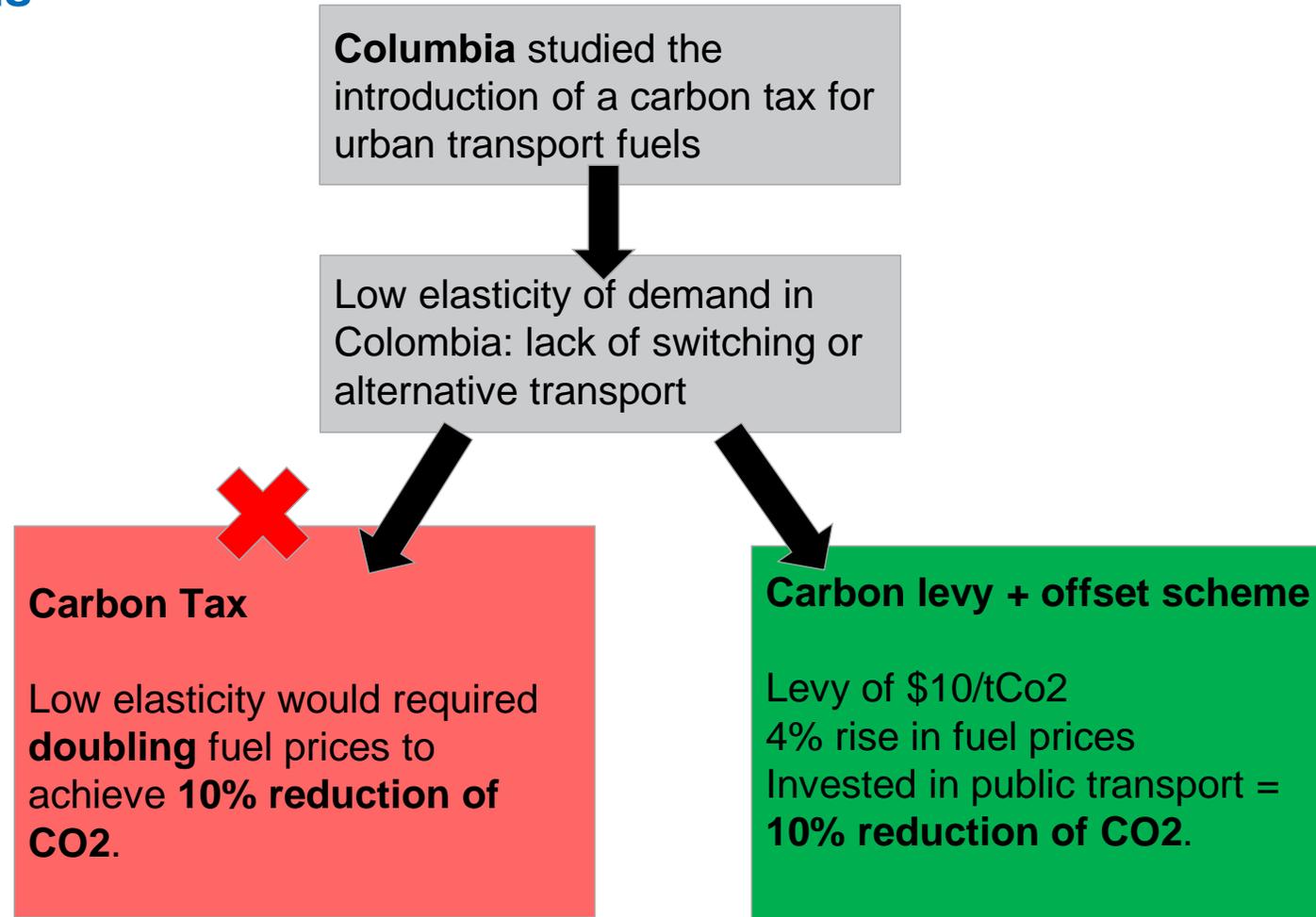
Policy objectives	Instruments	Carbon Pricing overlaps
Transport demand management	Traffic management Regulation (speed limits, Rodízio)	None
Slowing down private motorisation	Vehicle purchase taxes	Complementary (May be designed to encourage low CO2 vehicles)
	Fuel taxes	Complementary
Reduce vehicle circulation	Circulation/ road taxes	None
	Fuel taxes	Complementary
Improve carbon efficiency of vehicles	Support biofuels (subsidies, blending mandates, green certificate schemes)	Complementary
	CO2 standards, labelling	None
	Support Electric Vehicles (investment in R&D, pricing...)	Carbon prices usually too low, but revenues may be recycled
Support modal shift: • Private to public passenger transport • Road to rail freight transport	Investment in mass transit programmes (BRT, metro) and rail projects	
	Preferential pricing	None

- Carbon pricing is effective in the mid range abatement cost options: **fuel switching**, but not at extremes (e.g. infrastructure projects)
 - It is insufficient on its own

When does carbon pricing make sense in the Transport sector? Depends on:

- **Availability of low cost abatement options.** Elasticity of demand will be a function of substitutes available (biofuels, public transport).
- **Policy interactions.**
 - **Potential conflicts** with current fuel pricing policy: existing taxation, price stabilisation, protection for low income households.
 - **Potential duplication** of existing price based biofuel policies; less so with quantity instruments, e.g. RenovaBio.

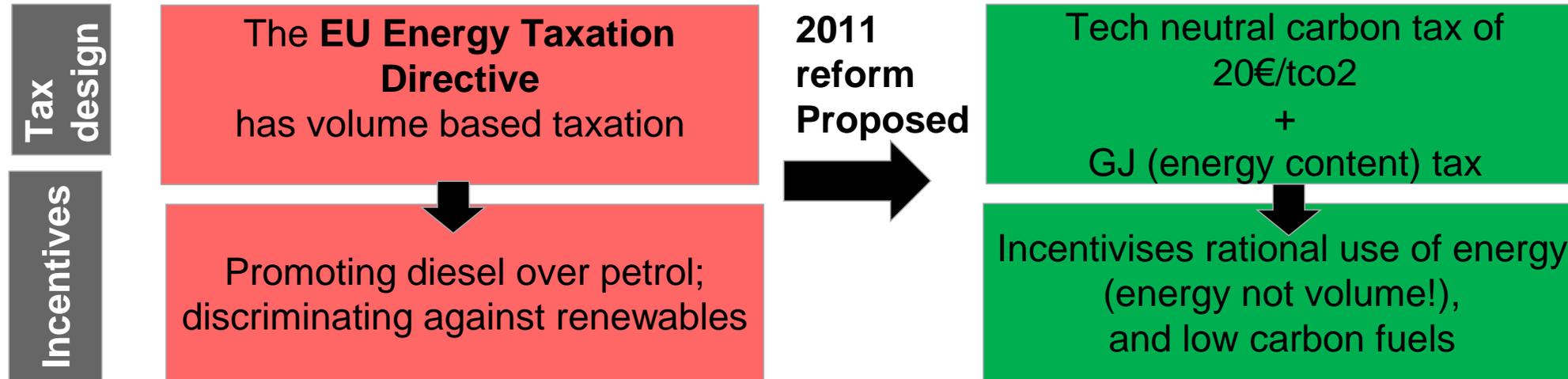
Colombia found a hybrid CPI in transport more cost effective than a carbon tax due to limited abatement options



Lessons for Brazil	<ul style="list-style-type: none">• Elasticity in Brazil is probably higher due to widespread use of biofuels, although access to public transport is also limited• If carbon levies can be earmarked, these can be channel into similar infrastructure projects.
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Aligning incentives in fossil fuel and carbon policy is fundamental

EU proposed aligning taxation with climate and energy efficiency goals

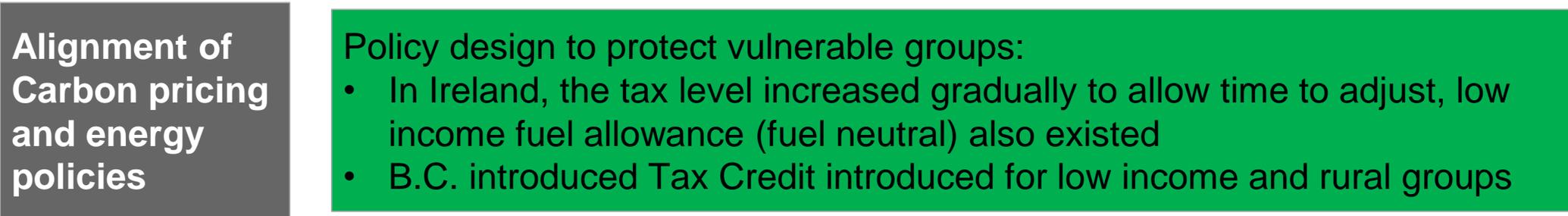


Mexico took advantage of broader energy policy reform in 2013, to align incentives and introduce carbon pricing

- Introduced competition in fuel production
- Removed of unsustainable price stabilization mechanism
- Carbon tax set a low rate, sufficient to make Natural Gas the reference fuel (\$5.7 to \$3.2/tCO₂e)
 - **Impact: Removal of price stabilisation dominated the impact of the carbon price.**

Lessons for Brazil	Key Findings
	<ul style="list-style-type: none">• Aligning existing energy taxation to promote rational energy use may be as (or more important) as introducing carbon pricing.• Carbon tax can be set at the right level to encourage fuel switching.

Importantly for Brazil, CPIs can be designed to support fuel policy objectives such as protect the most vulnerable



Lessons for Brazil	Providing such protection for low income groups will be very important in Brazilian context
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