

Electric Mobility Opportunities for Latin America

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Global fleet of vehicles to triple in 2050

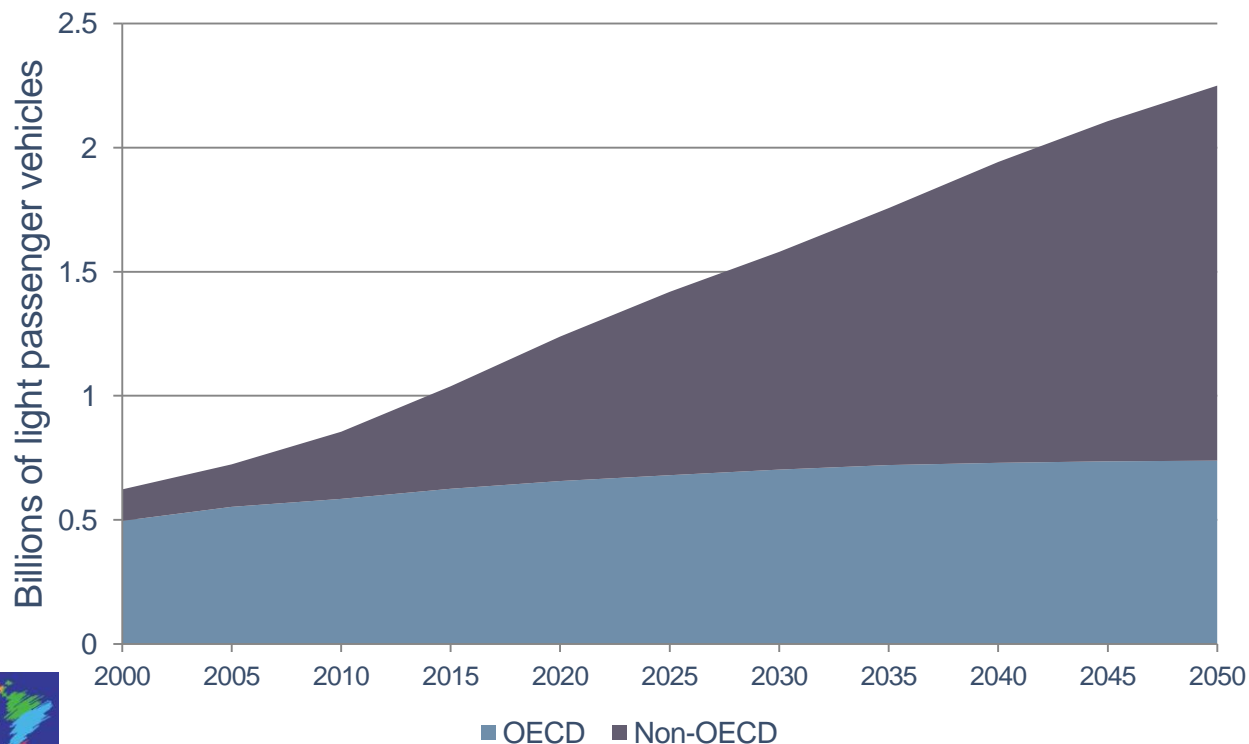


Today there are 890 million and it is estimated that more than

2,500 million in 2050

90% growth in emerging and developing countries

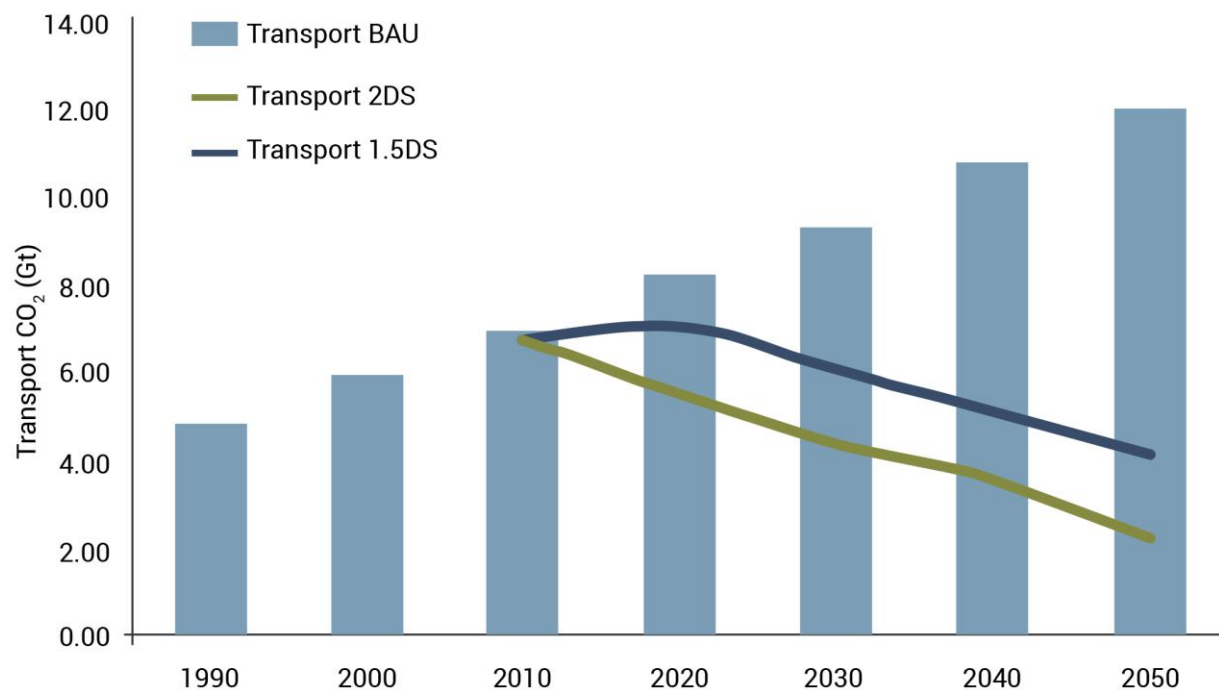
Opportunity to promote innovation



- Low motorization in USA and Europe
- Latin America among continents with greater increase of motorization
- Few countries have integral public policies to prepare for this scenario



Scenarios of CO₂ emissions in the transport sector



- ✓ The objectives of the Paris Agreement at risk from transport emissions
- ✓ Urgent change of social paradigm, new policies and technology



The future of mobility according to industry leaders



ELECTRIFIED

costs
motobike
hybrids
plugged in
batteries
ebike
power electronics
freight infrastructure



AUTOMATIZED

autopilot
legislation
Emergency brakes
sensors
Electric direction
redundancy
assistance



CONECTED

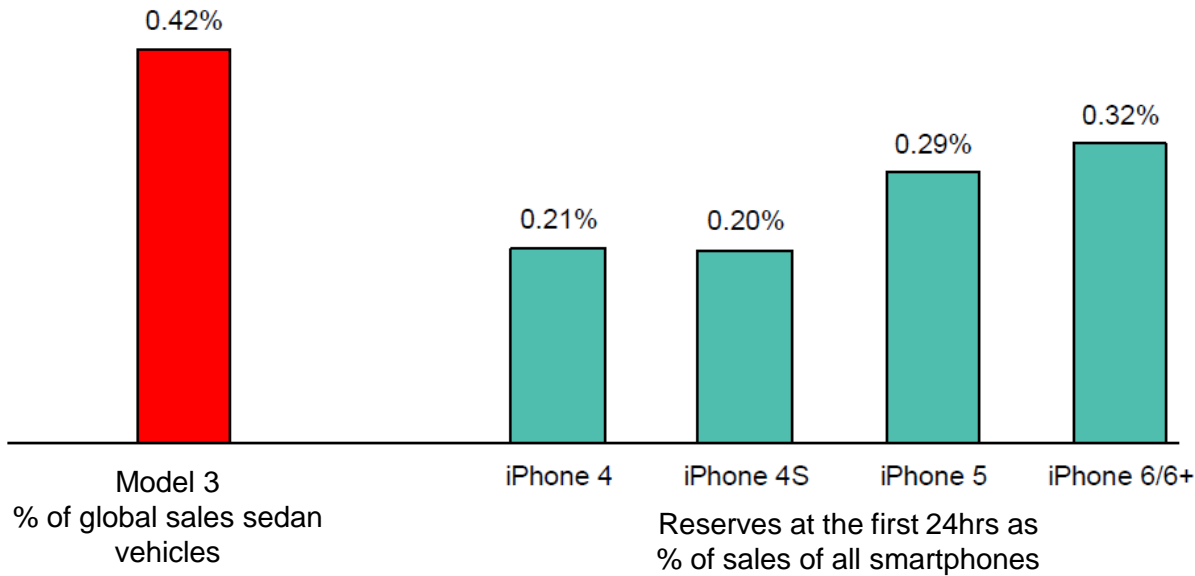
safety
fleet management
costs
services
communication
electronic horizon



Disruption in the automotive market?



Tesla's first "Model 3" reserves (at 24hrs) as % of sedans sold per year, exceeds % of "iPhones" sales under the same conditions

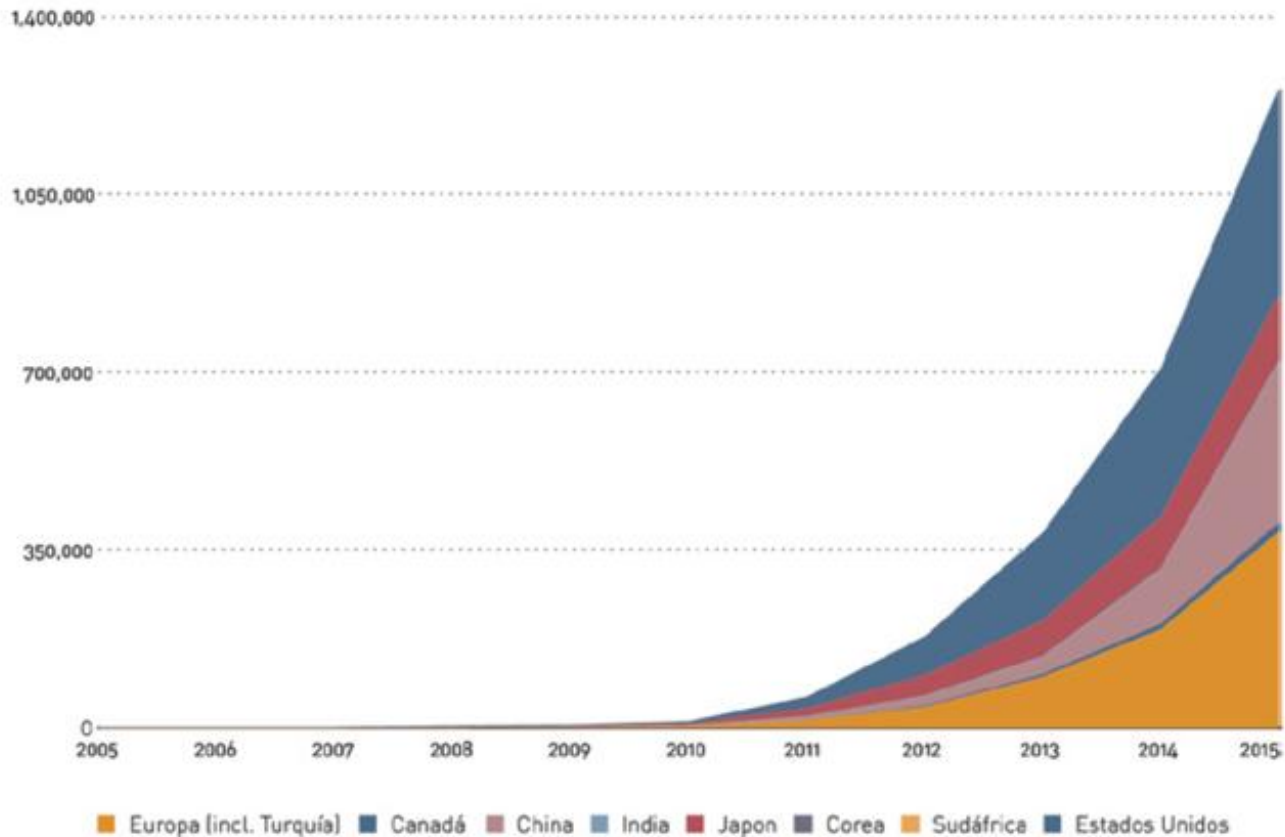


- Leadership in reducing the cost of batteries
- "Branding" and motivation of consumers
- Vertical integration saving costs on materials

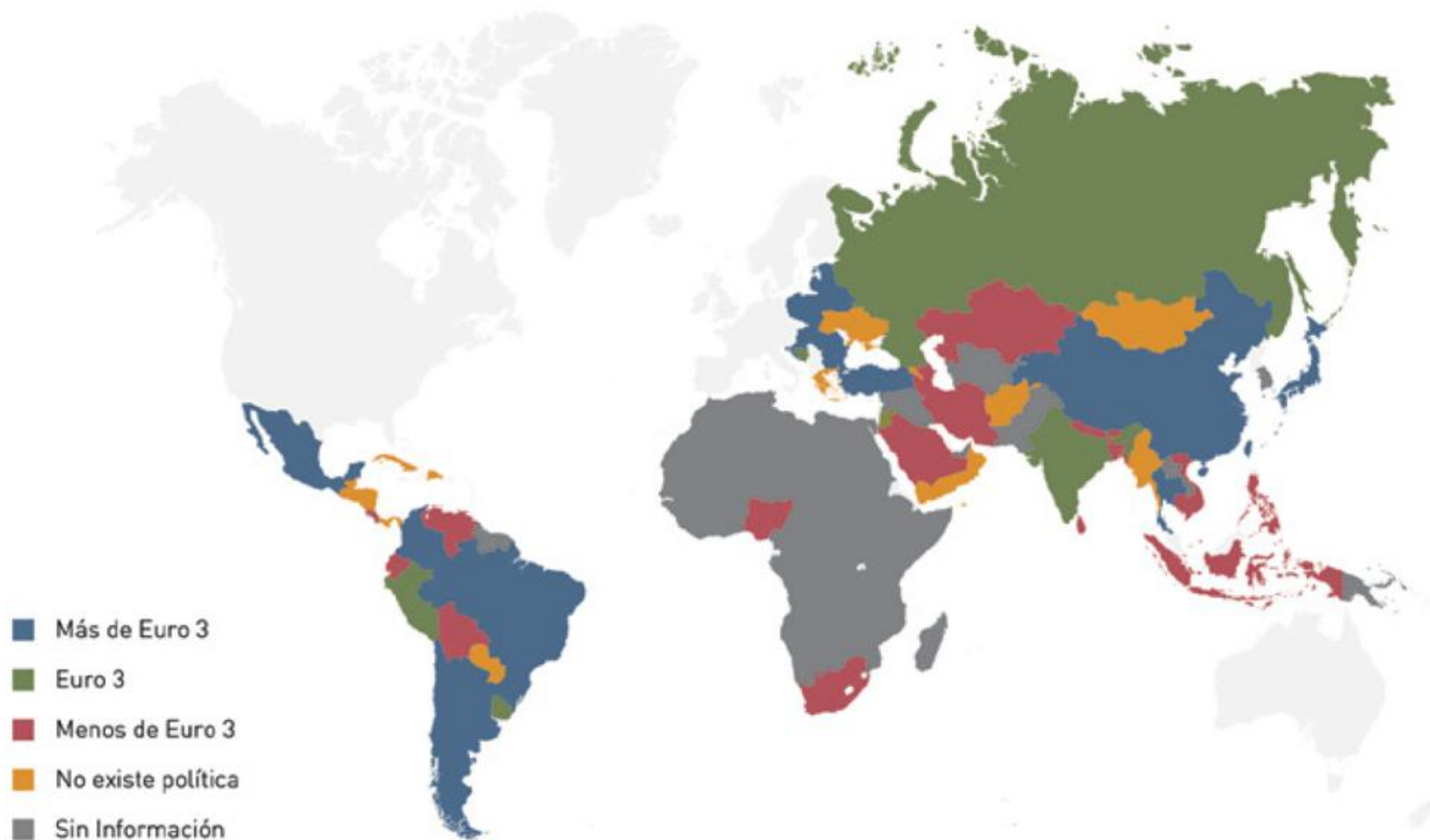
Global Stock of electric vehicles



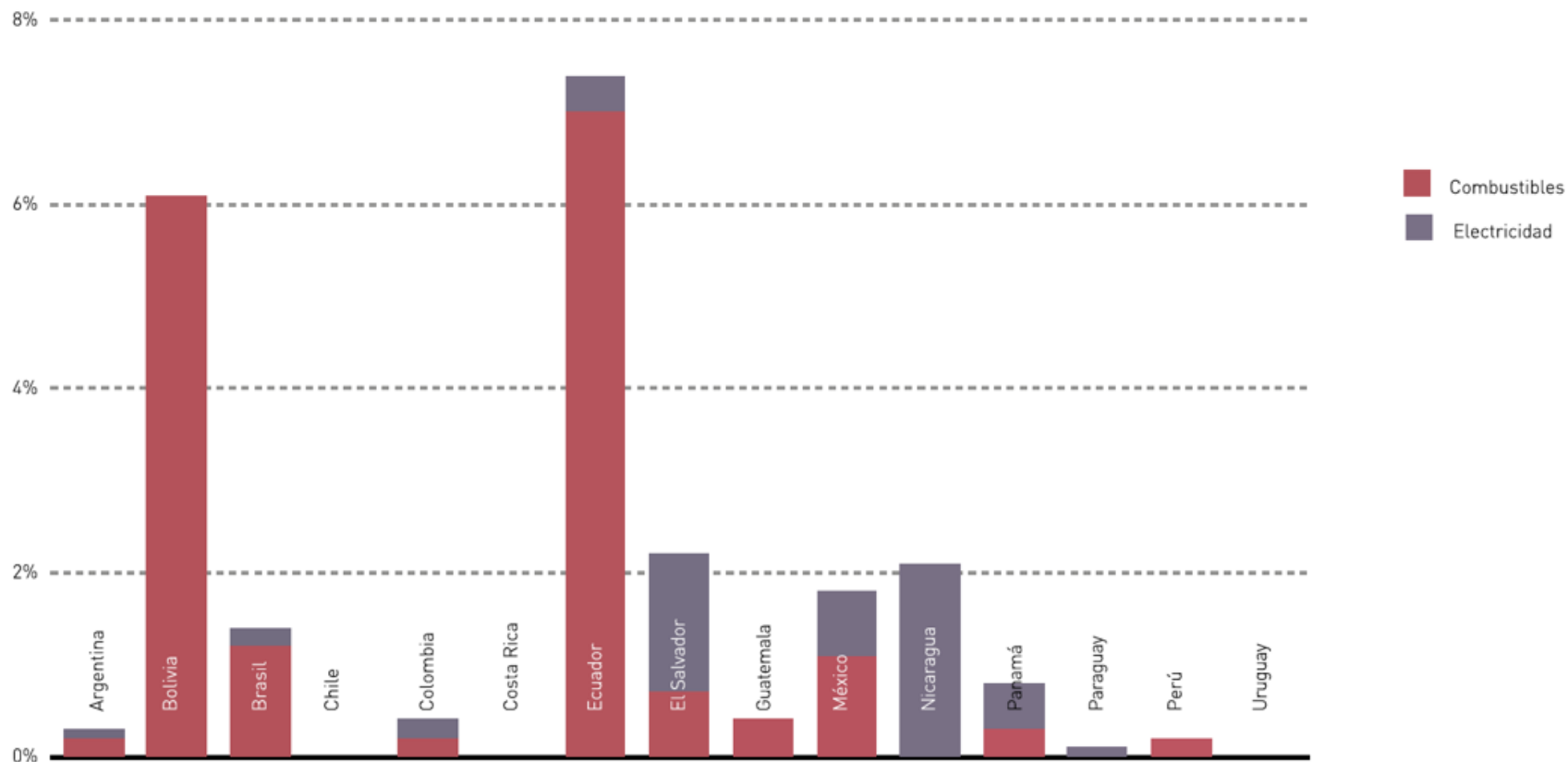
- The global fleet of electric vehicles in 2015: 1.3 million
- 90% of sales: China, USA, Holland, Norway, UK, Japan, Germany
- Drivers: batterie costs reduction + policies/incentives + efficiency standards and emissions



Globally emissions standards for new vehicles



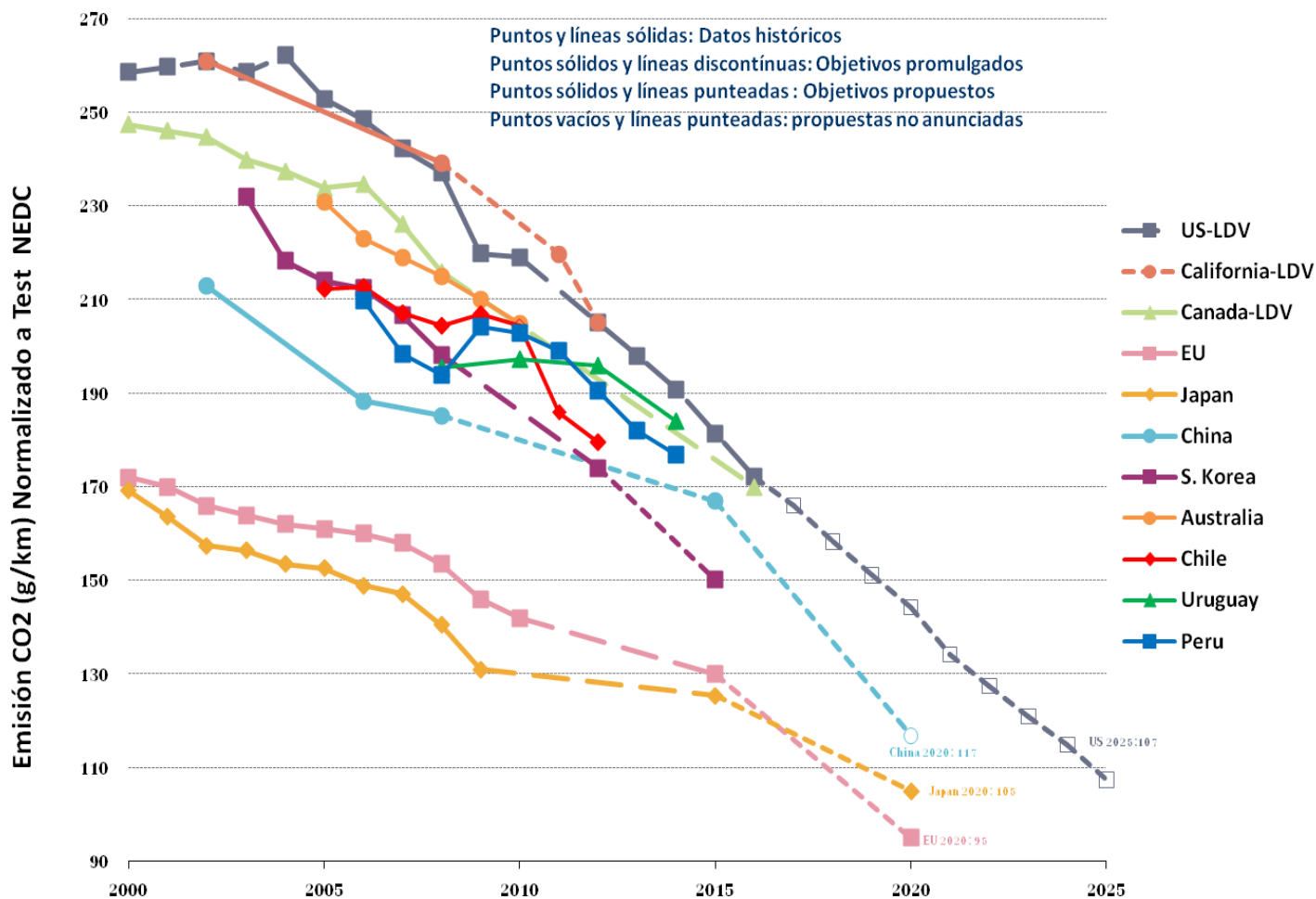
Subsidy on fuels and electricity in Latin America



Source: IMF 2015



CO₂ emissions x km traveled: low efficiency in Latin America



[1] El Objetivo de China corresponde al escenario de la flota a gasolina. Si se incluye otro tipo de combustible, el objetivo sería más bajo.

[2] Estados Unidos y Canadá light-duty vehicles incluyen light-commercial vehicles.



Incentives for electric vehicles in Latin America



- There are several fiscal and no-fiscal **incentives** at the country level in the region that seek to promote **electric mobility**.
- Lack of integrated vision: National Strategies of Electric Mobility

INCENTIVO /PAÍS	ARGENTINA	BRASIL*	COLOMBIA	COSTA RICA**	CHILE	ECUADOR	MÉXICO	URUGUAY
Exención de IVA		●	●			●		
Exención de permiso de circulación		●		●			●	
Exención de programas de restricción vehicular			●	●	●		●	
Exención de impuestos aduaneros			●	●		●		●
Exención de impuesto a consumos especiales				●		●		
Tarifa eléctrica diferenciada					●	●	●	
Exención de impuesto ambiental					●	●		

** En el caso de Brasil, los incentivos son a nivel estatal, no federal.

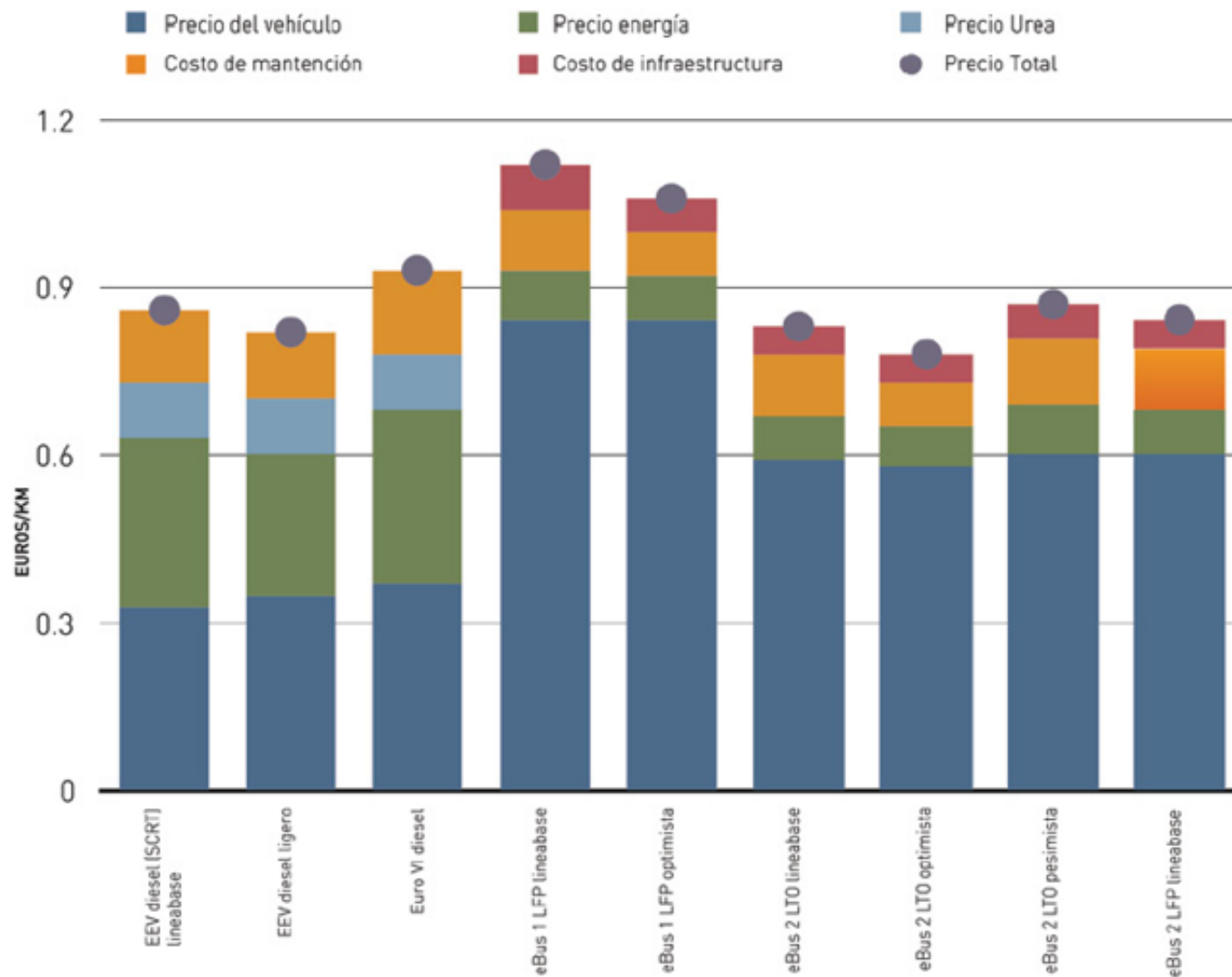
** Basado en actual propuesta de ley sobre movilidad eléctrica en Costa Rica.



Electric public transport: strategic priority for the region

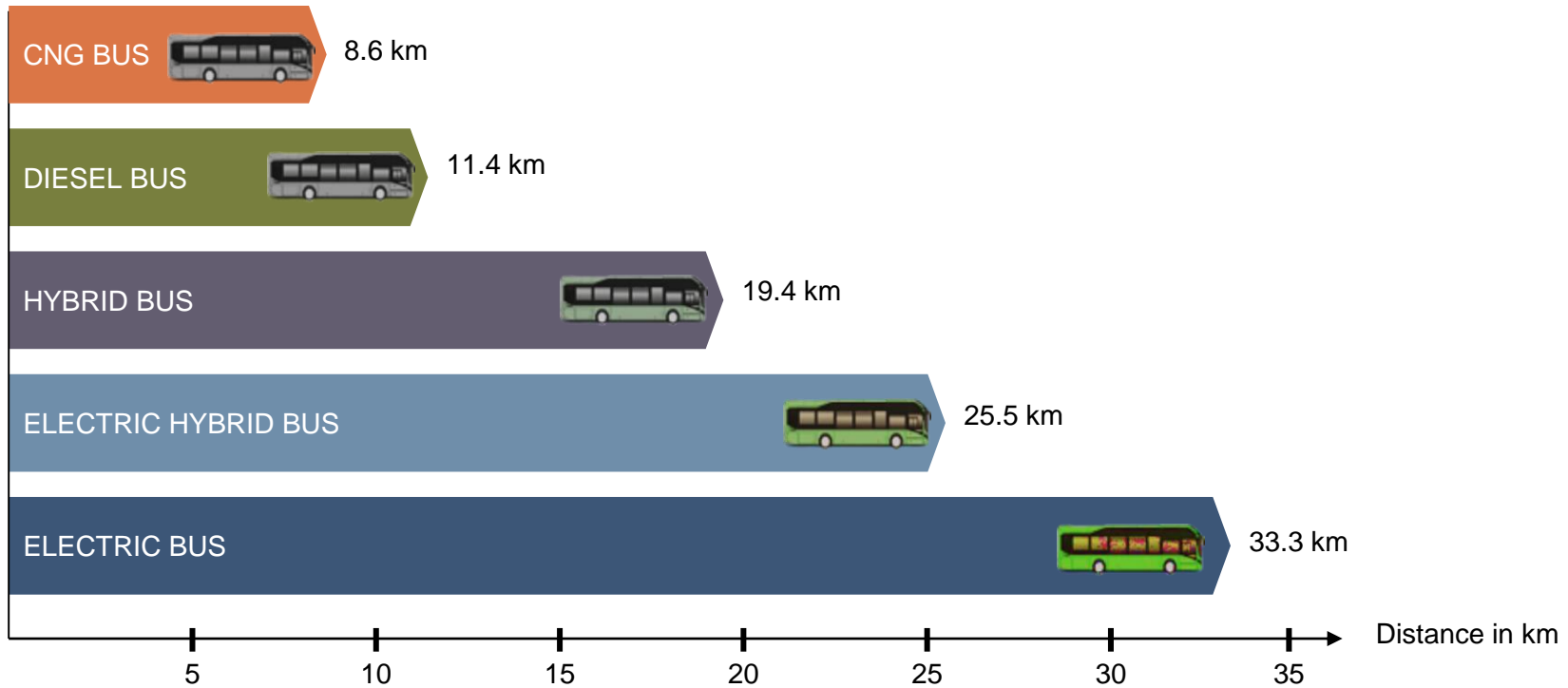


Total costs per km traveled and per type of bus operating in Finland

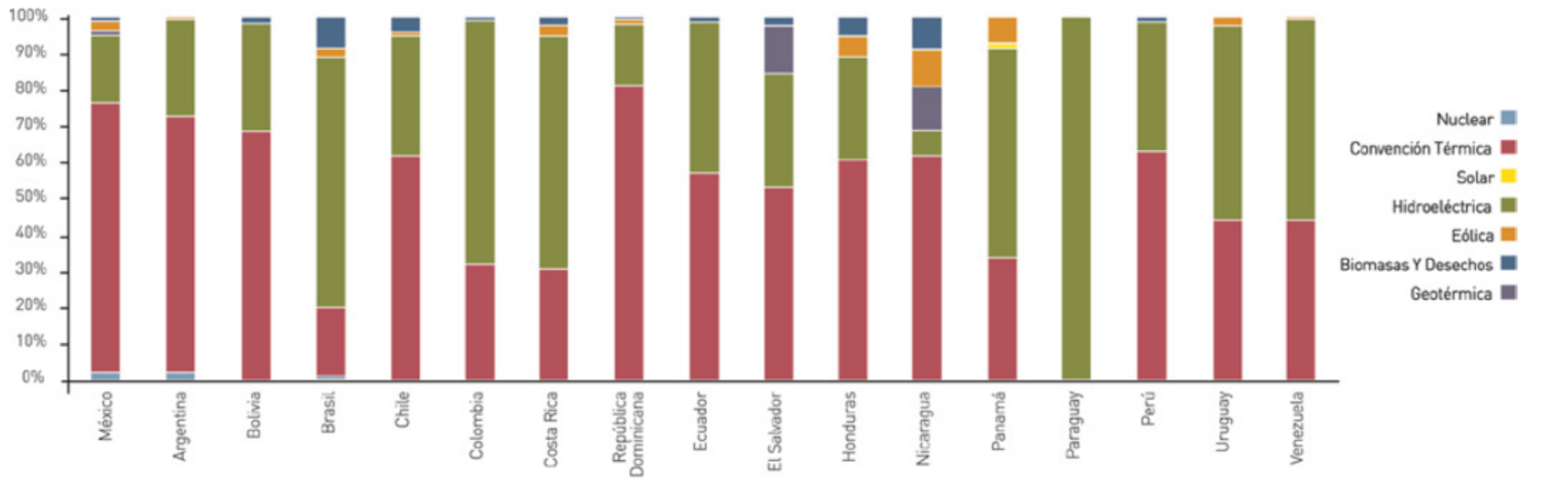


Bus Efficiency Scale:

- ✦ Use of energy per km traveled. Distance can be traveled with 5 lt. of Diesel
- ✦ Options in Mexico City



Electrical installed capacity by type of source in Latin America





ACCELERATE ENERGY EFFICIENCY

1. Emissions and fuels standards
2. Labeling
3. CO₂ emissions tax

ELIMINATE MARKET DISTORTIONS

1. Eliminate fuel subsidies
2. Regulate the import of used vehicles

CREATE EV INCENTIVES

1. Pilots in key sectors
2. Create EV critical mass through incentives

DEVELOP EV INFRASTRUCTURE

1. Recharging networks
2. Differentiated tariffs
3. Creation of innovation platforms related to electric mobility
4. Technical training

Source: UN Environment, 2016



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