

Electromobility in Chile



Ministerio de
Energía

Gobierno de Chile



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Chile at a glance



Chile at a glance

- 18 MM inhabitants.
- GDP/capita of USD 22.7 M.
 - GDP (2019) US \$294 bn
 - Exports US \$69.7 bn
 - Imports US \$65.5 bn
- Solid Institutional Framework and Responsible Fiscal Policy
 - CB Interest rate 1.75%
 - Inflation 2019 3,0% (2000-2018: 3.2% average)
 - FDI US \$18 bn (annual average past ten years)
 - VAT 19%
- Main industries: Mining, Business Services, Manufacturing, Construction, Agriculture, among others
- Exporter of Copper, Fruits & Vegetables, Fish, Wine, among others







Economist.com

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The race against climate change



Chile has committed to achieve
Carbon Neutrality by 2050

Main drivers to achieve Carbon Neutrality



Coal Phase Out &
Renewables Phase In



Hydrogen



EE in Industries and Buildings

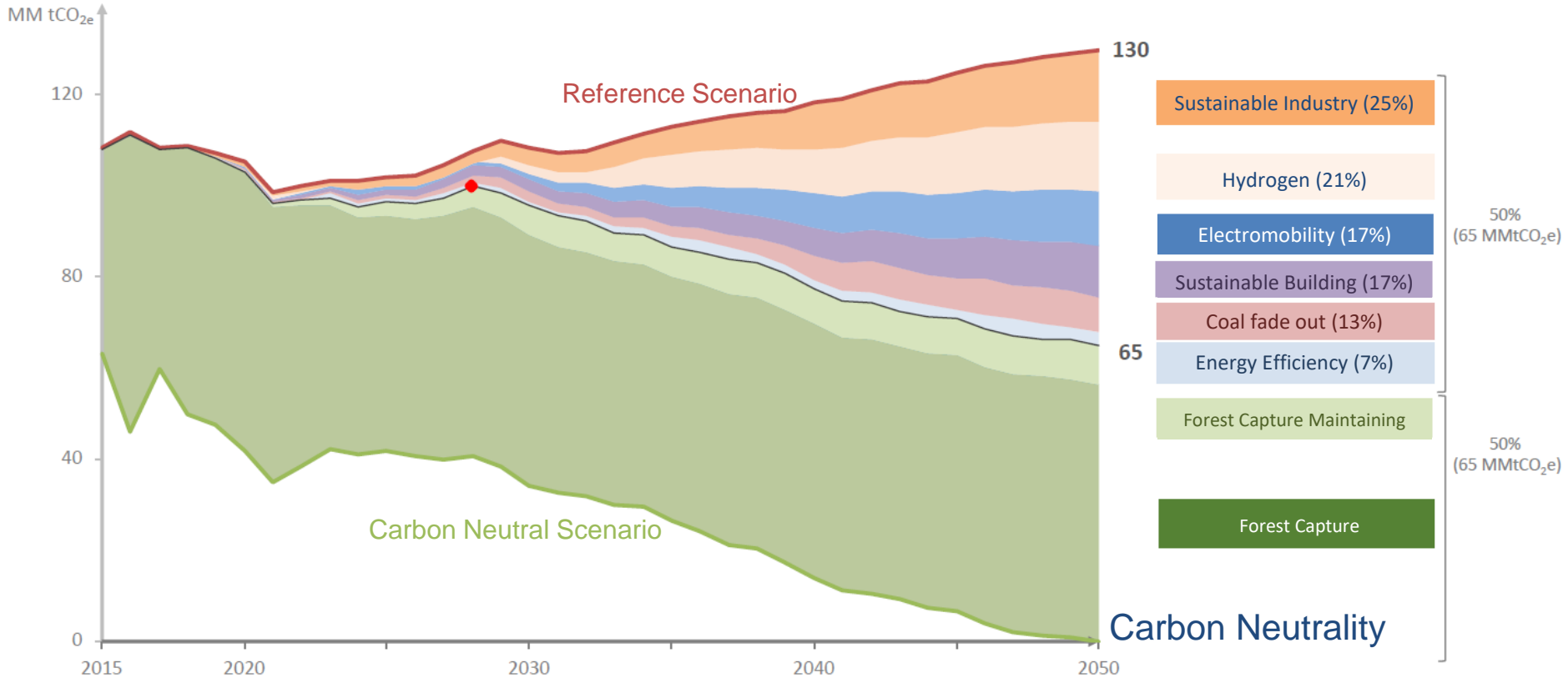


E-mobility



Forests

Carbon Neutrality by 2050



Transport Sector



Coal Phase Out &
Renewables Phase In



Hydrogen



EE in Industries and Buildings



E-mobility



Forests



Transport sector in Chile

- **36% of energy consumption** comes from **transport** (82% Road, 12% Aviation, 5% Sea)
- **99% of sources** used in transport are (imported) **fossil fuels**
- **24%** of Chile's **greenhouse gas emissions**





Benefits of e-mobility

- **Energy Efficiency** (2 to 4 times more efficient than ICE vehicles)
- **Lower Energy Dependence** (Fossil fuels are imported)
- **Health** (No local emissions and also noise reduction)
- **Can reduce GHG emissions** (depends on electric matrix!)
- **Economic** (Opportunities for new business and economic savings for uses)



Towards a Sustainable Transport Sector

Low and Zero Emission Transport is a Priority

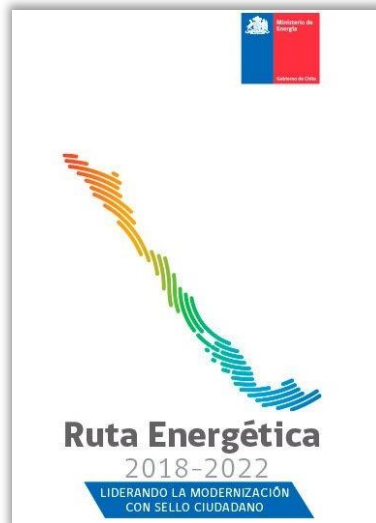
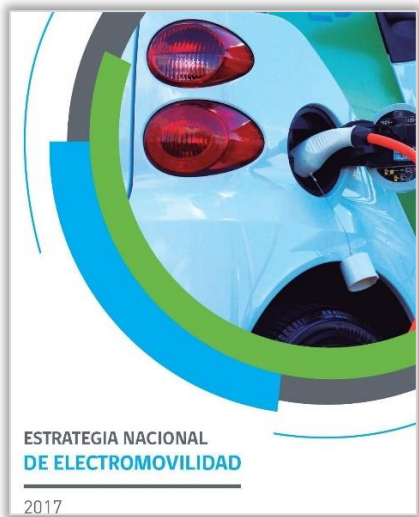


“Chile, in this matter [development of e-mobility], has acquired and will maintain a worldwide leadership”.

President Sebastián Piñera, March 2019.

Towards a Sustainable Transport Sector

Low and Zero Emission Transport is a Priority



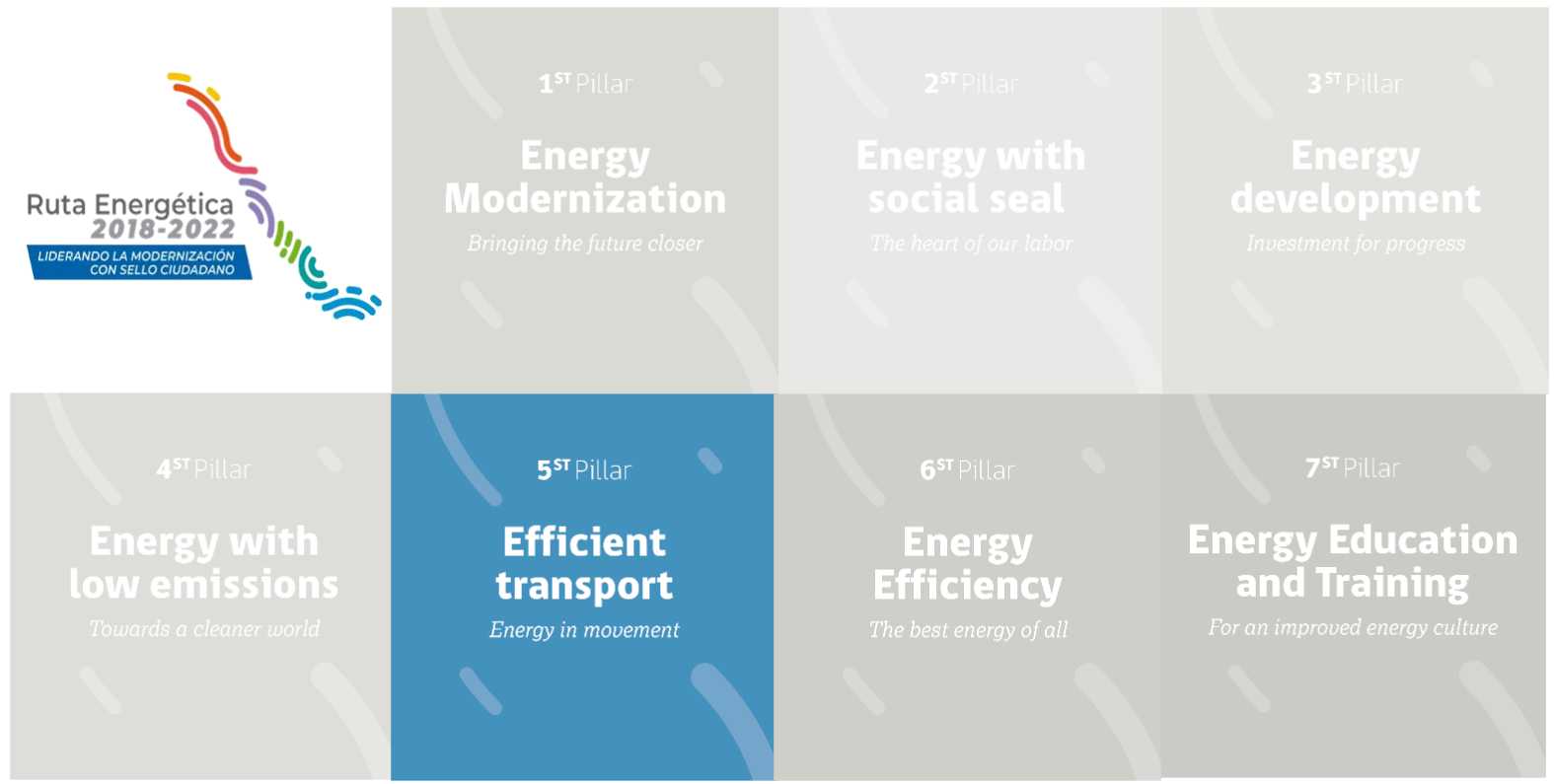
Zero Emission Transport Goals:

**100% of public transport electric by 2050 and
at least 40% of private transport by 2050.**



Energy Roadmap 2018-2022

Lead the energy transition with citizen stamp.





Developing e-mobility with a HOLISTIC approach



Efficient and sustainable mobility

Regulation

Information and dissemination



5ST Pillar

Efficient transport

Energy in movement

Supply and Demand
Focus on Public Transport and intensive use fleets

Infrastructure and grid integration

Innovation and Development

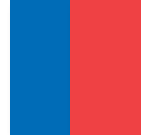
7th Pillar

Energy Education and Training

For an improved energy culture

Capacity Building





Developing e-mobility with a HOLISTIC approach

Efficient and sustainable mobility

- Energy efficiency (EE) vehicle labeling in place
- EE standards for vehicles
- Working on EE for trucks and buses

Regulation

- Declaration of charging infrastructure
- Safety standards for charging infrastructure
- Interoperability

Information and dissemination

- *EcoCarga* App with all public charging points in Chile
- E-mobility public platform, *5 steps to implement e-mobility*, *Good practices in e-mobility*, among others
www.energia.gob.cl/electromovilidad/
- Actual measurements and fleet analysis





Developing e-mobility with a HOLISTIC approach



Infrastructure and grid integration

- Information and studies about grid capacity
- Nationwide network being developed
- *Vehicle-to-Grid* pilot in place

Innovation and Development

- CORFO's E-mobility Consortium (USD 7MM)
- Chile is leader in both copper and lithium production

Capacity Building

- Highlighted topic in *+Capital Humano* roundtables
- Important commitment from educational institutions to include e-mobility in curricular programs



Focus on public transport and commercial fleets



Over 380 electric buses for public transport in Santiago / 2019



30 airport taxis / 2018



2 electric cars in Junaeb (Public service) / 2020



1 electric bus in Mining workers transport / 2019



Electric Truck for distribution labors / 2018



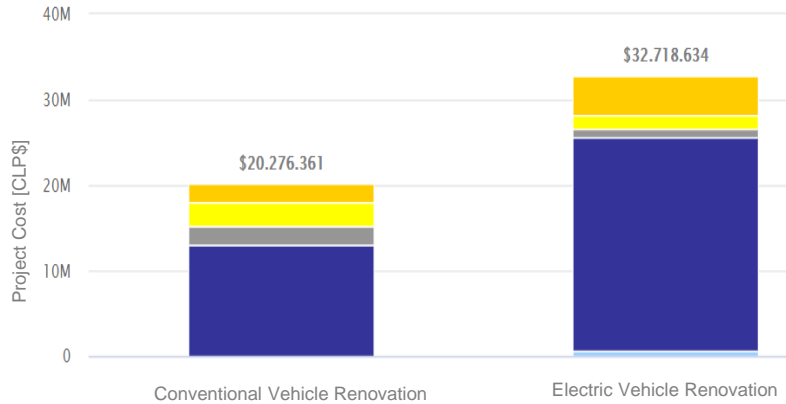
Operational fleet of 23 vehicles for a company / 2019

Focus on public transport and commercial fleets

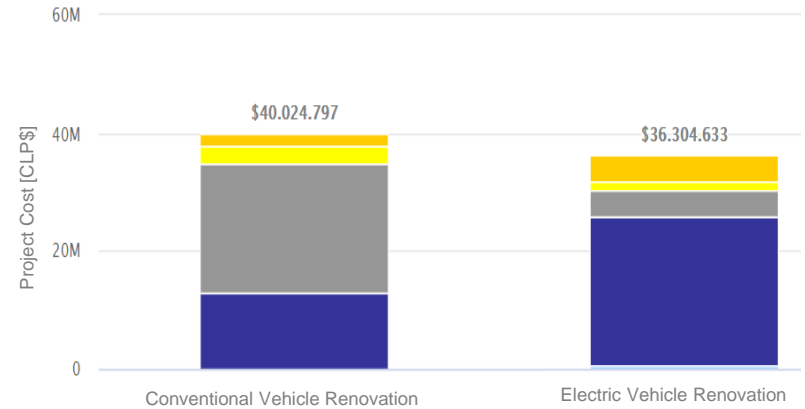
Economic comparison conventional vehicle vs electric vehicle

Costs brought to present value 9 year evaluation and 5% discount rate

Example 1: Use 5.000 km/año



Example 2: Use 50.000 km/año



(some) Opportunities in Chile

Heavy Duty Vehicle Efficiency Program



- Nationwide public-private program to improve energy efficiency reducing fuel consumption, operational costs and emissions

Taxi Renewal Program



- Program that offers USD ~10.000 in subsidies for taxi renewal to electric vehicles
- *Banco Estado* offers loan with special interest rate

E-mobility Incubator



- Program to support companies to integrate e-mobility in a strategic, systematic and knowledge-based way.

E-mobility Consortium

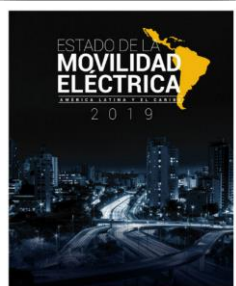
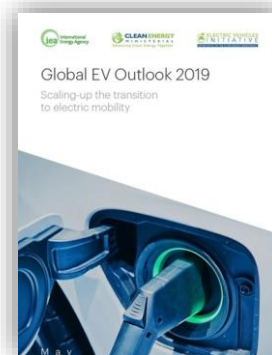


- In bidding process to award a group of institutions that will create the Center for the Development of E-mobility in Chile.
- Co financing of USD 7 Million

Leading e-mobility development in the region

Global EV Outlook 2019, International Energy Agency & others

“...Key examples include Chile, which has one of the largest electric bus fleets in the world after China. Chile’s aim is to electrify 100% of its public transport by 2040 and 40% of private transport by 2050...”



LATAM E-Mobility Status 2019, UN Environment & others

“...Colombia, Chile, Costa Rica and Panama already have national electric mobility strategies or plans [...] These efforts have been carried out through participatory processes with the different initiatives and actors involved to define the priorities and guide the development of e-mobility and associated chains ...”

Climatescope 2019, BloombergNEF

“...Chile’s exceptional natural resources, along with [...] a stable government and healthy economy have made it attractive to clean energy investors...”



Creating synergies in the marketplace

Public Private Agreement



Public Private Agreement Event
Santiago, Jan 2020

Creating synergies in the marketplace

Public Private Agreement



Our vision for the future

Lead the **energy transition**, not only to adapt to the technological changes, but to **accelerate its development and become a leader** of this process in the region.

Social and citizen stamp has to be part throughout the process

Thank you

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Chile
en marcha