

III Ipar 4.0 Konferencia

Túl a válságokon? Energia és Fenntarthatóság

The role of government policy in the electric vehicle (EV) transition

Agenda

- Reasons of the electric vehicle (EV) transition
- Role of Governments and Institutions
- Status of EV transition

Introduction

EV transition

- Disruptive innovation driven by private firms ?
- Society will for healthier life conditions ?
- Government policy

Study of the early adopter countries, the leaders if the EV transition

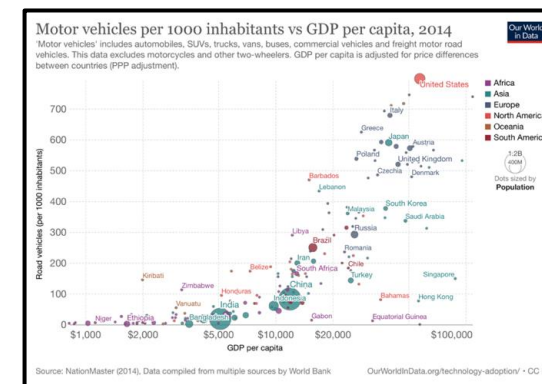
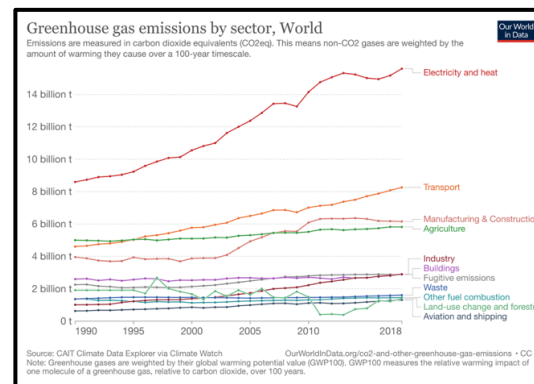
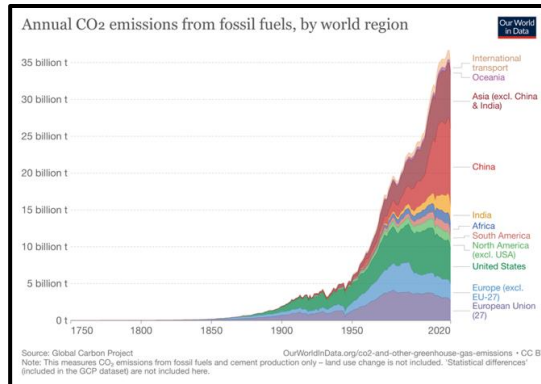
- EU / Norway / Netherlands
- US / California
- Japan

Reasons of the EV transition

- Pollution
 - Impact of car usage on greenhouse gas emissions

→ Economic growth

→ car sales & park growth



- 1973 - Energy crisis
 - Huge increase of gasoline prices
 - Impact on population, economy
 - urgent need for alternative

Case study: transition to electric vehicles

- Norway 1990 Government Policy + Supply of renewable energy + EV!
- California 1990 ZEV Mandate from 1998 for car manufacturers
- US 1970: Clean Air Act
 1976-: Support to develop EV technology
- Japan 1970's Japan Gov. (MITI) led development EV technologies
 no success on BEV, but Toyota Prius in 1997 (Nissan Leaf in 2009)
- Netherlands Since 2010 EV leader with dense charging network via partnership
- China Economic growth → sales growth → impact on health, oil import
 Purchase incentive → mandate to OEMs
 Support → driver of international conquest for local firms

Role of Government Policy

Impact of Institutions on EV transition & firms' strategy:

- **Product (BEV) availability on mass volume**
 - Central funds
 - Strategic project development to accelerate mass market availability
- **Leading charging network implementation**
- **Speed of the EV transition**
 - Incentives on purchase: Tax advantage, fiscal support
 - Incentives on usage: parking, motorway, bus lane,
 - Support usage: leading charging network implementation
 - Mandate on usage: banning ICE from cities
 - Mandate to the OEMs
- **Energy production**
 - Renewable energy to ensure full clean footprint

Government policy drivers

- **Economic**
- trade balance: Oil import, Industry importance on export
- air pollution: Impact on healthcare cost
- employment: Importance of the industry
- strategic industry: National Competitive advantage

- **National security:** Energy sourcing

- **Political:** Society well-being translated in political preference

Data: 2022 September

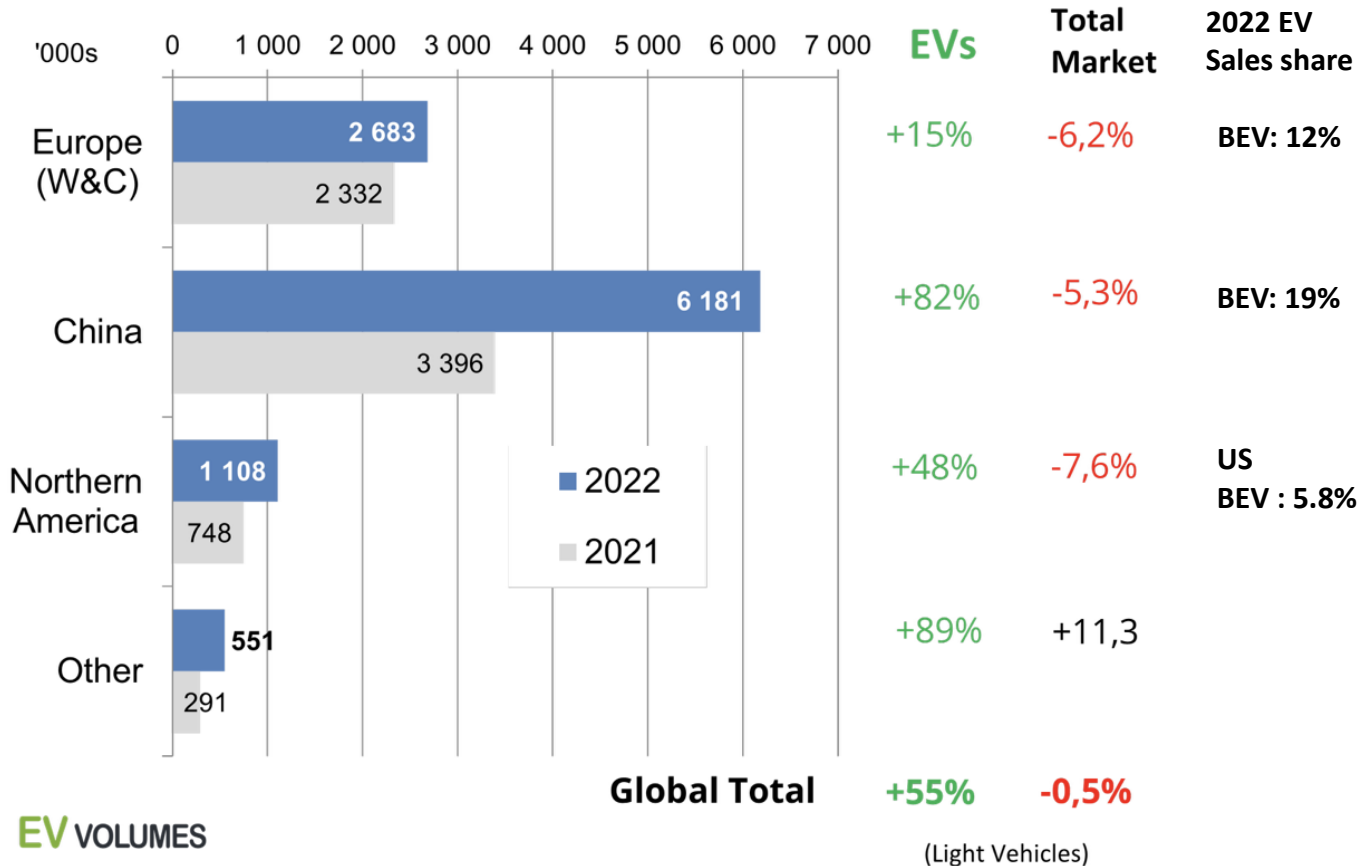
About the EU automobile industry

- 13.0 million Europeans work in the automotive sector
- 11.5% of all manufacturing jobs in the EU
- €374.6 billion in tax revenue for European governments
- €79.5 billion trade surplus for the European Union
- Almost 8% of EU GDP generated by the auto industry
- €58.8 billion in R&D spending annually, 32% of EU total

Source: <https://www.acea.auto/figure/key-figures-eu-auto-industry/>

Global EV transition status

BEV+PHEV SALES AND % GROWTH FOR 2022 vs 2021



Source: EVVolumes.com
 European Environment Agency: Newly registered electric cars by country
<https://www.ev-volumes.com/country/total-world-plug-in-vehicle-volumes/>

CALIFORNIA'S ELECTRIC VEHICLE MARKET
 AS OF DECEMBER 2022

40% OF U.S. ZEV SALES

1,399,913 ZEVs SOLD

18.8% OF NEW CA CARS SOLD

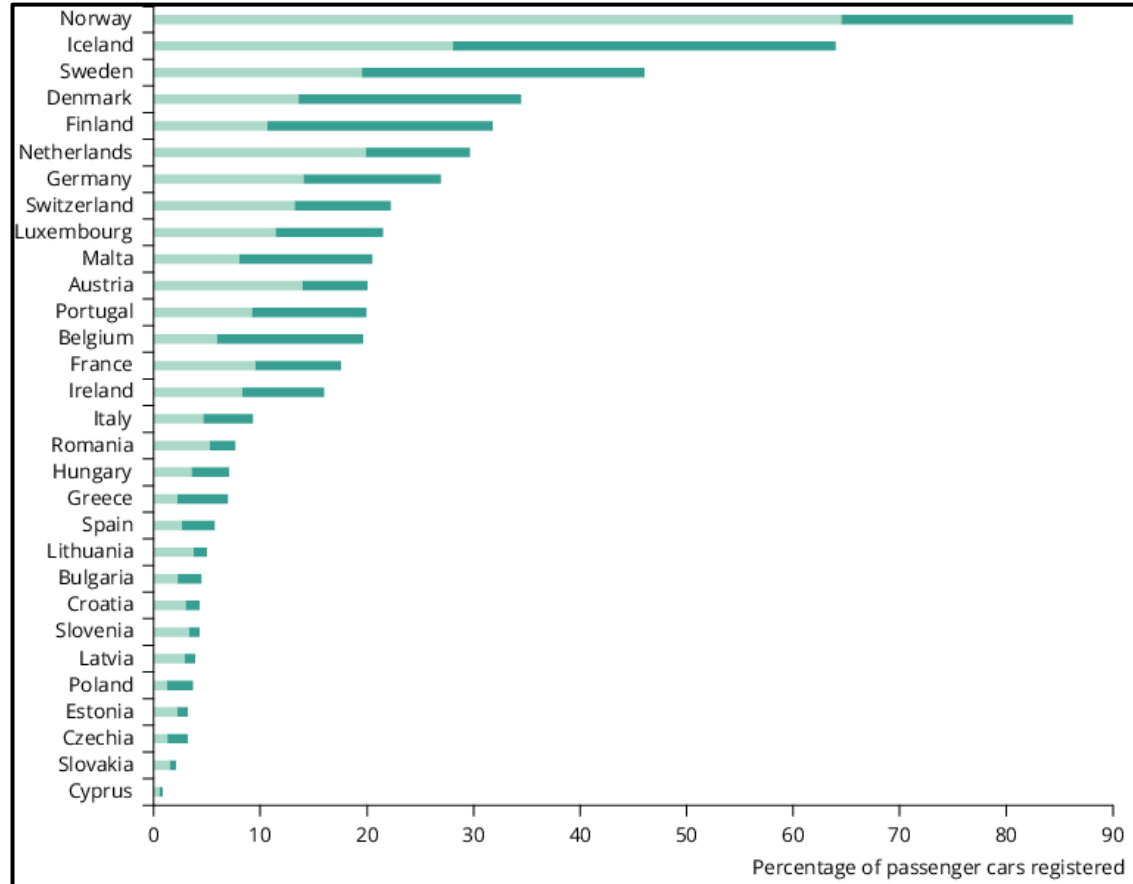
80,027 CHARGERS INSTALLED

Source: ECalifornia ZEV Sales Near 19% of All New Car Sales in 2022 Date 2023, Jan 20th
<https://www.gov.ca.gov/2023/01/20/california-zev-sales-near-19-of-all-new-car-sales-in-2022/>

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EV transition status in Europe

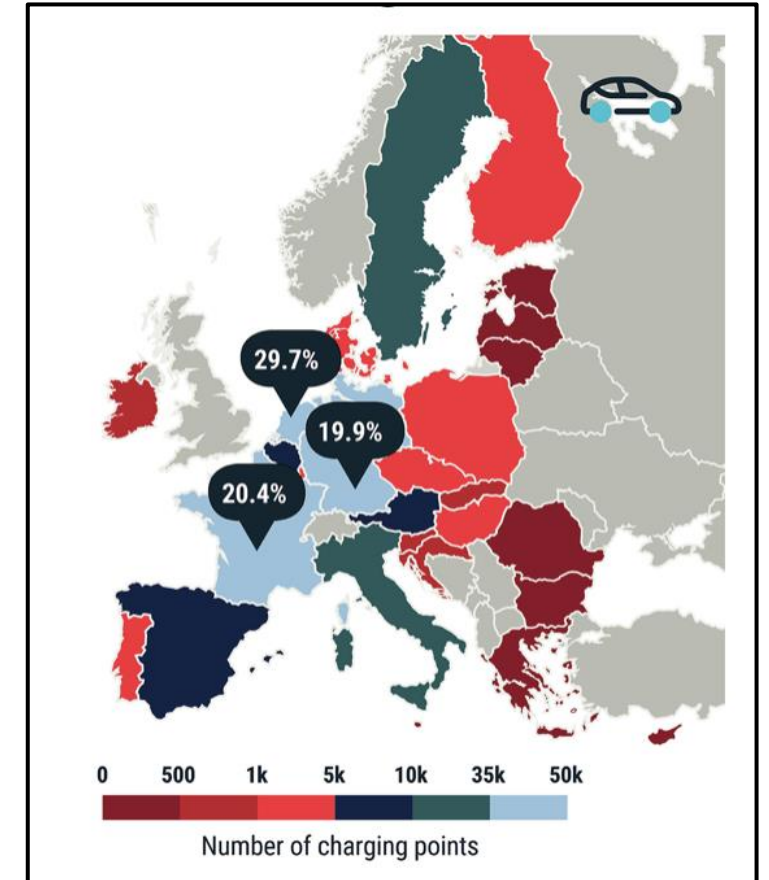
Newly registered electric cars by country



■ Battery electric cars ■ Plug-in electric cars

Source: EEA
European Environment Agency: Newly registered electric cars by country
<https://www.eea.europa.eu/data-and-maps/figures/new-electric-vehicles-by-country-1/>

Electric charging points



Source: ACEA 2021 June 29th
<https://www.acea.auto/press-release/risk-of-two-track-europe-for-e-mobility-with-sharp-divisions-in-roll-out-of-chargers-auto-industry-warns/>



Thanks for your attention!