



Policy brief on public charging infrastructure

Promoting successful roll-out strategies and business models

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Regional training program for Latin America and the Caribbean, 26th of September 2022

- About the IEA
- GEVO 2022: Status of EV and charging infrastructure deployment
- Findings of the policy brief on public charging infrastructure
 - Why it matters
 - Where it happens
 - What are the business models
 - Five recommendations to policy makers to ensure an efficient roll out
- [GEF global E-mobility project]

The International Energy Agency

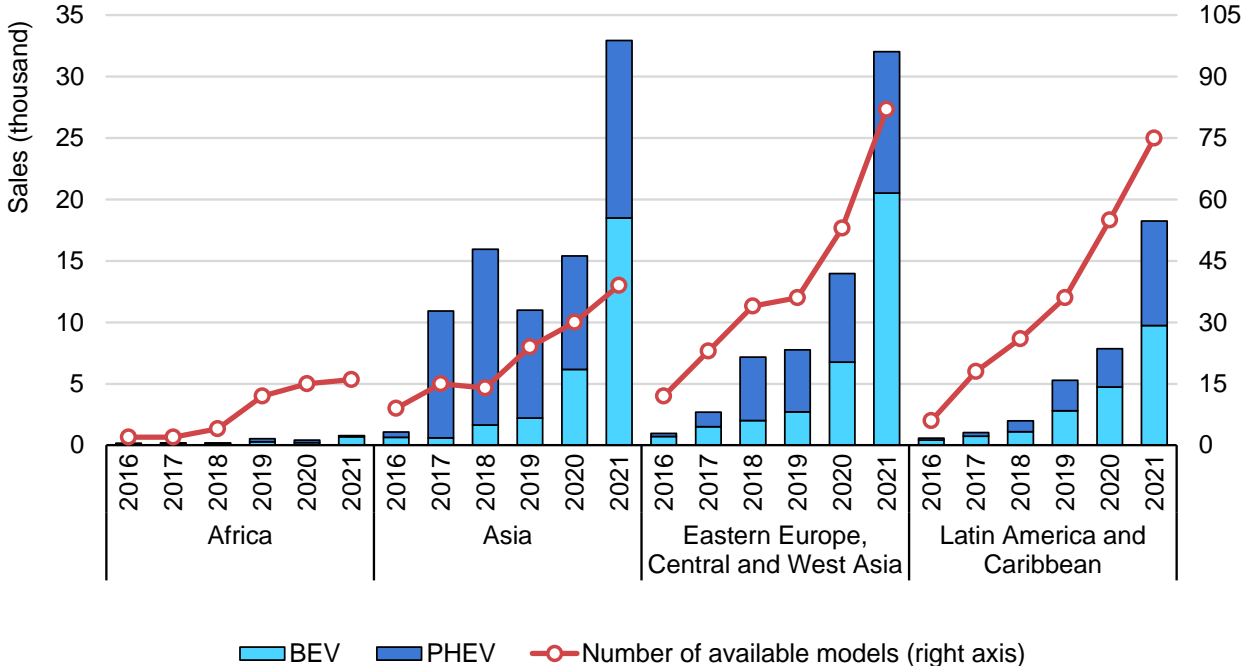
- Created in 1974 after the first oil shock to:
 - ensure reliable energy supplies
 - promote energy efficiency
 - encourage technological research and innovation
- The fight against climate change is at the heart of our activities:
 - accelerating the clean energy transition around the world
 - tackling global energy and climate challenges
 - ensuring secure and affordable energy supplies for all
- IEA Family (IEA member countries and association): 75% of global energy demand
- We provide data, analysis and policy recommendations to help governments and industry reduce their emissions and reach their long-term climate targets.



GEVO 2022: Status of EV and charging infrastructure deployment

Electric car sales spiked in emerging markets in 2021

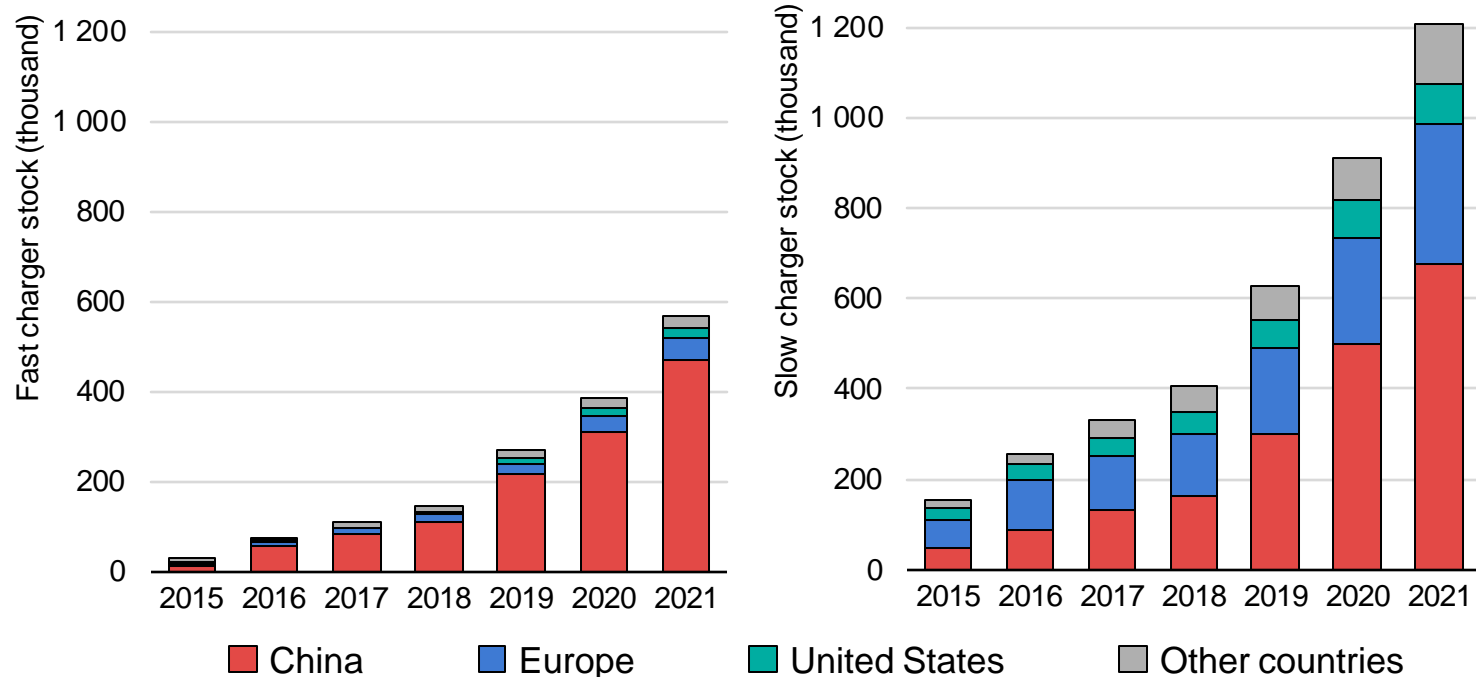
EV sales and models available by region, 2016-2021



BEV: Battery electric vehicle; PHEV: Plug-in hybrid electric vehicle

The global stock of public chargers has reached 1.8 million

Stock of fast and slow public electric light duty vehicles chargers, 2015-2021



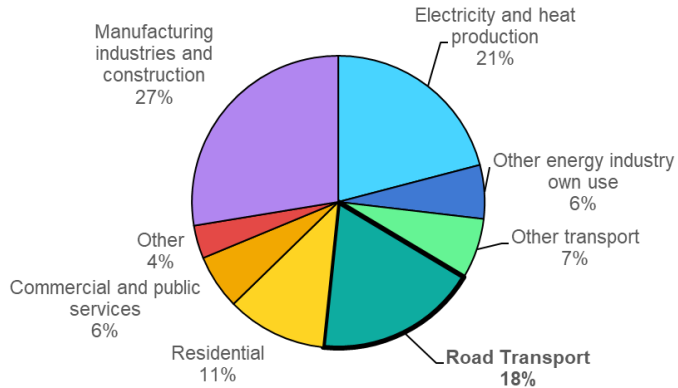
Publicly available EV charging points were up by nearly 40% in 2021, despite pandemic-related slowdown in construction.

Policy Brief on Public Charging Infrastructure: Promoting successful roll-out strategies and business models

<https://www.iea.org/reports/policy-brief-on-public-charging-infrastructure>



World CO2 emissions
from fuel combustion by sector, 2019



- **Range anxiety** – the fear of not being able to reach destination – is **one of the key barriers to EV adoption**

- **Availability of charging infrastructure allows:**

- Visibility & trust to switch
- Accessibility for all
- Optimised battery size

59% of [survey respondents](#)



mentioned charging infrastructure as main disadvantage of EVs

39% mentioned the [lack of charging infrastructure](#) as



their main concern, and 22% the driving range

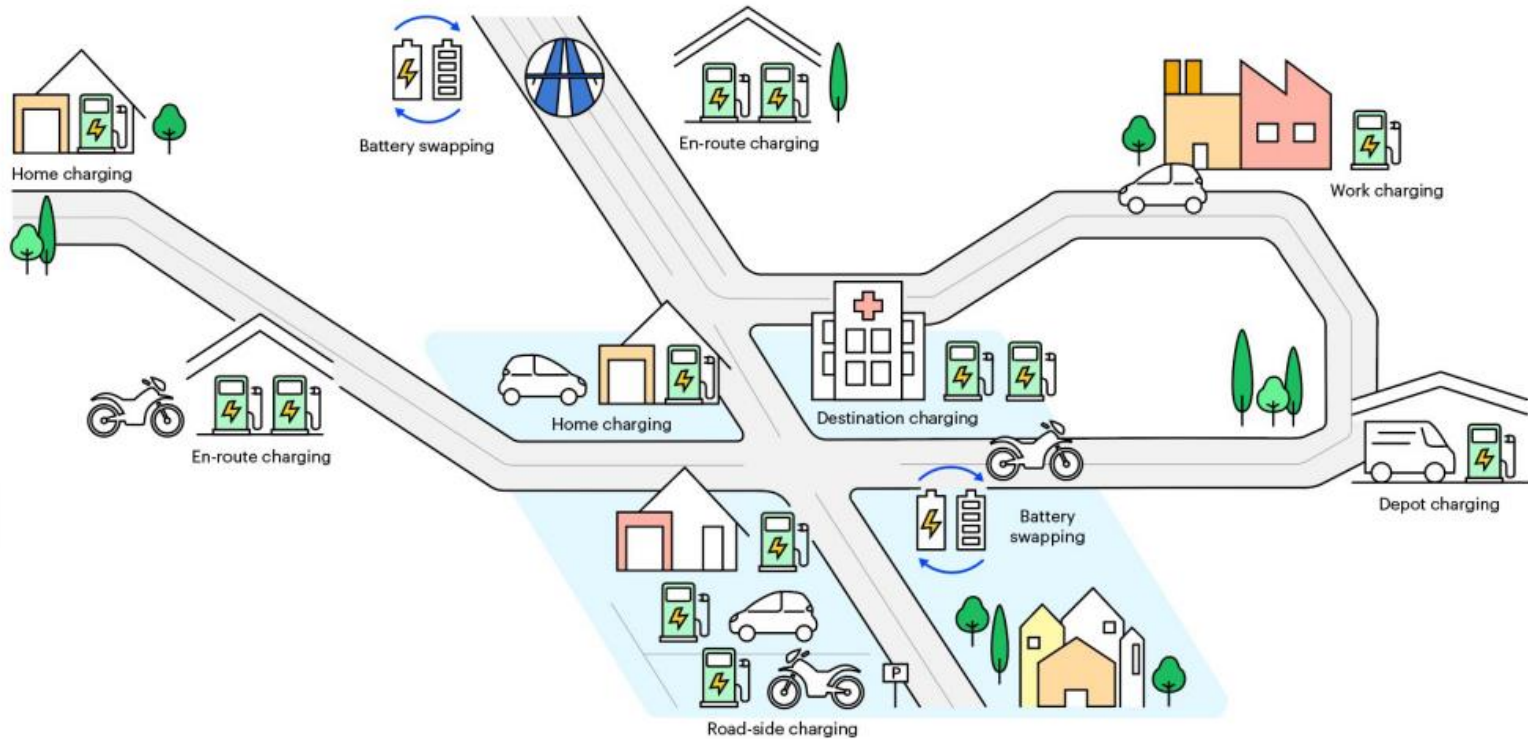
58% of ICE drivers



mentioned [driving range](#) as their main reason for not switching to EV

...it can not happen without public charging infrastructure deployment

Charging infrastructure locations



Charging speeds

- All charging speeds possible
 - Slow charging for overnight or longer duration parking
 - Fast charging hubs, in cities

Motivations

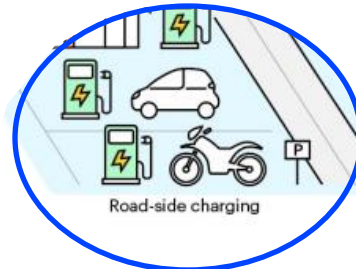
- To complement or replace home charging
- To diminish coverage gaps
- To address a wider set of use cases

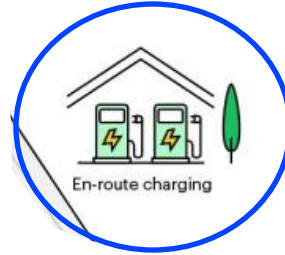
Grid services

- Grid services are possible, especially for longer dwell times

Example

[Stockholm](#)'s map of suitable locations for chargers at the street-side





Charging speeds

- Mostly fast charging

Motivations

- For long-range journeys
- For tourism

Grid services

- Grid services are more limited, since emphasis is on charging speed

Example

[France](#)'s tendering process for highway charging infrastructure

Charging speeds

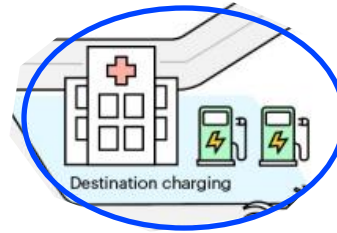
- All types of charging (slow, fast) possible, depending on dwell time at destination

Motivations

- To attract business to destination
- For additional revenue streams from users
- For tourism

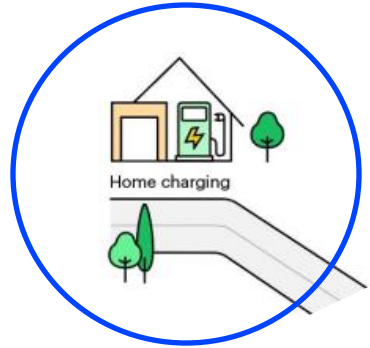
Grid services

- Grid services are possible, depending on dwell times



Example

Turnkey charging as a service for businesses



Charging speeds

- Primarily slow charging

Motivations

- As revenue and employment generation option
- For an efficient use of existing infrastructure

Grid services

- Grid services are possible



Example

Community charging via sharing applications



Examples

- OEMs which include swappable batteries in EV design and build and operate the matching swapping stations
- “Battery as a service” providers

Charging speeds

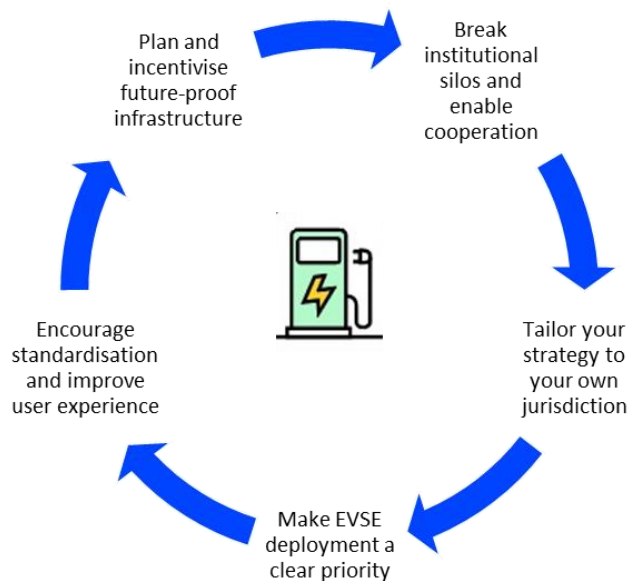
- No plug-in of the vehicle
- The batteries can be charged on or off site

Motivations

- To reduce charge times
- To allow swaps at off-grid locations
- For a quicker battery maintenance

Grid services

- Grid services are possible at the battery charging site



- **Break down the silos:**
 - Cross-sectoral discussion and cooperation at every level
 - Designated contact persons and training
- **Tailor your strategy:**
 - Obtain a clear picture by collecting the relevant data
 - Identify needs
 - Encourage modal shifts where possible
- Showcase **EV charging as a political priority** and attract investment
- **Encourage standardisation:**
 - User information & reliability
 - Select codes and standards
 - Interoperability
- **Future-proof your infrastructure:**
 - Build targets into planning
 - Promote smart metering and smart charging
 - Encourage low-carbon electricity use



GEF global project to support countries with the shift to electric mobility

Thematic Working Groups

- Knowledge materials and tools
- Network for advocacy, technology and policy advice



2 & 3 wheelers



Light-Duty Vehicles

Heavy-Duty Vehicles

Charging, grid integration, RE power supply, batteries

Regional Platforms

- Capacity building
- Establish communities of practice
- Replication and upscaling



Asia & Pacific



Europe, Middle East, West Asia



Latin America & Caribbean



Africa

Country Projects

- Onsite demonstration

30+ country projects

<https://www.thegef.org/project/global-programme-support-countries-shift-electric-mobility>