# Electrification of mobility – current trends and latest developments

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Workshop on Renewable Energy in Transport

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# Mandate

The UNECE Inland Transport Committee at its 84th session requested WP.5: **“To take into consideration the new trend towards electric charging infrastructure and, in coordination with the chairs of relevant Working Parties, to prepare a first assessment of issues that need addressing in the realm of the Committee to be presented at its eighty-fifth session”**

**ECE/TRANS/2023/23** [combined effort of Sustainable Transport and Sustainable Energy Divisions with the support of the Housing and Land Management Section]

## Trends (passengers)

Road vehicle demand in OECD countries stabilizes BUT continues to increase globally *[in the baseline scenario motorized mobility and related CO2 emissions in cities will grow by 94 per cent and 27 per cent by 2050 compared with 2015, Source ITF]*

Innovative mobility solutions on the increase *[car sharing, carpooling, MaaS, increasing role of digitalization, autonomous driving vehicles]*

## Trends (road freight)

In 2020, road freight transport in the EU accounted for 77.4 per cent of the total inland freight transport
(Source: Eurostat, 2020)

Road freight continues to offer high levels of flexibility and accessibility and will thus remain a crucial driver of supply chains

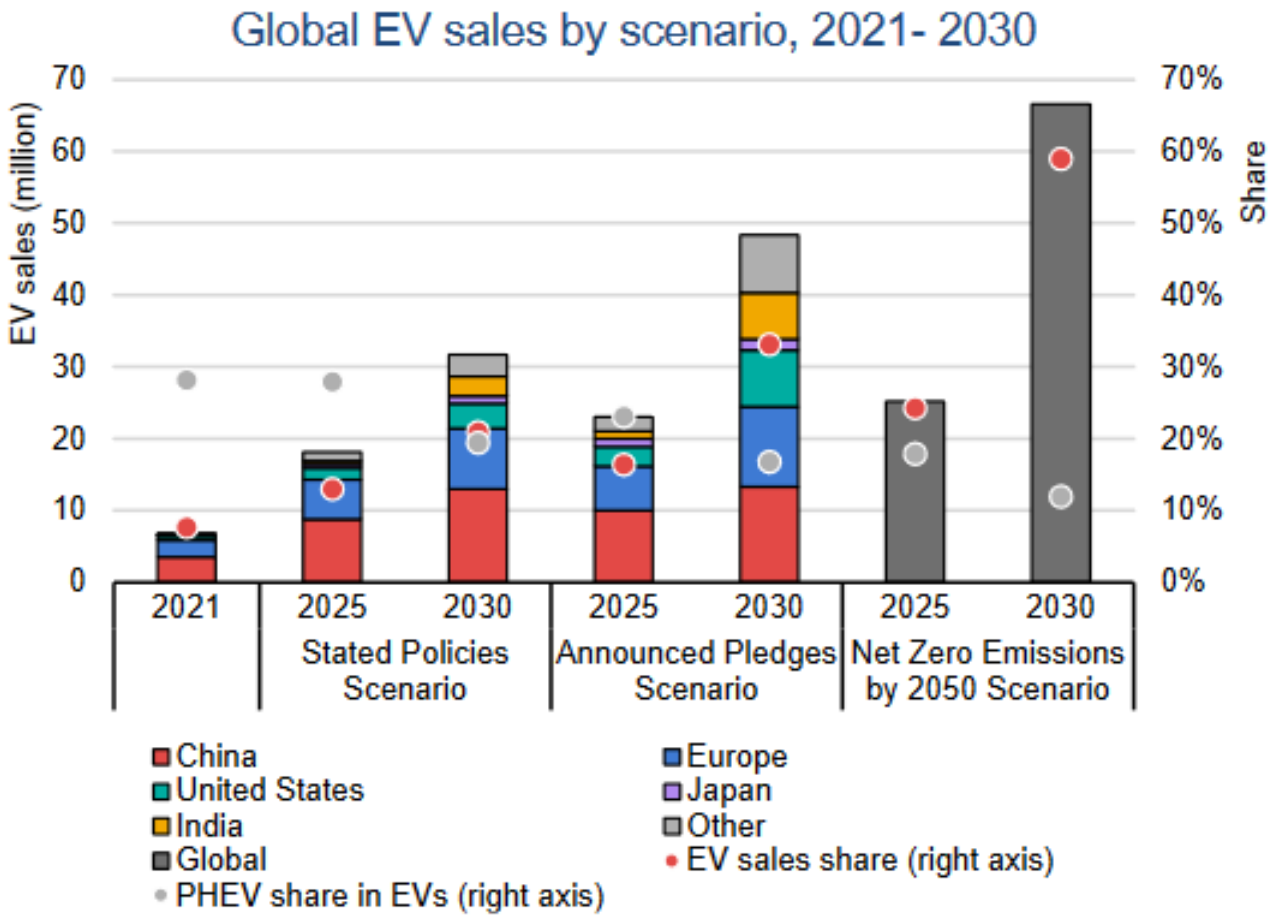
Major trends include: digitalization and technological innovations, including in fuelling systems

**Road vehicle electrification outlook and its impact on EV charging infrastructure**

By 2030, 65 million EVs on the road and by 2035 130 million EVs

Today 374,000 public charge points in Europe

Public charge points to be increased to 13 million (in 2025) and 65 million by 2035 (for 130 million EVs)



## Impact on the grid

EVs provide a unique interface between the transportation and energy sectors presenting challenges and opportunities

**Determining factors:**

- Availability of sufficient infrastructure and charging infrastructure at various levels: slow; medium and fast; ultra-fast/ hyper charging
- Availability or lack of smart charging solutions (V2G, V2H, V2B and V2X) interaction with the grid mechanisms
- Innovations in battery development
- Availability of standardized and harmonized e-charging protocols and standards

**Defining a stronger role for the Inland Transport Committee**

**Next steps:**

- Forthcoming **WP.5 publication** will be focused on e-mobility and charging infrastructure, including in an urban context

- Establishment of an **informal e-mobility task force**/ Terms of Reference to be adopted at ITC in February 2023

- *Other action areas to be guided by ITC*


**ITC Research document:**
ECE/TRANS/2023/23

**WP.5 draft publication:**
ECE/TRANS/WP.5/2023/4 - 8

**Thank you!**