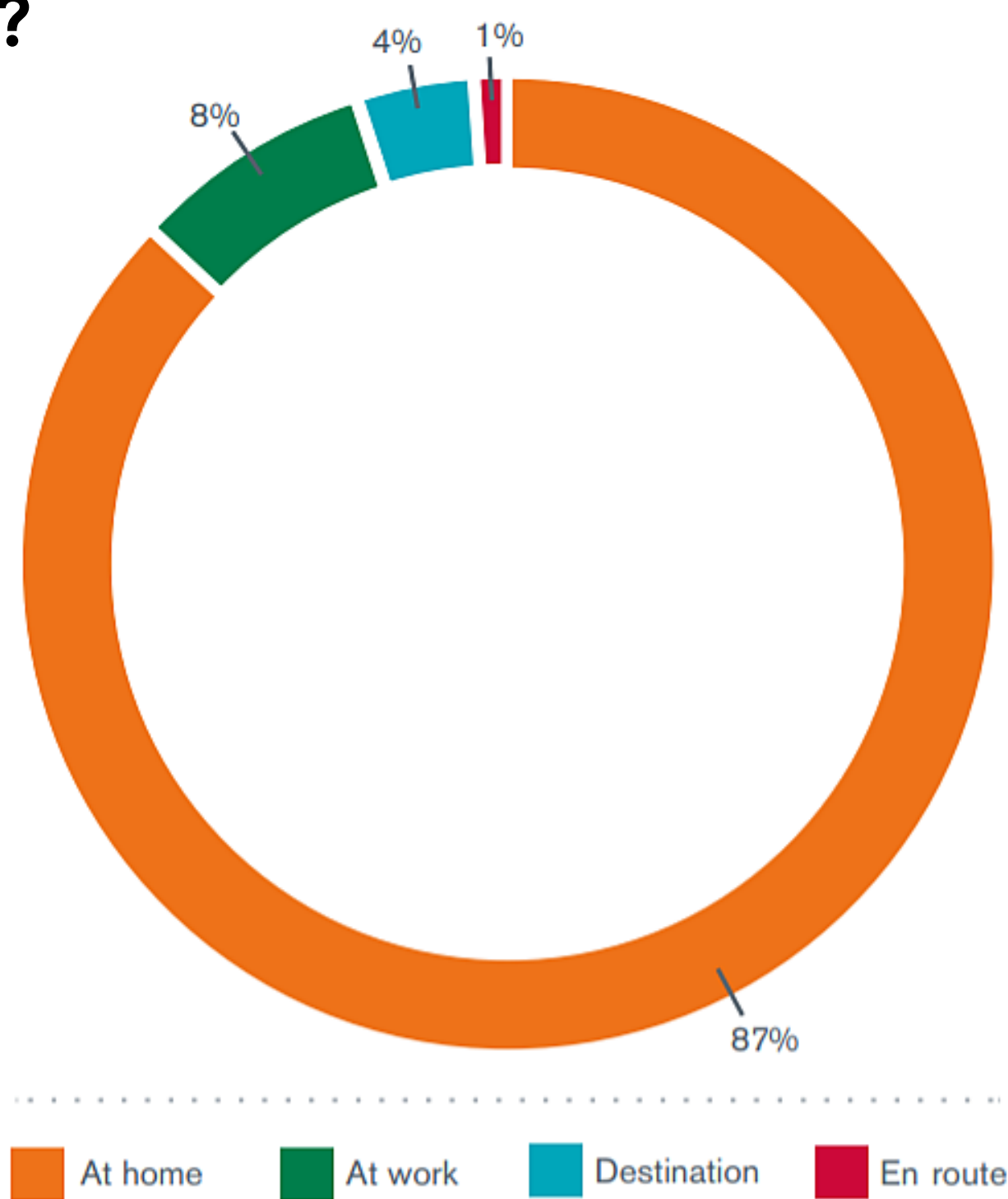


A Role for Energy Regulators in Electro-Mobility Takeoff

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Where is electricity recharged in electric vehicles?

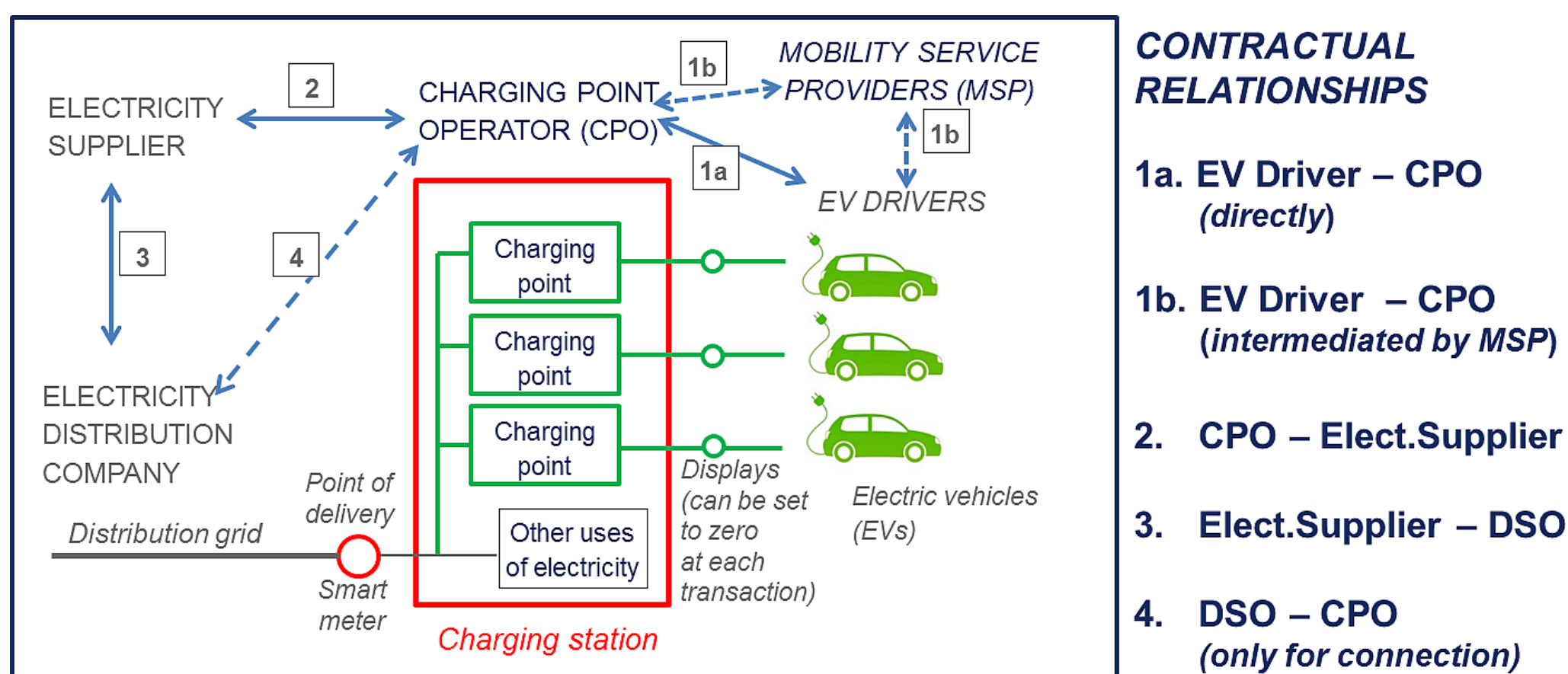


(source: Ofgem, 2017)

What regulators can do for supporting the take-off of electro-mobility?

- Promote a capacity-based, cost-reflective network tariff structure, especially for households
- Promote smart charging, for instance through appropriate arrangements of smart meters especially for households
- Promote participation of electric cars' batteries to ancillary service markets, through "vehicle-to-grid" technology
- Avoid proliferation of electricity delivery points dedicated to EV recharge and promote connection of EV charging stations through delivery points already existent
- Ensure and enforce adequate response time to requests for connection demanding new capacity, but also promoting a rational usage of existent capacity already connected
- Introduce, in experimental ways, the possibility for DSOs to buy flexibility services in case of congestions on distribution grids.

Roles in EVs recharge in places accessible to the public



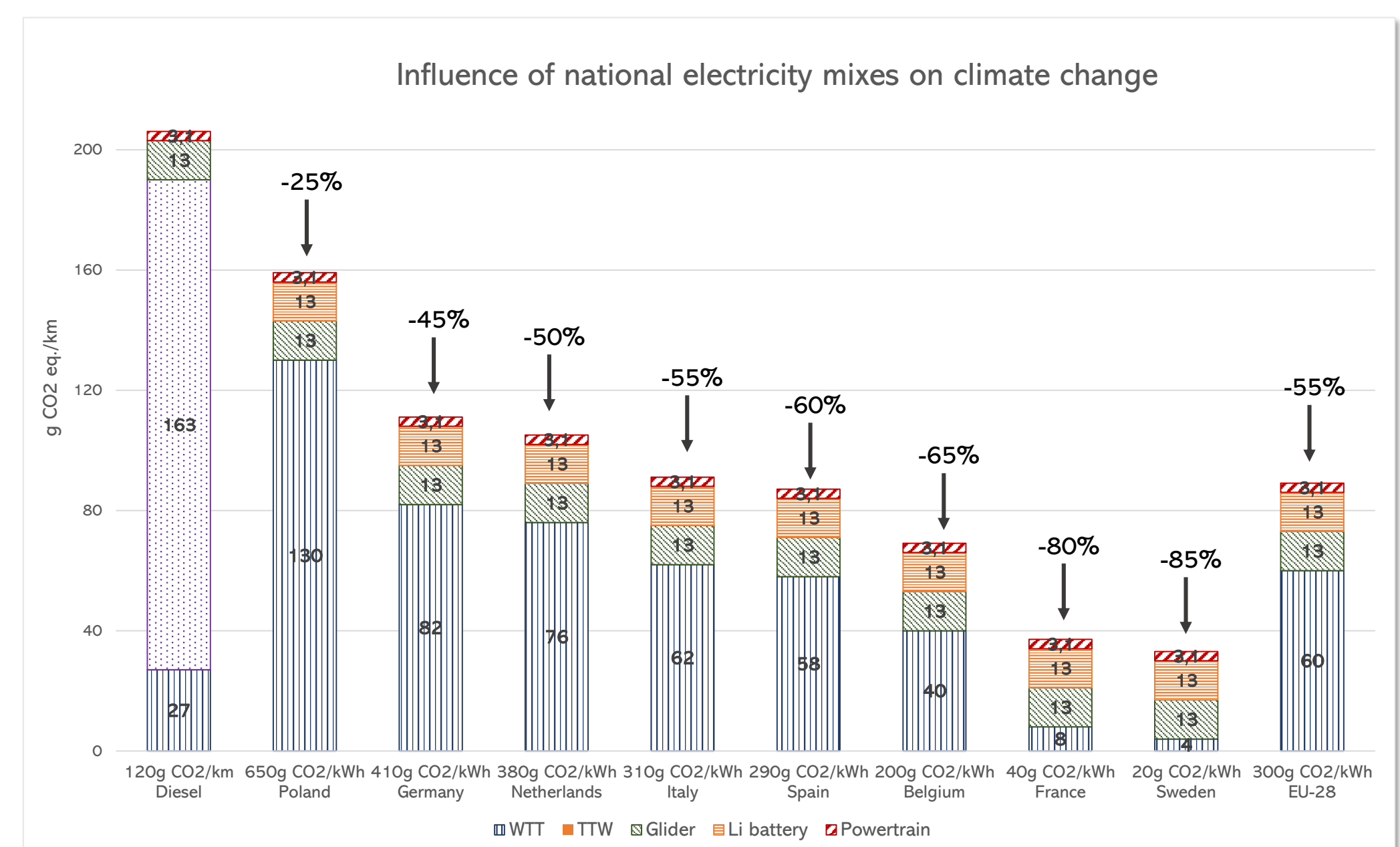
(source: CEER, 2018)

EV drivers are NOT customers of the power system: the Charging Point Operator is a final customer of the power system.

Therefore, regulators shouldn't introduce any special regulation for charging stations, where EV recharge electricity usage coexists with other traditional electricity uses; furthermore, energy regulators should treat charging stations in a technologically neutral manner, in order not to distort electricity market.

A cooperation among energy and transport NRAs is advisable.

Regulators should be aware of benefits of electrification of transport, especially in power systems with a large share of renewables.



(source: Transport and Environment, 2017)

Reference Materials

- TE (Transport and Environment), Life Cycle Analysis of the Climate Impact of Electric Vehicles, October 2017
- CEER (Council of European Energy Regulators), Distribution Systems Working Group (DS WG), New Services and DSO Involvement. A CEER Conclusions Paper, Ref: C18-DS-46-08, 22 March 2019
- OFGEM (Office for gas and electricity markets), Future Insights Paper 5 - Implications of the transition to electric vehicles, 23 July 2018

Keywords

electric vehicles, recharge, tariffs, charging points, smart charging

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