

Survey on E-mobility 2022 Recommendations

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Prepare for rising (1st and 2nd hand) EV market shares

- NRAs that haven't started preparing a legal framework yet should accelerate efforts to prepare the arrival of EVs.
- NRAs that are preparing e-mobility frameworks should accelerate efforts to be able to accommodate growing numbers of EVs from mid-decade onwards.

Regulatory frameworks should include:

- Prepare of future energy and network scenarios that take into account increasing demand from EVs
- Mapping future energy and mobility scenarios against existing grid infrastructure and capacity to allow ample time for the integration of EVs

Plan ahead for EV charging infrastructure

- develop a national strategy for EV charging infrastructure
- define and map an essential network as part of a national EV charging infrastructure strategy
- monitor and, if possible, accelerate build-out of essential charging infrastructure for EVs
- ensure minimum coverage with public charging options (e.g. via public tenders) and ensure sufficient utilisation rate of charging points and thus the development of a functioning market for charging services
- Set strong safeguards regarding involvement and role of DSOs (see next slide)
- For EU/EEA countries: AFIR sets target requirements from 2024 (subject to approval).
- example for a monitoring database : European Alternative Fuels Observatory (www.eafo.org) registers all publicly accessible charging points consistent with AFIR, as well as alternatively-fuelled vehicles.

What is the role of the DSO?

- The role of DSOs is limited to a market preparation function in nascent markets and should be reduced to that of a facilitator in maturing markets.
- Electricity Market Directive (EU, EEA and Energy Community Countries): DSOs “shall not own, develop, manage or operate recharging points for electric vehicles except for own use”

It is therefore recommended that

- NRAs to disallow DSOs to own or operate charging infrastructure
- NRAs in nascent EV markets to limit the role of DSOs to that of building initial charging infrastructure and limit and monitor this engagement
- non-EU-NRAs to develop national legislation consistent with provisions of the EU Electricity market directive provisions

What is the role of energy suppliers?

- Energy suppliers have a role to play in supporting EV grid integration with TOU tariffs and services.
- Where bundled, NRAs should require energy suppliers to introduce TOU tariffs to support smart EV charging, create wider benefits (as outlined in introduction)
- Where unbundled, energy suppliers should offer TOU tariffs for smart EV charging to facilitate EV introduction.
- NRAs within the European Energy Community will have to require energy suppliers (above 200k customers) to offer TOU pricing via implementation of the EU energy market reforms.

Early action on electric HDV deployment

- In the EU, e-HDV deployment is expected to increase with renewal of EU HDV CO2 targets (proposal expected early 2023), as well as build-out of charging infrastructure network for e-HDV (through renewed Alternative Fuels Infrastructure Regulation). In mid-term, this will drive market uptake in non-EU markets, too.

Therefore, it is important that NRAs

- include projections of electrification of freight in their future energy and network scenarios
- prepare the integration of HDV charging hubs along major freight corridors as part of national grid planning, as these most likely require grid extension.
- Facilitate optimisation of charging on-site for e-HDV charging hubs.

National e-mobility support measures

- NRAs should work with other entities to prepare a consistent and well-designed package
- support measures to purchase and use of EVs (light electric vehicles, passenger cars, vans, trucks, buses) for all types of customer (private/commercial, fleets etc.)
- increase availability and affordability of EVs in view of decarbonising transport overall

Examples of effective measures are:

- Designing purchase subsidies as bonus-malus tax, i.e. an income-neutral levy on polluting vehicles to finance the purchase of electric vehicles. These can be combined with scrappage schemes or older/more polluting vehicles (e.g. [RAP/ICCT 2022](#))
- Emission charges on Diesel vehicles in cities are effective in accelerating fleet renewal
- TOU rates for smart charging to enable optimised charging at lowest cost
- Introduction of CO2 vehicle standards (or equivalent in non-EU countries) to increase offer of EVs on new vehicles sale.

Support Vehicle-to-Grid development

- Regulators should create an eco-system that can reap benefits of V2G services

Options are :

- encourage and support pilots and monitor V2G developments closely to maximise benefits and accelerate replication and increase market readiness
- Allow full participation of distributed energy resources, such as EVs, in all energy markets (wholesale, ancillary)
- support development and implementation of standards to ensure technical interoperability
- prepare the development of such services for mass market applications as the number of EVs grow
- introduce dynamic TOU pricing

What can regulators do to support e-mobility?

- introduce of TOU or real-time pricing for smart EV charging
- build-out an essential network for publicly accessible charging infrastructure jointly with transportation authorities
- improve access to power markets for third parties/aggregators to support development of EV smart charging services
- improve reward mechanisms for EVs as flexible assets to stack/multiply EV flexibility gains,
- incentivise DSOs to use EVs as flexibility assets to avoid network investments when dealing with congestion
- require data sharing from grid operators in highly granular level to facilitate optimised grid use and reduce grid costs.

Cooperation and joint planning

- Joint planning for build-out of charging infrastructure optimally using grid capacity
- Efforts to facilitate grid connection procedures for EV charging infrastructure buildout
- national strategies for smart EV grid integration to address barriers in a coherent way and support electrification of transport more broadly.
- joint transport, energy and local planning, i.e. include expected mobility developments into energy scenarios, and into network planning along with the planning of the local authorities.



**THANK YOU
FOR YOUR ATTENTION!**

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